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(Nov.-Dec.)

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 1, 1879.

7:35 A. M. WASHINGTON Mean Time.

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

ALGERIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	29.95	760.6	64.8	18.2	79	SW	.....	.....	1	.....	10	.....	.....	0.335	8.5	Covered	
Nemours	.....	.....	29.92	760.0	68.7	20.4	89	WNW	.....	.....	1	.....	10	.....	.....	0	0	Covered	Kesxuche.
Algiers	.....	.....	29.92	760 0	77.7	25.4	55	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	Tourillere.
La Calle	.....	.....	29.96	761.0	74.1	23.4	69	ESE	.....	.....	2	.....	8	.....	.....	0	0	Very cloudy	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.13	765.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Herbin.
Tebessa	.....	.....	30.10	764.4	68.9	20.5	46	S	.....	.....	2	.....	10	.....	.....	0	0	Covered	Watrin.
Geriville	.....	.....	.....	.....	59.4	15.2	59	SW	.....	.....	2	.....	8	.....	.....	0	0	Very cloudy	Brugnlaux.
Laghouat	.....	.....	30.13	765.3	72.0	22.2	54	W	.....	.....	4	.....	10	.....	.....	0	0	Covered	Bertrand.
Biskra	.....	.....	30.02	762.6	77.4	25.2	90	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

AUSTRO-HUNGARIAN SERIES.

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

Agram	29.43	747.6	29.99	761.7	50.5	10.3	85	SE	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.18	741 2	29.96	760 9	48.6	9.2	81	ENE	4.9	2.2	.....	.....	5	.....	.....	0.008	0.2	.....	Prof. Dr. Karlinski, Dir
Eperies	29.11	739.3	29.99	761 7	51.4	10.8	81	S	.....	.....	2	.....	10ks	.....	N	0	0	.....	Julius Mikolik.
Gratz	28.71	729 1	29.97	761.2	48.6	9.2	84	SSW	.....	.....	2	.....	10	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.63	727.1	30.07	763.7	52.3	11.3	66	SE	.....	.....	4	.....	1	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.55	725 1	29.89	759.3	49.6	9.8	89	N	.....	.....	1	.....	10	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	29.00	736.7	30.00	761.9	49.8	9.9	95	SW	.....	.....	3	.....	0	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	29.86	758.4	29.97	761.2	59.2	15.1	87	ESE	.....	.....	1	.....	10	.....	.....	0.925	23.5	.....	I.R.Hydrographic Office
Szathmar	29.62	752.3	30.08	764.1	56.8	13.8	67	SE	.....	.....	2	.....	3	.....	.....	0	0	.....	Pet. Pancsics.
Szegedin	29.74	755.5	30.03	762.7	52.6	11.4	75	S	.....	.....	4	.....	8	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.88	758.9	29.98	761.5	58.5	14.7	83	Calm	.....	.....	0	.....	10	.....	.....	0.150	3.8	Raining	P. Busin.
Vienna	29.20	741.7	29.93	760.2	50.9	10.5	84	S	.....	.....	2	.....	9	.....	.....	0	0	.....	I.R. Central Met.Ob'sy
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmunster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:20, instead of 2:8 p. m., local time.

BELGIAN SERIES.

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

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

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

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LIBRARY WEATHER BUREAU

BRITISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.06	763.5	30.16	766.1	35.0	1.7	.....	NW	25	11.2	.....	.....	10	.....	.....	0.185	4.70	Snow-shower	W. Boswell,
Ardrossan	30.21	767.3	30.23	767.8	42	5.6	.....	ENE	.....	.....	4	.....	8	.....	.....	.....	.....	Blue sky	Wm.McNeil &G.Carrick
Armagh, (Observatory)	30.02	762.5	30.27	768.8	41.8	5.4	.....	N	15	6.7	.....	.....	6	.....	.....	.....	.....	Squally	S. Call.
Bidston (Liverpool Obs)	.....	.....	30.08	764.0	45.0	7.2	.....	NNE	11	4.9	.....	.....	10	.....	.....	.....	.....	Raining	John Hartnup.
Bolton (Sharples)	29.53	750.0	30.05	763.3	42.1	5.6	.....	NE	12	5.4	.....	.....	10	.....	.....	.....	.....	Raining	Thomas Mackereth.
Bradford, Yorkshire	29.66	753.4	30.06	763.5	42.5	5.8	.....	NE	.....	.....	4	.....	10	.....	.....	0.01	0.3	Overcast	J McLandsborough.
Bridgetown, Barbadoes	29.97	761.2	30.00	762.0	81	27.2	.....	NE	.....	.....	1	.....	2	.....	.....	.....	.....	D. clouds	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	29.91	759.7	30.00	762.0	47.5	8.6	.....	N	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	H. Todd.
Cardington	.....	.....	30.00	762.0	47.0	8.3	.....	NW	.....	.....	0–1	.....	10	.....	.....	.....	.....	Overcast	John McLaren.
Chatham (School M. E.)	29.99	759.4	30.03	762.7	45.1	7.3	.....	Calm	.....	.....	0	.....	9	.....	.....	.....	.....	Overcast	J. Carmell, Sapper, R.E.
Donaghadee	30.20	767.1	30.24	768.1	43	6.1	.....	NE	.....	.....	6	.....	8	.....	.....	.....	.....	D clouds	J. Mac Gowan.
Dover	29.95	760.7	29.98	761.5	47	8.3	.....	N	.....	.....	4	.....	9	.....	.....	.....	.....	Gloomy	J. Costello.
Falmouth (Observatory)	29.88	758.9	30.12	765.0	47.3	8.5	.....	NNE	.....	.....	3	.....	9	.....	.....	.....	.....	Overcast	The Staff.
Fort Napier, Natal	27.60	701.0	29.87	758.7	71.5	21.9	.....	NE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone§	29.71	754.6	29.94	760.5	86	30.0	.....	E	.....	.....	0	.....	3	.....	.....	.....	.....	D. clouds	
Galway (Queen's College)	.....	.....	30.24	768.1	44	6.7	.....	NE	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	Prof. A. H. Curtis.
Gibraltar, Mediterranean‖	29.81	756.9	29.86	758.4	66.4	19.1	.....	E	.....	.....	3	.....	10	.....	.....	.....	.....	D. clouds	Sergt. Wm. Allen, A. H.
Glasgow, (Observatory)	30.02	762.5	30.22	767.6	40.1	4.5	.....	N	.....	.....	6	.....	3	.....	.....	.....	.....	Blue sky	D. G. Maclean. [C.
Great Yarmouth	29.98	761.5	29.99	761.7	46	7.8	.....	NW	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds	G. T. Watson.
Greenwich (Royal Obs'y)	29.85	758.2	30.03	762.7	45.1	7.3	.....	N	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	The Staff, for G.B.Airy.
Guernsey	29.80	756.9	30.02	762.5	50	10.0	.....	NE	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds	Dr.S.E Hoskins, F.R.S.
Helston	30.22	767.6	30.34	770.6	54	12.2	.....	ENE	.....	.....	2	8ck	.....	.....	.....	0	0	Fair	M. P. Moyle.
Holyhead	30.07	763.8	30.11	764.8	47	8.3	.....	NNE	.....	.....	6	.....	6	.....	.....	.....	.....	D. clouds	John Tilston.
Jersey	29.76	755.9	30.05	763.3	49.6	9.4	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Misty	J. Fisher.
Kew (Observatory)	30.00	762.0	30.04	763.0	46.3	7.9	.....	N	8	3.6	.....	.....	10	.....	.....	.....	.....	Misty	The Met'g'l Office.
Leicester (Museum)	29.83	757.7	30.09	764.3	46.6	8.1	.....	NE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	29.99	761.7	30.06	763.5	69	20.6	.....	NE	.....	.....	2	.....	6cs	.....	.....	.....	.....	D. clouds	A. King.
Nairn	30.16	766.1	30.26	768.6	37	2.8	.....	NW	.....	.....	4	.....	0	.....	.....	Blank	Blank	Clear	W. D. Penny.
Nassau, Bahamas	.....	.....	30.13	765.2	78.0	25.6	.....	NE	.....	.....	3	5c	.....	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham (Observatory)	29.88	758.9	30.07	763.8	45.0	7.2	.....	N	.....	.....	3	.....	10d	.....	.....	0.018	0.45	Overcast	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.52	749.8	30.06	763.5	44.7	7.1	.....	NNE	.....	.....	2	.....	10	.....	N	.....	.....	Overcast	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)	.....	.....	30.05	763.3	46	7.8	.....	NNW	.....	.....	2	.....	9	.....	.....	.....	.....	Overcast	H. E. Bellamy.
Plymouth	30.01	762.2	30.09	764.3	47.5	8.6	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	30.14	765.5	30.23	767.8	47	8.3	.....	NNE	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	Wm. Kennedy.
St. Ann's Head	29.97	761.2	30.14	765.5	46	7.8	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Misty	John C. Walker.
Sandwick Manse, Orkneys	.....	.....	30.21	767.3	34.4	1.3	.....	N	40	17.9	.....	.....	5	.....	.....	.....	.....	Snow-shower	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	30.07	763.8	30.14	765.5	59.2	15.1	.....	NE	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds	Serg't W. H. Lyne.
Sheffield	29.82	757.4	30.11	764.8	43.8	6.6	.....	NE	.....	.....	1	.....	10	.....	.....	0.03	0.8	Overcast	W. E. Cooper.
Silloth Rectory	30.15	765.8	30.18	766.6	40.7	4.8	*79	E	.....	.....	1	.....	9	.....	.....	0	0	D. clouds	Francis Redford, A. M.
Stonyhurst (Observatory)	.....	.....	30.08	764.0	43.0	6.1	.....	NNE	14	6.3	.....	.....	10	.....	.....	.....	.....	Drizzling	Rev. S. J. Perry.
Stratfield, Turgiss	.....	.....	30.08	764.0	43.0	6.1	.....	NNE	.....	.....	2	.....	9	.....	.....	.....	.....	D. clouds	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	29.83	757.7	30.05	763.3	46.0	7.8	.....	NE	.....	.....	2	.....	9	.....	.....	.....	.....	Gloomy	W. Newcombe.
Valencia (Observatory)	30.08	764.0	30.13	765.3	48	8.9	.....	NE	.....	.....	2	.....	9	.....	.....	.....	.....	D. clouds	The Met'g'l Office.
	30.22	767.6	30.24	768.1	48.6	9.2	.....	NE	19	8.5	.....	.....	10	.....	.....	.....	.....		
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	30.13	765.3	30.17	766.3	70.8	21.6	51	SSE	14	6.3	.....	0	cs	.....	.....	.....	.....	.....	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.60	650.2	.....	.....	88	31.1	.....	SW	.....	.....	.....	.....	1c	.....	.....	.....	.....	.....	Robert Burnet.
Hobart Town, Tasmania	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Leith, (Restalrig Perk)	.....	.....	30.22	767.6	40	4.4	.....	NE	.....	.....	4	.....	3k	.....	.....	0	0	Cloudy	Andrew Gibb.
Mauritius (Observatory)	29.90	759.4	30.09	764.3	75.0	23.9	67	ESE	13.5	6.0	.....	1	7	.....	.....	0	0	Cloudy	C. Meldrum.
Melbourne (Observatory)	29.64	757.9	29.93	760.2	62.5	16.9	74	SW	3	1.3	.....	.....	8	.....	SE	0	0	Fine	R. L. J. Ellery.
Monach Lt-house, Hebrides	.....	.....	30.37	771.4	41	5.0	.....	N	.....	.....	8	.....	10	.....	.....	0	0	.....	J. Youngclause.
North Unst, Shetland Is	.....	.....	30.01	762.2	.....	.....	.....	N	.....	.....	8	3	5	N	.....	Blank	Blank	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing, but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft., or 670 m.; Colesberg Bridge, unknown. §Observations taken 55 minutes early. ‖Observations taken 47 minutes late. Both of these errors have apparently existed for a long time.

BRITISH MARINE SERIES. VESSELS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. Alert, Kathleen Bay, Chili	.....	.....	29.67‡	753.6‡	44.5	6.9	.....	NW	.....	.....	3	.....	9	.....	.....	.....	.....	Showery	Capt. J.P. Maclear, R.N
H. M. Sloop Gannet, Callao, Peru	.....	.....	30.02‡	762.5‡	61	16.1	.....	NW	.....	.....	2	.....	10	.....	.....	.....	.....	Misty	Commander E. Bourke, R. N.
H. M. S. Magpie, Shanghai, China	.....	.....	30.28‡	769.1‡	58.5	14.7	.....	N	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky	Capt. R. H. Napier, R.N.
Brig Alliance, N. 18° 25′, W. 57° 25′	.....	.....	30.08‡	764.0‡	84	28.9	.....	NW	.....	.....	1	.....	2	.....	.....	.....	.....	Blue sky	Capt. W. Scott.
Barque Commewyne N. 25° 30′, W. 34° 15′	.....	.....	30.08‡	764.0‡	80.5	26.9	.....	NNE	.....	.....	3	.....	1	.....	.....	.....	.....	Blue sky	Capt. Jas. Buchan.
Brig Endymion, N. 50° 15′, W. 14° 05′	.....	.....	30.14	765.5	52	11.1	.....	NE	.....	.....	5	.....	10	.....	.....	6	ESE; ENE	Overcast	Capt. Balkwill.
S. S. German, Algoa Bay, Cape Colony	.....	.....	30.08‡	764.0‡	67	19.4	.....	SW	.....	.....	5	.....	1	.....	.....	.....	.....	Blue sky	Capt. O. D. Coxwell.
S. S. Peruvian, N. 48° 50′, W. 67° 25′	.....	.....	29.38	746.2	32	0.0	.....	WSW	.....	.....	7	.....	10	.....	.....	7	WNW	Misty	Capt. W. H. Smith.
Barque Queen of Cambria, N. 7° 15′, E. 79° 00′	.....	.....	29.82‡	757.4‡	80.2	26.8	.....	WSW	.....	.....	4	.....	2	.....	.....	.....	.....	Blue sky	Capt. M. Parry.
S. S. Strathleven, Sydney, N. S. W.	.....	.....	29.88‡	757.7‡	68	20.0	.....	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	Blue sky	Capt. C. W. Pearson.
Schooner Traveller, N. 46° 30′, W. 33° 00′	.....	.....	30.26	768.6	62	16.7	.....	E	.....	.....	4	.....	7	.....	.....	5	Var.	D. clouds	.....
S. S. Gordon Castle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. V. Freeden.
German Brig "W. von Freeden"	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Greig.
Theophane	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature.		Barometer. Reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind. Direction.	Wind. Velocity.		Wind. Force.	Clouds. Amount. Up'er	Clouds. Amount. L'w'r	Clouds. Direction. Upper.	Clouds. Direction. Lower.	Rain-fall or melted snow in the past 24 hours.		Weather.	OBSERVER.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.		
San José	26.26	666.7	29.97	761.2	67.6	19.8	83	SE			1	2c;ck	1d		E	0	0		Federico Maison.

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

DANISH SERIES.

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

Copenhagen	29.67	753.6	29.72	754.8	46.5	7.5	85	SSW			2		10					Raining	
Faröe	29.74	755.4	29.76	755.9	44.1	6.7	80	NW			4		5						
Godthaab (Greenland)																			
Stykkisholm (Iceland)																			
Thorshavn (Faröe)	30.42	772.7	30.46	773.6	33.4	0.8	66	N			4		7						
Vestervig	29.59	751.6	29.70	754.3	42.3	5.7	71	W			4		2						

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

FRENCH SERIES.

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

Alençon, Normal School	29.47	748.6	30.02	762.6	47.3	8.5	78	NE			1		8n		N	0	0	Very cloudy	Gollignon, Director.
Amiens, Normal School	29.86	758 5	29.98	761.4	46.3	7.4	85	NNE			1		10		Calm	0	0	Covered	Vaillant, Director.
Arras, Engin'r School	29.74	755.5	30.01	762.2	42.6	5 9	76	NW			1					0.118	3.0		Klein, Commandant.
Avignon, Normal School	29.91	759.7	29.99	761.7	63.0	17.2	72	NE			1		2		SW	0	0	Slightlycl'dy	Giraud, Director.
Bar-sur-Seine	29.41	747.1	29.98	761.4	47.3	8.5	81	S			1	8c				0	0	Very cloudy	C. Saillard, Director.
Beauvais, Normal School	29.78	755.2	30.06	762.1	44.6	7	85	NNW			1		10			0	0	Covered	Frere Eugene Marie.
Besançon, Normal School	29.13	739.8	30.03	762.8	46.8	8.2	84	S			1		10		SW	0	0	Covered	A. Carré, Director.
Bourg-en-Bresse, N. School	29.13	739.9	30.08	764.1	48.6	9.2	95	S			3		10	N	N	0	0	Foggy	Mariot, Diretor.
Bourges, Normal School	29.42	747.3	29.99	761.7	45.0	7.2	94	NNE			1		10n		NNE	0	0	Raining	M. Gence, Director.
Brest, Naval Observatory	29.76	755.8	30.00	762.0	54.9	12 4	80	NE			2		8		NE	0	0		Ch. de Rermaree, Dir.
Caen, Normal School	30.02	762.4			47.7	8.7	94	SSE?					10			0	0	Covered	M. Bietrin, Director.
Carcassonne, N. School	29.51	749.6	29.92	760.0	61.7	16.5	88	E			2		10	E	E	0	0	Covered	September, Director.
Châlons-sur-Marne, N. Sch'	29.72	755.0	30.06	763.4	47.7	8.7	81	Calm			0		10			0	0	Covered	Jadot, Director.
Chartres, Normal School	29.42	747.2	29.99	761.7	49.6	9.8	89	N			2		4		S	0	0		Vergier, Director.
Clermont-Fd, Puy de D. Obs	28.56	725.3	29.88	759.0	61.9	16.6	61	E			1		0			0	0		Alluard, Director.
Commercy, Normal School	29.06	738.2	29.93	760.2	48.7	9.3	75	WSW			1	2c		WSW	WSW	0	0	Slightly cl'dy	Dr. Coullet, Director.
Commune de Gréasque*	28.92	734.5	30.06	763.5	59.2	15.1	73	SW			1		8		SW	0	0		L. Kina, Director.
Grenoble, Normal School	29.22	742.2	30.00	761.9	50.0	10	73	NE			1	ck			NW	0	0		Ablard, Director.
La Roche-sur-Yon, N. Sch'l	29.71	754.7	29.92	760.0	59.0	15.0	80	NE			1		5		SW	0	0	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.69	754.2	30.00	762.1	48.6	9.2	79	NE			2		0			0	0	Clear	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.09	738.9	30.02	762.6	45.5	7.5	91	SW			1		10			0	0	Foggy	A. Baudry, Director
Lorient, Naval Observatory	29.88	758.9	29.99	761.7	54.3	12 4	76	NE			3				NE	0	0		Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.38	746.2	30.01	762.2	48.4	9.1	92	SSE			1					0	0	Foggy	Ch. André, Director.
Mâcon, Normal School																			Galxin, Director.
Marseilles, Observatory	29.76	755.8	30.02	762.6	63.1	17.3	80	NE			1		10		SE	0	0		E. Stephan, Director.
Mirecourt, Normal School	28.93	734.9	30.00	762.0	45.9	7.7	83	SW			1		kn	SW	SW	0	0		Barbier, Director.
Mont-Louis	24.81	630.1	30.12	765.1	49.1	9.5	65	SW	16.8	7.5			3		SW	0	0		M. Cave.
Nice	29.99	761.7	30.02	762.5	62.2	16.8	78	W			2				SW	0.03	1.3	Misty	M. Boissieré, Director.
Nismes, Normal School	29.79	756.6	29.99	761.7	60.1	15.8	79	SE			1		8		SE	0	0	Very cloudy	M. Boyer, Director.
Paris, Montsouris Obs'y	29.72	754.8			44.8	7.1	99	Calm			0		10			0.004	0.1	Foggy	Marie Davy, Director.
Perpignan	29.81	757.2	29.91	759.8	61.2	16.2	82	NE	1.8	0.8			8		NW	0	0	Foggy	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.46	570.4			39.6	4.2		SW			4		1		SW	0	0	Clear	Gen'l de Nansouty.
Pic du Midi (Summit) H. P.																			M. Baylac.
Privas, Normal School	28 92	734.6	29.99	761.8	54 5	12.5	86	S			1		n	S	S	0	0		Cantier, Director.
Puy de Dome (Summit) Obs	25.10	637.4			44.6	7.0	83	S			1		8			0	0	¾ covered	Alluard, Director.
Rochefort, Naval Obs'y	29.90	759.4	29.93	760.2	61.9	16.6	81	NE			1		2	NE	NE	0.08	2.	¾ covered	Lt E. Decante, Director
Rouen, Normal School	29.93	760.1	30.01	762.3	46.0	7.8	80	N			1		10			0	0	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.97	761.1	30.00	761.9	50.4	10.2	80	ESE			1		8	ENE	ENE	0	0	Misty	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.83	757.7	30.00	761.9	49.1	9.5	73	NE			2			W	NNW	0	0		E. Renou, Director.
Tarbes, Normal School	28.81	731.7	29.87	758.7	53.6	12	69	SW			1		2	NNW	NW	0	0	Slightly cl'dy	T. Huguet, Director.
Toulouse, Observatory	29.24	742.7	29.97	761.1	63.0	17.2	76	SSE			2		0			0	0	Clear	M. Julier Mercadier.
Tours	29.76	755.8	29 95	760.6	53.6	12.0	69	NNE			1		1		NNE	0	0	Almost clear	Cousin-Marquet.
Versailles, Observatory	29.50	749.2	29.99	761 8	46.8	8.2	75	NE			1		10			0	0	Lightly cov.	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.38	746.3	30.11	764.7	48.2	9	80	SSW			1					0	0	Foggy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.97	761.1	29.99	761.8	81.0	27.2													
Zi-Ka-Wei (near Shanghai)	30.25	768.3	30.28	769.0	53.6	12.0	87	N	2.7	1.2			0			0	0	Clear	L'Abbé Marchési.
																			Marc Dechevrens.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10: no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 332 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centrigrade.	Relative Humidity. Per cent.	Wind. Direction. From=	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.06	738 0	29.90	759.4	45.3	7 4	80	W	.....	.....	4	.....	10k	W	.....	0	0	.....	Prof. Dr. Hoh.
Berlin	29.66	753.3	29.83	757.7	45.0	7.2	86	W	.....	.....	2	.....	10	.....	.....	0.008	0.2	.....	Prof. Dr. Arndt.
Breslau	29 37	745.9	29.89	759.3	48.0	8.9	83	S	.....	.....	3	.....	10	.....	.....	0	0	Hazy	Royal University.
Carlsruhe	29.53	750.0	29.96	761.0	46.0	7.8	75	W	.....	.....	2	.....	10	SW	....	0.138	3.5	.....	Albert Senz.
Cassel	29.27	743.5	29.87	758.8	47 1	8.4	85	SE	.....	.....	2	.....	10	NW	.....	0	0	....	Dr. H. Möhl.
Emden	.....	.....	29.84	757.8	43.9	6.6	96	NW	.....	.....	0	.....	10	.....	.....	0	0	.....	Prof. Dr. Prestel.
Frankfort on the Main	29.57	751.0	29.93	760.3	48.7	9.3	72	SSW	.....	.....	2	.....	10	.....	.....	0	0	.....	Physical Society.
Friedrichshafen	28.51	724.2	29.97	761.1	47.5	8.6	86	S	.....	.....	2	.....	0	.....	.....	0.386	9.8	....	Chief Telegrapher Wilhelm.
Hamburg	29.77	756.2	29.84	758.0	44.6	7.0	82	WSW	.....	.....	3	c	7ks	.....	.....	Inap.	Inap.	Light haze.	Captain F. Hegemann.
Kiel	29.77	756.1	29.78	756.5	43.5	6.4	90	SW	.....	.....	2	.....	7	....	.....	0.040	1.02	.....	Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.88	759.0	29.97	761.2	40 6	4.8	74	SE	.....	.....	5	.....	7	.....	.....	0	0	.....	Prof. E. Luther.
Köslin	.....	.....	29.84	757.8	42.4	5.8	.....	Calm	.....	.....	0	.....	8	.....	.....	0	0	.....	H. Müller.
Leipsic Observatory	29.47	748.5	29.90	759.4	43.7	6.5	91	W	.....	.....	1	.....	10	.....	.....	0	0	Foggy.....	Prof. Dr. Bruhns, Privy Counselor.
Magdeburg	.....	.....	.....	... ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Assmann.
Memel	29.89	759.2	29.97	761.1	40.1	4.5	68	SSW	.....	.....	5	.....	9ks	.....	.....	.....	.....	.....	Reinbrecht & Ishermann
Munich (München)	28.11	713.9	29.97	761.1	46.9	8.3	76	W	.....	.....	2	.....	1	NW	.....	0	0	....	Dr. C. Lang.
Neufahrwasser	29.88	759.0	29.90	759.4	41.9	5.5	83	SSE	.....	.....	2	....	10	.....	.....	0	0	.....	A. Lothes.
Neustadt (Palatinate)	29.41	747.1	29.94	760.5	46.2	7.9	65	SSW	.....	.....	4	.....	10	SW	.....	0	0	Foggy.....	Reallehrer Dicknether.
Posen	29.56	750.8	29.85	758.2	47.5	8.6	85	S	.....	.....	2	.....	10	...	.....	0.012	0.3	Raining	Prof. Dr. Hagener.
Strassburg (in Alsace)	29.45	748.1	30.01	762.3	47.8	8.8	74	NNE	.....	.....	1	.....	10	WNW	.....	0	0	.....	Imp. University Observatory.
Stuttgart	28.97	735.9	29.93	760.1	46.4	8.0	69	N	.....	.....	1	.....	6	W	.....	0.051	1.3	.....	Prof. Dr. Schoder.
Weissenburg (Bavaria)	28.46	722.8	30.02	762.4	42.6	5.9	81	W	7	3	.....	.....	10	....	SW	0	0	Light fog.....	Reallehrer J. Hopfner.
Wustrow	29.80	757.0	29.82	757.5	44.8	7.1	74	W	.....	.....	3	.....	10s	.....	.....	0	0	.....	E. Schütz, Director.
German Naval Series.																			
.....	.....		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

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

Athens	29.73	755 1	30.12	765.0	65.7	18.7	.....	NE	.....	... ...	1.5	.....	2	.....	.....	.....	.....	Clear.....	Dr. J. F. J. Schmidt.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

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

Kurrachee	29.91	759.7	29.96	761.0	83.3	28.5	59	NNW	15	6.7	.....	.....	0	.....	.....	0	0	Blue sky.....	
Deesa	29.45	748.0	29.92	760.1	80.7	27.1	17	NE	8.6	3.8	.....	.....	0	.....	.....	0	0	Blue sky.....	
Bombay	29.75	755.5	29.78	756.5	79.9	26.6	68	NNW	19	8.5	....	.....	4	NW	WSW	0	0	D. clouds.....	
Poona (Yerrowda)	27.94	709.8	29.80	756.8	78.5	25.8	72	ESE	2	0.9	.....	.....	4	.....	.....	0.12	3.0	D. clouds.....	
Belgaum	27.30	693.3	29.85	758.2	73.1	22.8	87	E	6	2.7	.....	.....	9	E	E	0.24	6.1	D. clouds.....	
Lahore	29.13	739.8	29.89	759.1	70.7	21.5	42	Calm	0.7	0.3	.....	.....	0	.....	.....	0	0	Blue sky.....	
Roorkee	28.96	735.5	29.88	758.9	67.8	19.9	47	N	1.3	0.6	.....	.....	.....	.....	.....	0	0	.....	
Agra	29.32	744.6	29.89	759.2	72.7	22.6	46	W	4.1	1.8	.....	....	.....	.....	.....	0	0	.....	
Nagpur	28.78	731.1	29.82	757.5	81.2	27.3	56	NNE	3.1	1.4	.....	2	.....	.....	.....	0	0	D. clouds.....	
Jubbulpore	28.49	723.7	29.87	758.6	75.8	24.3	50	Calm	2.3	1.0	.....	.....	.....	.....	.....	0	0	Blue sky.....	
Lucknow	29.52	749.7	29.90	759.6	70.2	21.2	51	N	0.6	0.3	.....	.....	.....	.....	.....	0	0	Blue sky.....	
Allahabad	29.56	750.9	29.88	759.1	68.8	20.4	67	Calm	1.0	0.4	.....	0	.....	.....	.....	0	0	Blue sky.....	
Patna	29.69	754.1	29.87	758.7	78.7	25.9	53	W	0	0	.....	0	.....	.....	.....	0	0	Blue sky.....	
Hazaribagh	27.84	707.0	29.87	758.7	72.0	22.2	65	NW	3.0	1.3	.....	0	.....	.....	.....	0	0	Blue sky.....	
Cuttack	29.76	755.8	29.84	757.9	82.8	28.2	68	NE	2	0.9	.....	2	.....	.....	.....	0	0	D. clouds.....	
Calcutta (Alipore)	29.81	757.2	29.83	757.7	79.7	26.5	74	NW	3.0	1.3	.....	0	.....	.....	.....	0	0	Blue sky.....	
Goalpara	29.42	747.2	29.81	757.1	78.8	26.0	63	Calm	1.2	0.5	.....	0	.....	.....	.....	0	0	Blue sky.....	
Chittagong	29.72	754.8	29.81	757.2	77.6	25.3	76	NW	2.7	1.2	.....	2	.....	.....	.....	0	0	Misty.....	
Sibsagar	29.50	749.4	29.84	758.0	76.7	24.8	78	ENE	0.8	0.4	.....	0	....	.....	.....	0	0	Blue sky.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or .28 m.m. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,026 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Sibsagar, 333 ft., or 101 meters; Jubbulpore, 1,361 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

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

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

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.59	751.5	30.01	762.2	55.2	12.9	82	Calm	0	0	.....	.....	10	.....	.....	0.256	6.5	.....	Prof. Giovanni Clodig.
Milan	29.46	748.3	29.98	761.5	55.2	12.9	76	W	.....	.....	2	.....	7	W	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.88	758.9	29.99	761.7	56.3	13.5	85	WSW	1.8	0.8	.....	.....	10	W	.....	0.122	3.1	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.05	737.8	29.98	761 4	53.4	11.9	81	SSE	0.7	0.3	.....	.....	6	W	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.82	757.3	30.01	762.2	62.6	17.0	62	SW	3.1	1.4	.....	.....	10	S	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.06	712.8	30.01	762.3	54.0	12.2	71	NW	.....	.....	2	.....	9	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.95	760.6	29.99	761.8	56.8	13.8	82	NW	13.0	5.8	.....	.....	10	SW	.....	0.075	1.9	.....	Prof. Luigi Guidi.
Florence	29.75	755.7	30.02	762.4	63.5	17.5	63	W	.....	.....	2	.....	9	.....	.....	0.185	4.7	.....	Cav. F. Meucci.
Leghorn	29.93	760.1	30.01	762 3	62.4	16.9	69	W	2.5	1.1	.....	.....	3	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.82	757.3	29.99	761.8	66.9	19.4	70	SW	0.7	0.3	.....	.....	6	.....	.....	0.213	5.4	.....	Prof. P. S. Ferrari.
Lecce	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. C. De Giorgi.
Cosenza	29.18	741.1	30.07	763.8	68.0	20.0	74	SW	0	0	.....	.....	8	.....	.....	0.043	1.1	.....	Prof. D. Conti.
Cagliari	29.83	757.6	30.02	762.5	68.4	20.2	64	SE	.....	.....	2	.....	8	W	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.81	757.2	30.07	763.7	66.9	19.4	68	ENE	3.1	1.4	.....	.....	5	.....	.....	0	0	.....	Prof. G. Ciacciatore.
Syracuse	29.99	761.7	30.06	763.5	68.9	20.5	73	ESE	6.3	2.8	.....	.....	6	WSW	.....	0.028	0.7	.....	Prof. V. G. Guliano.
SUB-SERIES.																			
Naples, S. R.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. F. Brioski.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Bergamo is 379.6 m., or 1,345.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

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

Hiroshima, I. M. Obs'y	30.12	765.0	30.14	765.5	51.4	10.8	82	NNE	7.8	3.5	.....	3ck	.....	.....	.....	0	0	Clear.	K. Sasaki.
Nagasaki, I. M. Obs'y	29.95	760.7	30.16	766 0	53.1	11.7	86	ENE	0.5	0.2	.....	.....	0	.....	.....	0	0	Clear	S. Takehayashi.
Tokei, (Yeddo) Observatory	30.04	763.0	30.11	764.8	47.9	8.8	91	SE	4.4	2.0	.....	0	0	.....	.....	0	0	Very clear	The Staff.
Wakayama	30.06	763.5	30.11	764.8	49.6	9.8	83	E	1.6	0.7	.....	.....	0	.....	.....	0	0	Clear	.....

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

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

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

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	25.17	639.4	30.21	767.4	57.2	14.0	70	SW	.....	.....	1	.....	5	.....	.....	0.024	0.6	½ cloudy	Prof. L. Perez.
Leon	24.56	623.7	30.27	768.8	59.0	15.0	90	NW	.....	.....	1	.....	10k	.....	NW	0.37	9.4	Dense fog	Prof. M. Leal.
Mazatlan	29.74	755.5	30.00	762.1	73.6	23.1	89	E	.....	.....	1	1s	0	.....	.....	0	0	Clear	I. Guerrero, C. E.
Mexico, Central Observatory	23.19	589.1	30.25	768.3	53.2	11.8	82	NW	2.2	1.0	.....	.....	10k	.....	.....	0.016	0.4	Covered	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	56.7	13.7	93	Calm	.....	.....	0	.....	10n	.....	.....	0.35	9.0	Covered	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.52	597.4	30.45	773.5	44.6	7.0	50	Calm	0	0	.....	1c	0	SE	.....	0	0	Clear	Prof. P. Spina.
San Luis Potosi	24.30	617.1	30.32	770.2	55.0	12.8	65	NE	.....	.....	1	.....	10	.....	E	0	0	Covered	G. Barroeta, M. D.
Tlacotalpam	30.18	766.6	30.19	766.9	71.8	22 1	94	W	.....	.....	1	5	2	NE	N	0	0	Threatening	Prof. M. M. Chazaro.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell.
Zacatecas	22.61	574.3	30.27	768.8	53.6	12 0	84	Calm	.....	.....	0	4c	4cs	.....	.....	0	0	Cloudy	A. Nuñez.

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901 0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column; the instrumental correction —0.88 mm., or —0.035 inch, has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

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

Flushing	29.97	761.3	29.97	761.3	49.6	9.8	.....	W	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Groningen	29.84	758.0	29.90	759.4	43.0	6 1	.....	SW	.....	.....	.....	.....	.....	.....	.....	0	0	.....	
Helder	29.90	759.4	29.90	759.4	48.0	9 2	.....	WNW	.....	.....	4	.....	.....	.....	.....	0.102	2.6	.....	
Hellevoetsluis	29.95	760.6	29.89	759.3	48.7	9.3	70	WSW	.....	.....	3	.....	.....	.....	.....	0	0	.....	
Utrecht	29.89	759.1	29.93	760.3	48 0	8	76	E	.....	.....	1	.....	10	.....	.....	0.035	0.9	Dull	H. v. d. Brink.

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

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.54	750.3	29.60	751.7	39.2	4.0	70	NNW	38.3	17.1	.....	.. ....	10	.....	.....	0.024	0.6	.....	
Brönö	29.79	756.7	29.83	757.7	30.2	— 1.0	73	NE	22	10	.....	.....	3	.....	.....	0	0	.....	
Christiana	29.24	742.6	29.38	746.3	43.0	6.1	68	SW	9	4	.....	.....	7	.....	.....	0.197	5.0	.....	
Tromsö	30.01	762.3	30.06	763.4	25.7	— 3.5	83	SW	7	3	.....	.....	2	.....	.....	0	0	.....	

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

PORTUGUESE SERIES.

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

Angra (Azores)	29.86	758.4	30.05	763.2	64.2	17.9	72	NE	9.8	4.4	.....	.....	3	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	28.76	730.6	29.79	756.6	63.3	17.4	80	SSW	11.2	5.0	.....	.....	10	.....	.....	2.296	58.3	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia	29.71	754.7	29.80	756.9	71.1	21.7	57	SW	6.9	3.1	.....	.....	2	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.36	745.6	29.71	754.7	62.4	16.9	88	WSW	11.2	5.0	.....	.....	7	.....	.....	0.406	10.3	.....	The Staff.
Ponta Delgada (Azores)	29.93	760.1	30.00	761.9	64.8	18.2	69	NNE	19.2	8.6	.....	.....	3	.....	.....	0.339	8.6	.....	

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

PORTUGUESE NAVAL SERIES. VESSELS.																Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa, Porto Praya, Cape Verd I'ds.	.....	.....	.....	.....	79.2	26.2	.....	SE	.....	.....	2	.....	3	.....	.....	2	.....	D. clouds....	A. A. A. Loureiro.
Sà da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Com'd't.
Sado, Capt. J. A de Brito Capello, St. Paul de Loando	.....	.....	29.97	761.3	80.8	27.1	.....	W	.....	.....	4	.....	5	.....	W	.....	.....	D. Clouds, 2 hr's rain-fall.]	H. Mecadoneo, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	.....	.....	30.10	764.5	78.8	26.0	.....	N	.....	.....	3	.....	10	.....	N	1	.....	Overcast.....	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

RUSSIAN SERIES.

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

Archangel	29.88	758.9	29.90	759.4	25.5	— 3.6	98	W	9	4	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Astrakhan	30.15	765.7	30.07	763.6	52.0	11.1	69	N	7	3	.....	.....	9cs	.....	.....	.....	.....	.....	Capt. Wisganow.
Barnaul	29.92	760.0	30.46	773.6	27.1	— 2.7	70	S	0	0	.....	.....	0	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Dorpat	29.84	758.6	30.10	764.5	32.0	0.0	69	SSE	9	4	.....	.....	10n	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	28.66	727.9	29.65	753.0	30.7	— 0.7	88	SSE	9	4	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	29.61	752.2	29.90	759.4	26.8	— 2.9	62	NW	16	7	.....	.....	10n	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.60	751.8	30.26	768.6	35.8	2.1	98	SE	2	1	.....	1c	.....	.....	.....	.....	.....	Light clouds	Physical Cabinet.
Krotkowo*	29.44	747.8	29.93	760.2	32.0	0.0	82	WNW	0	0	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	30.04	763.0	30.25	768.3	35.5	3.6	54	N	13	6	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Moscow	29.69	754.1	30.27	768.8	28.9	— 1.7	58	N	7.8	3.5	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	28.15	714.9	30.63	778.0	16.7	— 8.5	50	W	4	2	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	30.23	767.8	30.30	769.6	49.8	9.9	63	Calm	0	0	.....	.....	10n	.....	.....	.....	.....	.....	Kurkadof.
Nukuss	29.96	760.9	30.19	766.7	66.2	19.0	34	SSE	4	2	.....	.....	1s	.....	.....	.....	.....	.....	.....
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	30.24	768.2	30.39	771.8	43.9	6.6	33	NW	4	2	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	30.09	764.3	30.11	764.7	31.6	— 0.2	87	S	11	5	.....	.....	6cs;s	.....	.....	.....	.....	Light clouds	Central Physical Obs.
Tashkend	28.60	726.4	30.19	766.9	52.2	11.2	62	.....	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.59	726.2	30.00	762.1	57.4	14.1	92	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Light rain ..	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	29.52	749.9	29.95	760.8	46.4	8.0	76	SE	9	4	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.70	754.3	30.13	765.4	37.9	3.3	56	SSE	11	5	.....	.....	6	.....	.....	.....	.....	Light clouds	Astronomical Obs.
Yenisiesk	30.28	769.1	30.59	777.0	25.9	— 3.4	76	WSW	9	4	.....	.....	10	.....	.....	.....	.....	.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

SPANISH SERIES.

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

Barcelona, Met. Obs'y	29.86	758.4	29.97	761.1	65.1	18.4	69	SSE	1.4	0.64	.....	1c	.....	.....	.....	0	0	.....	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.80	757.0	29.86	758.4	67.5	19.7	70	SE	2.7	1.20	.....	2	7	SW	.....	.....	.....	Raining.....	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.95	684.4	.....	.....	59.0	15.0	64	S	6.4	2.87	.....	0	6	.....	.....	0.087	2.2	Cloudy.....	Domingo Martin y Perez.
Madrid, Royal Observatory.	27.70	703.6	29.92	759.9	57.2	14.0	86	NE	5.2	2.33	.....	0	10	.....	.....	0.075	1.9	Rainy.....	The Staff.
Murcia, Met. Obs'y	29.82	757.4	29.97	761.2	69.8	21.0	71	SSE	2.0	0.92	.....	8	1	SE	.....	0	0	Almost cov'd	Olayo Diaz, Director.
Santiago, Met. Obs'y	28.75	730.3	29.60	751.8	64.0	17.8	72	SSE	18.1	8.1	.....	.....	9	.....	.....	0.488	12.4	Almost cov'd	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.07	763.8	30.14	765.5	75.7	24.3	83	E	0	0	.....	6c;ck	4k;sk	WSW	ENE	0	0	Cloudy.....	Benito Vines, S. J.
Manilla, Phillippine Islnds	29.74	755.3	29.79	756.6	80.6	29.0	.....	SSE	4.9	2.2	.....	.....	10kn	. .....	E	0.020	0.5	Covered.....	Federico Faura, S. S.
San Fernando, Naval Obs'y	29.79	756.7	29.89	759.2	66.6	19.2	78	S	14.7	6.6	.....	0	10	.....	S	0.060	1.5	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.94	760.5	30.03	762.8	78.8	26.0	89	SW	0	0	.....	6ks	5k	SW	SW	0	0	Cloudy.....	Enrique Gadea, Chief Eng'r

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

SWEDISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature.		Reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind. Direction.	Velocity		Force.	Clouds. Amount.		Direction.		Rain-fall or melted snow in the past 24 hours.		Weather.	Observer.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0–10.	Up'er 0–10.	Lo'er 0–10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
Haparanda	30.05	763.2	30.09	764.2	14.7	— 9.6	.....	N	.....	.....	2	.....	0	.....	.....	0	0	.....	
Umea	29.88	759.0	29.93	760.3	32.0	0.1	81	S	.....	.....	2	.....	10	.....	.....	0.071	1.8	.....	
Hernosand	29.63	752.6	29.68	753.9	34.9	1 6	93	NE	.....	.....	6	.....	10	.....	.....	0.213	5.4	.....	
Stockholm	29.45	747.9	29.62	752.4	39.6	4.2	93	SW	.....	.....	2	.....	10	.....	.....	0.146	3.7	.....	
Wisby	29.65	753.1	29.71	754.6	43.2	6.2	88	SW	.....	.....	7	.....	10	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.43	747.6	29.52	749.8	39.0	3.9	94	SSW	15.2	6.8	.....	.....	10	.....	SW	0.330	8.38	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

SWISS SERIES.

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

Geneva	28.59	726.1	30.04	763.0	45.9	7.7	88	SE	.....	.....	1	.....	10	.....	.....	0	0	Foggy	The Observatory.
Zurich	28.35	720.0	29.98	761.8	51.1	10.6	76	NW	.....	.....	2	.....	1	.....	.....	0.150	3.8	Clear.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, 0 mm.; Thermometer, —1.8 Cent.; Relative Humidity, +13 per cent.

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

TURKISH SERIES.

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

Constantinople	.....	.....	30.21	767.2	58.3	14.6	69	NE	11	5.0	.....	.....	8	.....	N	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.11	764.7	64.2	17.9	.....	E	.....	.....	1	.....	5	.....	.....	0	0	Cloudy.....	A. Bertrand.
Sub-series.																			
Beirut, (Syria) Lee Obsy	29.90	759.4	30.02	762.4	71.4	21.9	67	SW	.....	.....	2	.....	2ks	.....	SW	1.45	36.8	D. clouds....	Prof. C. V. A. van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. A. Blair.
Charlottetown, P. E. Island	29.68	753.9	29.72	754.9	34.1	1.2	55	SW	15	6.7	.....	0	4n;ks	.....	.....	0	0	Fair.....	H. J. Cundall, C. E.
Cornwall, Ontario	29.93	760.2	30.14	765.5	22.4	— 5.3	62	NW	.....	.....	5	.....	10s	.....	.....	0	0	Cloudy.....	James Smith, M. A.
Dalhousie, N. B.	29.44	747.8	29.62	752.3	28.0	— 2.2	.....	W	.....	.....	4	.....	10ks	.....	.....	0	0	Gloomy.....	H. A. Jonnson.
Father Point, Quebec	29.67	751.1	29.59	751.6	30.4	— 0.9	78	SW	66	29.6	.....	.....	10s	.....	.....	0	0	Cloudy.....	J. McWilliams.
Fredericton, N. B.	29.76	755.9	29.83	757.7	31.0	— 0.6	48	NW	18.0	8.0	.....	0	1s	.....	.....	0	0	Clear.....	Prof. Harrison.
Fort Garry, Manitoba	29.58	751.3	30.49	774.4	10.5	—11.9	90	NW	4	1.8	.....	0	1ks	.....	.....	0	0	Fair.....	James Stewart.
Granton, Ontario	29.20	741.7	30.38	771.6	24	— 4.4	.....	W	.....	.....	2	0	0	.....	.....	0	0	Clear.....	James Grant.
Halifax, N. S.	29.74	755.4	29.88	758.9	36.1	2.3	62	W	14	6.3	.....	0	0	.....	.....	0	0	Clear.....	A. Allison, M. A.
Hamilton, Ontario	29.97	761.2	30.38	771.6	26.9	— 2.8	90	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	Geo. Dickson, A. M.
Heart's Content, N. F.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.99	759.4	30.26	768.6	23.1	— 4.9	73	NW	9	4.0	.....	0	2s	.....	.....	0	0	Clear.....	S. Woods, M. A.
Little Glace Bay, N. S.	29.69	754.1	29.72	754.9	38.6	3.7	58	NW	7	3.1	.....	8k	0	NW	.....	0	0	Cloudy.....	C. H. Rigby.
Montreal, Quebec	29.87	758.7	30.08	764.0	25.0	— 3.9	71	W	20	8.9	.....	8k	2ks	W	.....	Inap.	Inap.	Cloudy.....	C. H. McLeod, C. E.
Moose Factory, Ontario	29.90	759.4	29.94	760.5	19.2	— 7.1	91	NW	.....	.....	6	.....	10	.....	.....	Inap.	Inap.	Cloudy.....	J. R. Nason.
Norwood	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Inap.	Inap.	.....	Rev. T. F. Fotherlugham, M. A.
Peterboro, Ontario	29.47	748.5	30.30	769.6	8.7	—12.9	44	W	.....	.....	1	0	0	.....	.....	0.04	1.0	Clear.....	J. F. Jeffers, B. A.
Port Dover, Ontario	29.63	752.6	30.37	771.4	24.0	— 4.4	87	W	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	H. Morgan.
Port Hastings, N. S.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.67	753.6	30.36	771.1	25.2	— 3.8	79	W	12	5.4	.....	0	0	.....	.....	0	0	Clear.....	M. Payne.
Quebec, Quebec	29.55	750.6	29.89	759.2	26	— 3.3	75	NW	.....	.....	6	.....	10s	.....	.....	0	0	Cloudy.....	Capt. Ashe, R. N.
Rockliffe, Ontario	29.72	754.9	30.22	767.6	21.0	— 6.1	71	W	10	4.5	.....	.....	10s	.....	W	Inap.	Inap.	Light snow.	W. H. McIntyre.
St. Andrews, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Gove.
St. John, N. B.	29.67	753.6	29.84	757.9	31	— 0.6	100	W	24	10.7	.....	1k	0	.....	.....	0	0	Fine.....	G. Murdock, C. E.
Saugeen, N. B.	29.55	750.6	30.30	769.6	31	— 0.6	78	W	22	9.8	.....	1k	7n	W	.....	0.29	7.4	Cloudy.....	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.98	736.1	30.35	770.9	24.8	— 4.0	91	W	7	3.1	.....	.....	10s	.....	.....	0	0	Cloudy.....	C. J. MacGregor, M. A.
Sydney, C. B.	29.70	754.4	29.74	755.4	38.8	3.8	60	SW	18	8.0	.....	.....	10n	.....	W	0	0	Cloudy.....	T. C. Hill, C. E.
Toronto, Ontario	29.94	760.5	30.34	770.6	28.3	— 2.1	77	W	10	4.5	.....	2ck	2ks	W	W	Inap.	Inap.	Fair.....	Magnetic Observatory.
Windsor, N. S.	29.74	755.4	29.77	756.1	35.0	1.7	70	W	13	5.8	.....	4k	0	.....	.....	0	0	Fine.....	Prof. J. E. Oram.
Woodstock, Ontario	29.25	742.9	30.39	771.9	25.0	—3.9	91	SW	13	5.8	.....	7k	0	W	.....	0	0	Cloudy.....	Prof. J. Montgomery.
Yarmouth	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.60	751.8	29.86	758.4	40.0	4.4	91	SW	.....	.....	.....	2k	5s	.....	.....	0.10	2.5	.....	John Delany.
St. Pierre, N. F.	.....	.....	29.68	753.8	46.4	8	.....	NW	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	l'Hopital Maritime.

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

UNITED STATES SERIES.

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

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

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	30.00	762.0	30.24	768.1	34	1.1	61	W	8	3.6	.....	.....	10s	.....	W	0	0	Cloudy.	
Alpena, Michigan	29.67	753.6	30.37	771.4	23	— 5.0	86	SW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	29.15	740.4	30.34	770.6	46	7.8	76	N	6	2.7	.....	.....	10s	....	Calm	Inap	Inap.	Cloudy	
Atlantic City, New Jersey	30.36	771.1	30.40	772.1	37	2.8	81	W	8	3.6	.....	Haze	0	Calm	....	0	0	Clear	
Augusta, Georgia	30.17	766.3	30.37	771.4	55	12.8	50	NE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Baltimore, Maryland	30.38	771.6	30.43	772.9	39	3.9	55	W	7	3.1	.....	0	Haze	.....	Calm	0	0	Clear	
Barnegat, New Jersey	30.33	770.4	30.35	770.9	36	2.2	71	W	14	6.3	.....	0	0	....	.....	0	0	Clear	
Bismarck, Dakota	28.49	723.6	30.31	770.6	12	—11.1	80	N	20	8.9	.....	5cs	0	NW	.....	0	0	Fair	
Boerne, Texas	28.88	733.5	30.25	768.3	43	6.1	83	N	6	2.7	.....	10k	0	Calm	.....	0	0	Cloudy	
Boise City, Idaho	27.37	695.2	30.33	770.4	25	— 3.9	75	E	1	0.4	....	0	0	....	.....	0	0	Clear	
Boston, Massachusetts	30.01	762.2	30.17	766.3	38	3.3	45	SW	15	6.7	.....	1k	0	Calm	.....	0	0	Clear	
Brackettville, Texas	29.17	740.9	30.26	768.6	48	8.9	63	N	4	1.8	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Breckenridge, Minnesota	29.22	742.2	30.31	769.6	17	— 8.3	83	S	9	4.0	.....	2k	0	Calm	.....	0	0	Fair	
Brownsville, Texas	30.24	768.1	30.29	769.4	55	12.8	81	N	4	1.8	.....	.....	10s	.....	N	0	0	Cloudy	
Buffalo, New York	29.59	751.6	30.34	770.6	29	— 1.7	78	W	12	5.4	.....	2k	0	SW	....	0	0	Fair	
Burkes, Arizona	.....	.....	.....	.....	50	10.0	52	W	.....	.....	1	2c	0	Calm	.....	0	0	Clear	
Burlington, Vermont	29.82	757.4	30.13	765.3	29	— 1.7	67	W	13	5.8	.....	0	0	.....	.....	0	0	Clear	
Cairo, Illinois	30.16	766.1	30.58	776.7	33	0.6	70	N	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Campo, California	27.57	700.3	30.14	765.5	27	— 2.8	76	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.35	770.9	30.36	771.1	55	12.8	62	NE	20	8.9	.....	.....	10s	.....	NE	0	0	Threatening	
Cape Henry, Virginia	30.42	772.7	30.44	773.2	48	8.9	43	N	10	4.5	.....	2ck	5s	W	Calm	0	0	Cloudy	
Cape Lookout, N. Carolina	30.32	770.1	30.34	770.6	53	11.7	73	NE	30	13.4	.....	.....	10ks	.....	W	0	0	Threatening	
Cape May, New Jersey	30.36	771.1	30.39	771.9	44	6.7	52	W	24	10.7	.....	0	Haze	.....	.....	0	0	Clear	
Castroville, Texas	29.55	750.6	30.28	769.1	49	9.4	71	NW	4	1.8	.....	.....	10s	.....	NW	0	0	Cloudy	
Charleston, South Carolina	30.25	768.3	30.31	769.9	56	13.3	51	NE	12	5.4	.....	2ck	0	W	.....	0	0	Clear	
Charlotte, North Carolina	29.53	750.0	30.37	771.4	47	8.3	41	NE	6	2.7	.....	5cs	2s;hz	Calm	W;Calm	0	0	Cloudy	
Chattanooga, Tennessee	30.57	776.5	30.41	772.4	45	7.2	46	NE	6	2.7	.....	10cs	0	SW	.....	0	0	Cloudy	
Cheyenne, Wyoming	24.08	611.6	30.02	762.5	20	— 6.7	70	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.76	755.9	30.52	775.2	22	— 5.6	72	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Cincinnati, Ohio	29.84	757.9	30.54	775.7	33	0.6	65	W	1	0.4	.....	0	Sm'e	.....	NW	0	0	Clear	
Cleveland, Ohio	29.68	753.9	30.45	773.4	32	0.0	79	SW	4	1.8	.....	10k	0	W	.....	0	0	Cloudy	
Coleman City, Texas	28.55	725.2	30.3	769.6	41	5.0	74	Calm	0	0	.....	.....	10s	.....	N	0	0	Cloudy	
Columbus, Ohio	29.58	751.3	30.48	774.2	27	— 2.8	64	S	2	0.9	.....	.....	Fog	.....	Calm	0	0	Foggy	
Concho, Texas	28.44	722.4	30.23	767.8	42	5.6	74	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Corsicana, Texas	29.93	760.2	30.42	772.7	42	5.6	74	N	4	1.8	.....	0	1s	.....	Calm	0	0	Clear	
Davenport, Iowa	29.86	758.4	30.56	776.2	24	— 4.4	74	NE	5	2.2	.....	10cs	0	W	.....	0	0	Cloudy	
Deadwood, Dakota	25.51	647.9	.....	.....	15	— 9.4	65	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas	29.20	741 7	30.41	772.4	50	10.0	52	N	7	3.1	.....	2c	5s	NW	NW	0	0	Cloudy	
Denison, Texas	29.63	752.6	30.46	773.7	44	6.7	60	N	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Denver, Colorado	24.86	631.4	30.08	764.0	22	— 5.6	79	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	29.54	750.3	30.48	774.2	30	— 1.1	78	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Detroit, Michigan	29.71	754.6	30.44	773.2	23	— 5.0	86	W	6	2.7	.....	0	2s	.....	Calm	0	0	Clear	
Dodge City, Kansas	27.64	702.0	30.06	763.5	30	— 1.1	6	S	12	5.4	.....	.....	10s	.....	W	0	0	Cloudy	
Dubuque, Iowa	29.76	755.9	30.53	775.4	21	— 6.1	71	Calm	0	0	.....	.....	10s	....	Calm	0	0	Cloudy	
Duluth, Minnesota	29.69	754.1	30.43	772.9	21	— 6.1	86	W	2	0.9	.....	.....	10s	.....	.....	Inap.	Inap.	Cloudy	
Eagle Pass, Texas	29.64	752.6	30.39	771.9	53	11.7	67	NE	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Eastport, Maine	29.82	757.4	29.89	759.2	32	0.0	50	SW	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Edinburg, Texas	.....	.....	.....	.....	63	17.2	72	N	.....	.....	1	.....	10s	.....	Calm	0	0	Cloudy	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.64	752.6	30.37	771.4	37	2.8	53	W	15	6.7	.....	.. ...	10ks	.....	NW	0	0	Cloudy	
Escanaba, Michigan	29.71	754.6	30.43	772.9	17	— 8.3	67	W	2	0.9	.....	0	0	.....	.....	0.04	1.0	Clear	
Florence, Arizona	28.60	726.4	30.20	767.1	64	17.8	58	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	28.35	720.1	30.38	771.6	10	—12.2	79	NE	2	0.9	.....	0	0	....	.....	0	0	Clear	
Fort Custer, Montana	27.08	687.8	.....	.....	21	— 6.1	85	NW	4	1.8	.....	.....	10s	.....	NW	0	0	Cloudy	
Fort Davis, Texas	25.40	645.2	30.36	771.1	34	3.3	100	S	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Gibson, Indian Ter	29.87	758.7	30.45	773.4	33	0.6	79	N	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Grant, Arizona	25.31	642 9	30.11	764.8	47	8.3	70	N	4	1.8	.....	0	0	....	.....	0	0	Clear	
Fort Griffin, Texas	29.13	739.9	30.46	773.7	46	7.8	77	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Keogh, Montana	27.73	704.3	.....	.....	18	— 7.8	67	N	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort McKavett, Texas	28.10	713.7	30.11	764.8	43	6.1	67	N	4	1.8	.....	.....	10s	.....	.....	0	0	Cloudy	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Stevenson, Dakota	29 16	740.7	30.32	770.1	43	6.1	43	E	.....	.....	1	.....	10s	.....	Calm	0	0	Cloudy	
Fort Verde, Arizona	28.51	724.1	.....	.....	13	—10.6	81	N	18	8.0	.....	5c	0	N	.....	0	0	Fair	
Fort Yates, Dakota	.....	.....	.....	.....	39	3.9	82	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fredericksburg, Texas	28.45	722.6	30.07	763.8	43	6.1	75	N	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Galveston, Texas	30.29	769.4	30.34	770.6	49	9.4	78	N	19	8.5	.....	.....	10n	....	N	0.11	2.8	Light rain	
Graham, Texas	29.28	743.7	30.39	771.9	42	5.6	83	Calm	0	0	.....	.....	10s	... .	NW	0	0	Cloudy	
Grand Haven, Michigan	29.68	753.9	30.37	771.4	32	0.0	79	NW	9	4 0	.....	.....	10ks	.....	NW	0	0	Cloudy	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.43	747.5	30.41	772.4	43	6 1	75	E	6	2.7	.....	.....	10s	.....	E	0	0	Cloudy	
Indianapolis, Indiana	29.64	752.8	30.49	774.4	27	— 2.8	64	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Indianola, Texas	30.33	770.4	30.36	771.1	48	8.9	93	N	28	12.5	.....	.....	10s	.....	N	0	0	Threatening	
Jacksboro, Texas	29.23	742.4	30.41	772.4	46	7.8	62	SE	4	1 8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Jacksonville, Florida	30.20	767.1	30.23	767 8	63	17.2	89	NE	1	0.4	.....	2cs	Haze	W	.....	0	0	Fair	
Keokuk, Iowa	29.84	757.9	30.52	775.2	27	— 2.8	53	E	6	2.7	.....	.....	10s	....	Calm	0	0	Cloudy	
Key West, Florida	30.12	765.0	30.15	765.8	75	23.9	72	NE	10	4 5	.....	1k	0	NE	.....	0	0	Clear	
Kittyhawk, North Carolina	30.39	771.9	30.42	772.7	52	11.1	54	NE	23	10.3	.....	10cs	0	NE	.....	0	0	Cloudy	
Knoxville, Tennessee	29.41	747.0	30.48	773 7	40.5	4.7	57	NE	6	2.7	.....	1ck	2s	NW	Calm	0	0	Fair	
La Crosse, Wisconsin	29. 0	754.4	30.50	774.7	21	— 6.1	71	S	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
La Mesilla, New Mexico	26.31	668.3	30.46	773.7	32	0.0	89	Calm	0	0	.....	1c	0	Calm	.....	0	0	Clear	
Laredo, Texas	29 81	757 2	30.15	765 8	65	18.3	73	N	6	2.7	.....	0	0	....	.....	0	0	Clear	
Leavenworth, Kansas	29.56	750.8	30.45	773.4	34	1.1	61	S	9	4.0	.....	2cs	5s	W	.....	0	0	Cloudy	
Little Rock, Arkansas	30.15	765.8	30.53	775.4	43	6.1	59	NE	7	3.1	.....	10cs	0	W	.....	0	0	Cloudy	
Los Angeles, California	29.82	757.4	30.17	766.3	48	8.9	78	N	3	1.3	.....	1c	0	Calm	.....	0	0	Clear	
Louisville, Kentucky	29.83	76 .2	30.53	775.4	32	0 0	69	N	3	1.3	.....	0	0	....	.....	0	0	Clear	
Lynchburg, Virginia	29.75	755.9	30.47	773.9	37	2.8	71	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Madison, Wisconsin	29.43	747.5	30.51	774.9	20	— 6.7	70	W	5	2.2	.....	5cs	0	W	.....	0	0	Fair	
Marquette, Michigan	29.32	752.3	30.30	771.9	18	— 7.8	68	W	16	7.2	.....	0	0	....	.....	0.33	8.4	Clear	
Mason, Texas	28.72	729.5	30.58	776.7	40	4.4	73	NE	2	0.9	.....	8cs	0	SW	.....	0	0	Fair	
Memphis, Tennessee	30.14	765.5	30.50	774.7	37	2.8	71	NE	3	1.3	.....	0	1s	.....	Calm	0	0	Clear	
Milwaukee, Wisconsin	29.69	754.1	30.50	774.7	18	— 7.8	84	W	6	2.7	.....	0	1s	.....	Calm	0	0	Clear	
Mobile, Alabama	30.29	769.4	30.34	770.6	49	9.4	71	N	10	4.5	.....	2cs	2s	W	Calm	Inap.	Inap.	Fair	
Montgomery, Alabama	30.14	764 8	30.33	770.9	50	10.0	71	N	6	2.7	.....	.....	10s	.....	W	0	0	Cloudy	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer, corrected for instrum'tal error and temperature.		Barometer, reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.			Force.	Clouds.				Rain-fall or melted snow in the past 24 hours.		Weather.	Observer.
								Direction.	Velocity.			Amount.		Direction.					
												Up'er	Lo'er	Upper.	Lower.				
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.		
Morgantown, West Virginia	29.43	747.5	30.50	774.7	30	— 1.1	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Mt. Washington, N. H.	23.23	590.0	29.59	751.6		—15.0	100	NW	102	45.6	.....	.....	Fog	.....	NW	0	0	Foggy	
Nashville, Tennessee	29.91	759.7	30.48	774.2	38	3.3	63	Calm	0	0	.....	0	Sm'e	.....	Calm	0	0	Clear..	
New Haven, Connecticut	30.14	765.5	30.26	768.6	39	3.9	64	W	15	6.7	.....	0	0	.....	.....	0	0	Clear.....	
New London, Connecticut	30.19	766.8	30.24	768.1	39	3.9	55	W	10	4.5	.....	0	0	.....	.....	0	0	Clear.....	
New Orleans, Louisiana	30.28	769.1	30.34	770.6	55	12.8	56	NE	8	3.6	.....	0	5s	.....	Calm	0	0	Fair	
Newport, Rhode Island	30.19	766.8	30.25	768.3	37.5	3.1	59	W	20	8.9	.....	0	0	.....	.....	0	0	Clear.....	
New York, New York	30.14	765.5	30.33	770.4	36	2.2	62	W	10	4.5	.....	0	Haze	.....	Calm	0	0	Clear.....	
Norfolk, Virginia	30.37	771.4	30.44	773.2	47	8.3	48	N	3	1.3	.....	10cs	0	Calm	.....	0	0	Cloudy.....	
North Platte, Nebraska	27.27	692.6	30.06	763.5	15	— 9.4	74	S	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter.	30.18	766.6	30.22	767.6	29.0	— 1.7	94	N	2	0.9	.....	2k	0	S	.....	0	0	Clear.....	
Omaha, Nebraska	29.18	741.1	30.34	770.6	34	1.1	61	S	10	4.5	.....	.....	10s	.....	NW	0	0	Cloudy	
Oswego, New York	29.94	760.5	30.27	768.8	33	0.6	79	NW	16	7.2	.....	0	8ks	.....	NW	0.03	0.8	Fair.....	
Pembina, Dakota	29.42	747.3	30.33	770.4	13	—10.6	100	N	12	5.4	.....	.....	10n	.....	Calm	0.07	1.8	Light snow.	
Pensacola, Florida	30.30	769.6	.....	.....	.....	.....	.....	N	.....	.....	1	4ck	4s	W	W	0	0	Fair.....	
Philadelphia, Pennsylvania	30.32	770.1	30.37	771.4	35	1.7	61	SW	8	3.6	.....	0	Fog	.....	Calm	0	0	Clear.....	
Phœnix, Arizona	28.94	735.1	30.76	781.3	56	13.3	57	E	1	0.4	.....	2c	0	Calm	.....	0	0	Clear.	
Pike's Peak, Colorado	17.72	450.1	29.93	760.2	11	—11.7	40	NW	42	18.8	.....	2cs	0	Calm	.....	0	0	Clear.....	
Pilot Point, Texas	29.62	752.3	30.49	774.4	48	8.9	56	NE	2	0.9	.....	8k	2s	N	NE	0	0	Cloudy.....	
Pioche, Nevada	24.09	611.9	29.86	758.4	38	3.3	54	S	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Pittsburg, Pennsylvania	29.61	752.1	30.48	774.2	28	— 2.2	77	W	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Port Huron, Michigan	29.68	753.9	30.40	772.1	22	— 5.6	72	W	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Portland, Maine	30.01	762.2	30.06	763.5	34	1.1	61	SW	10	4.5	.....	0	0	.....	.....	0	0	Clear.	
Portland, Oregon	30.17	766.3	30.25	768.3	35.0	1.7	73	E	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Portsmouth, N. Hampshire	.....	.....	.....	.....	55	12.8	62	NE	28	12.5	.....	10cs	0	Calm	.....	0	0	Cloudy.....	
Prescott, Arizona	24.92	634.0	30.28	769.1	37	2.8	63	S	.....	.....	1	0	0	.....	.....	0	0	Clear.....	
Punta Rassa, Florida	30.18	766.6	30.19	766.8	67	19.4	84	NE	7	3.1	.....	5cs	0	SW	.....	0	0	Fair.....	
Red Bluff, California	29.80	756.9	30.17	766.3	47	8.3	85	W	4	1.8	.....	9c	Sm'e	W	Calm	0	0	Cloudy	
Rio Grande City, Texas	30.18	766.6	30.41	772.4	52	11.1	79	NW	8	3.6	.....	....	10s	.....	N	0	0	Cloudy	
Rochester, New York	29.66	753.4	30.31	769.9	30	—1.1	78	W	12	5.4	.....	2k	0	W	.....	0.02	0.5	Clear.....	
Roseburg, Oregon	29.65	753.1	30.24	768.1	41	5.0	95	E	2	0.9	.....	.....	10s;fg	.....	Calm	0	0	Cloudy.....	
Sacramento, California	30.07	763.8	30.15	765.8	48	8.9	85	Calm	0	0	.....	10c	0	Calm	.....	0	0	Cloudy.....	
St. Louis, Missouri	29.95	760.7	30.57	776.5	27	— 2.8	53	NE	5	2.2	.....	2cs	0	Calm	.....	0	0	Fair.....	
St. Paul, Minnesota	29.50	749.3	30.40	772.1	22	— 5.6	79	SE	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Salt Lake City, Utah	25.79	655.0	30.12	765.0	40	4.4	56	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.66	753.4	30.26	768.6	53	11.7	61	NE	6	2.7	.....	.....	10s	.....	Calm	0.28	7.1	Cloudy.....	
San Diego, California	30.10	764.5	30.18	766.6	50	10.0	79	Calm	0	0	.....	0	2s	.....	Calm	0	0	Clear.	
Sandusky, Ohio	29.76	755.9	30.47	773.9	33	0.6	70	SW	10	4.5	.....	2k	0	SW	.....	0	0	Fair.....	
Sandy Hook, New Jersey	30.30	769.6	30.33	770.4	39	3.9	64	W	16	7.2	.....	0	0	.....	.....	0	0	Clear..	
San Francisco, California	30.10	764.5	30.17	766.3	54	12.2	87	Calm	0	0	.....	5c	0	Calm	.....	0	0	Fair.....	
Santa Fé, New Mexico	23.41	594.6	29.95	760.7	36	2.2	61	SW	4	1.8	.....	.....	10s	.....	S	0	0	Cloudy.....	
Savannah, Georgia	30.22	767.6	30.31	769.9	57	13.9	63	NE	5	2.2	.....	.....	10s	.....	E	0	0	Cloudy.....	
Shreveport, Louisiana	30.20	767.1	30.42	772.7	55	12.8	28	NE	4	1.8	.....	0	8s	.....	Calm	0	0	Fair.....	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.34	770.6	30.37	771.4	52	11.1	73	N	12	5.4	.....	5k	5s	NW	Calm	0	0	Cloudy.	
Socorro, New Mexico	25.62	650.7	29.68	753.9	46	7.8	77	S	5	2.2	.....	0	5s	.....	SW	0	0	Fair.....	
Springfield, Illinois	29.85	758.2	30.58	776.7	26	— 3.3	63	Calm	0	0	.....	0	5s;sm	.....	NW;Calm	0	0	Smoky	
Springfield, Massachusetts	30.09	764.3	30.22	767.6	36	2.2	71	S	6	2.7	.....	0	0	.....	.....	Inap.	Inap.	Clear.....	
Stockton, Texas	27.16	689.8	30.16	766.1	49	9.4	37	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Thatcher's Island, Mass	30.09	764.3	30.15	765.8	36	2.2	71	W	22	9.8	.....	0	0	.....	.....	0	0	Clear.....	
Toledo, Ohio	29.71	754.6	30.44	773.2	31	— 0.6	89	W	6	2.7	.....	2cs	0	W	.....	0	0	Clear.....	
Tucson, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon	30.02	762.5	30.56	776.2	19.5	— 6.9	69	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Uvalde, Texas	29.44	747.8	30.28	769.1	50	10.0	65	N	5	2.2	.....	.....	10s	.....	N	0	0	Cloudy	
Vicksburg, Mississippi	30.16	766.1	30.43	772.9	46	7.8	69	NE	6	2.7	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Virginia City, Montana	24.36	618.7	29.84	757.9	22	— 5.6	45	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Visalia, California	29.75	755.6	30.13	765.3	44	6.7	88	S	1	0.4	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Washington, D. C.	30.32	770.1	30.44	773.2	34	1.1	61	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	
Wickenburg, Arizona	.....	.....	.....	.....	45	7.2	68	NW	.....	.....	1	1c	0	Calm	.....	0	0	Clear.....	
Wilmington, North Carolina	30.29	769.4	30.37	771.4	50	10.0	65	NE	8	3.6	.....	.....	10s	.....	NE	0	0	Cloudy.....	
Winnemucca, Nevada	25.77	654.6	30.13	765.3	22	— 5.6	72	N	11	4.9	.....	0	0	.....	.....	0	0	Clear.....	
Wood's Holl, Massachusetts	30.17	766.3	30.20	767.1	40	4.4	47	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Yankton, Dakota	29.01	736.8	30.38	771.6	31	— 0.6	69	SW	13	5.8	.....	.....	10s	.....	SW	0	0	Cloudy	
Yuma, Arizona	29.92	760.0	30.09	764.3	57	13.9	81	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
SUB-SERIES.																			
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	30.05	763.3	30.10	764.5	78	25.6	78	Calm	0	0	.....	8ck	4ks	Calm	NE	0	0	Cloudy.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.22	767.6	30.23	767.8	77	25.0	83	Calm	0	0	.....	0	0	.....	.....	0	0	Fair.....	James Gall.
Medellin, Colombia, S. A.*	25.23	640.8	.....	.....	67.5	19.7	83	Calm	.....	.....	0	5c;cs	3s;ks	.....	.....	0.05	1.3	.....	Thomas Herran.
Navassa, W. I.	29.94	760.5	30.02	762.5	82	27.8	.....	NE	5	2.2	.....	5k	5s	NE	NE	0	0	Fair.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.00	762.0	30.00	762.0	83	28.3	75	E	.....	.....	2	6k	8ks	E	.....	0.140	3.56	Cloudy.....	C. J. Hering.
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	30.40	772.1	30.40	773.7	1.5	—16.9	86	N	17	7.6	.....	.....	10n	.....	N	Inap.	Inap.	Snow-drift...	J. Fortescue & W. Wood.
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NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Medellin, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 575 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3.488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 m., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm. *The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

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

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

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.19‡	766.8‡	.....	.....	58	14.4	88	NNE	9	4.0	.....	.....	8	.....	SW	0	0	.....	.....	Fair.....	
Navy Yard, Portsmouth, N.H	29.94‡	760.5‡	.....	.....	34	1.1	66	WSW	5	2.2	..	.....	1	.....	.....	0	0	.....	.....	Clear	
Naval Hospital, Yokohama, Japan.....	30.07‡	763.8‡	.....	.....	51	10.6	86	Calm	.....	.....	0	1ck	Sm'e	.....	W	0	0	.....	.....	Fair.....	
Adams, Mare I'd., Navy Yard, Cal.	30.14‡	765.5‡	.....	.....	54	12.2	93	SW	.....	.....	1	.....	10	.....	SW	.....	.....	.....	.....	Cloudy.....	
Alaska, Callao, Peru ....*.	30.02‡	762.5‡	.....	.....	61	16.1	94	WNW	.....	...	1	.....	10	.....	.....	.....	.....	.....	.....	Misty.....	
Alliance, N. 27° 19′, W. 20° 19′.....	29.88‡	758.9‡	.....	.....	71	21.7	71	N	.....	.....	2–4	.....	7	.....	NW	.....	.....	Smooth	N	D. clouds....	
Colorado, New York, N. Y.....	30.27‡	768.8‡	.....	.....	39	3.9	68	NW	9	4.0	.....	.....	0	.....	.....	0	0	.....	.....	Hazy.....	
Constitution, Navy Yard, Norfolk, Va.	30.52‡	775.2‡	.....	.....	47	8.3	62	N	3	1.3	....	.....	9	.....	Calm	.....	.....	.....	.....	Cloudy.....	
Enterprise, N. 38° 33′, E. 15° 45′.....	30.10‡	764.5‡	.....	.....	69	20.6	75	SW	.....	.....	2	.....	7	.....	SW	.....	.....	Mod'ate	.....	Cloudy.....	
Franklin, Off Navy Yard, Norfolk, Va.	30.36‡	771.1‡	.....	.....	48	8.9	56	NE	6	2.7	.....	.....	2	.....	NE	0	0	.....	.....	Clear.....	
Hartford, N 20° 08′, W. 56° 38′.....	30.02‡	762.5‡	.....	.....	83	28.3	75	Calm	.....	.....	0	.....	5?	.....	E	0	0	Smooth	.....	Clear?.....	
Independence, Mare I'd, Navy Yard, Cal.	30.16‡	66.1‡	.....	.....	58	14.4	76	Calm	0	0	.....	.....	10	.....	Calm	0	0	.....	.....	Cloudy.....	
Kearsage, Norfolk, Va	30.43‡	772.9‡	.....	.....	49	9.4	57	NNE	.....	.....	1	.....	2	.....	NE	0	0	.....	.....	Fair.....	
Lackawana, N. 5° 05′ E. 179° 25′.. †.	29.84‡	757.9‡	.....	.....	81	27.2	83	E	.....	.....	3–4	.....	8	.....	E	.....	.....	Long	E	Fair.....	
Marion, Off Norfolk, Va.	30.41‡	772.4‡	.....	.....	51	10.6	40	N	.....	.....	1	.....	5	.....	N	.....	.....	Smooth	.....	Fair.....	
Michigan, Erie, Pa.....	0.33‡	770.4‡	.....	.....	37	2.8	81	NW	....	.....	6	.....	10	.....	NW	.....	.....	.....	.....	Cloudy	
Monocacy, Shanghai, China..	30.26‡	768 6‡	.....	.....	57	13.9	87	NE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
New Hampshire, Port Royal, S. C.....	30.28‡	769.1‡	.....	.....	59	15.0	70	NE	16	7.2	.....	.....	7	W	NE	0	0	.....	.....	Cloudy.....	
Onward, Callao, Peru..... ....†.	29.99‡	761.7‡	.....	.....	61	16.1	94	NW	.....	...	1	.....	10	.....	.....	.....	.....	Long	W	Foggy	
Palos, Shanghai, China.....	30.28‡	769.1‡	.....	.....	53	11.7	100	NE	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Passiac, Washington, D. C.....	30.42‡	72.7‡	.....	.....	39	3.9	68	NW	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Pensacola, S. 17° 41′, W. 75° 52′.....	30.06‡	763.5‡	.....	.....	64	17.8	68	ESE	.....	.....	3	.....	10	.....	.....	.....	.....	Smooth	.....	Overcast....	
Portsmouth, Hampton Roads, Va....	30.43‡	772.9‡	.....	.....	46	7.8	84	N	.....	.....	2	.....	5	.....	N	0	0	Smooth	.....	Fair.....	
Powhatan, Norfolk, Va.....	30.41‡	772.4‡	.....	.....	49	9.4	44	N	.....	.....	2	.....	5	.....	Calm	0	0	... ...	.....	Fair.....	
Quinnebaug, Leghorn, Italy	29.97‡	761.2‡	.....	.....	65	18.3	73	WNW	.....	.....	2	.....	5	.....	W	.....	.....	.....	.....	Fair.....	
Ranger, Yokohama, Japan.....	30.08‡	764.0‡	.....	.....	58	14.4	82	NW	.....	.....	2	.....	2	.....	Calm	.....	.....	Smooth	.....	Fair.....	
Richmond, Shanghai, China.....	.26‡	768.6‡	.....	.....	59	15.0	82	NE	.....	.....	0–1	.....	0	.....	.....	0	0	Smooth	.....	Pleasant.....	
Rio Bravo, Brownsville, Texas.....	30.30‡	69.6‡	.....	.....	53	11.7	100	NNW	5	2.2	.....	10	5	Calm	NNW	0	0	.....	.....	Cloudy.....	
Santee, Annapolis, Md	30.46‡	773.7‡	.....	.....	40	4.4	68	W	.....	.....	2	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Shenandoah, N. 21° 50′, W. 35° —′.....	30.01‡	762.2‡	.....	.....	77	25.0	91	ENE	.....	....	4	.....	10	.....	NE	.....	.....	Mod'ate	NE	Cloudy.....	
St. Louis, League Island, Pa.....	30.35‡	770 9‡	.....	.....	37	2.8	82	WSW	12	5.4	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Trenton, Villafranca, France.	30.02‡	62.5‡	....	.....	64	17.8	73	SSW	.....	.....	2	.....	10	.....	SW	0	0	Smooth	.....	Cloudy.....	
Tuscarora, Chacaqua Bay, Mexico.	30.95‡	60.7‡	.....	.....	79	26.1	95	NW	...	....	1	.....	5	.....	Calm	0	0	Long	S	Fair.....	
Vandalia, Vera Cruz Mexico.....	30.20‡	767.1‡	.....	.....	77	25.0	95	N	.....	.....	4	.....	5	.....	N	.....	.....	.....	.....	Fair	
Wabash, Boston, Mass.....	30.10‡	764.5‡	.....	.....	32	0.0	74	SW	14	6.3	.....	.....	5?	.....	.....	0	0	.....	.....	Clear.	
Wachusett, N. 22° —′, W. 39° —′.....	30.12‡	765.0‡	.....	.....	79	26.1	82	E	.....	.....	3	.....	2	.....	E	.....	.....	Smooth	E	Fair	
Wyoming, Villafranca, France.....	29.99‡	761.7‡	.....	.....	63	17.2	72	WSW	.....	.....	0–1	.....	10	.....	W	.....	.....	Smooth	SW	Cloudy.....	
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NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

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

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S. S. Samaria																			Capt. T. Roberts.
Note—†Aneroid. *The error of the barometer is not known.																			
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitebury.
S. S. Costa Rica																			W. House & R. Lawless.
S. S. Dakota, Capt. H. G. Morse																			Capt. Connolly.
S. S. Georgia																			F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin																			Capt. A. Fuller.
S. S. Wilmington																			R. C. Ghest, 1st Officer.
S. S. Zealandia, N. 28° 23′, W. 146° 19′		30.11‡	764.8‡				NW			3				S		Smooth.	E	Cloudy	
Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
Note.—The orginals give the barometer as read off; wind-force by the scale 0 to 12; for the Brittanic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer N. 31° 18′, W. 155° 52′		30.13‡	765.3‡	69	20.6	70	W			3		5		W		Smooth		D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson N. 30° 50′, E. 144° 05′		29.92‡	760.0‡	66	18.9	....	Var.			2		0				Consid'ble	Rough Head	NE	Thunder-storm.	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.
Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office. §The date of this observation on the Gaelic is uncertain by one day.																			
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents																			
S. S. Baltimore																			Capt. H. Andreassen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undutsch.
S. S. Leipzig, Capt. F. Pfeiffer																			S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 38° 22′, W. 71° 10′		30.36‡	770.9‡				NW			5		5		NW		5	NW	Cloudy†	Capt. G. Meyer.
Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			

UNITED STATES MARINE SERIES—Continued.

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

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Liverpool, Eng		30.19‡	766.8‡	48	8.9	92	E			8		9		E	Mod'ate			Rainy	Capt. R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.

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

RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents.																			
Belgenland, N. 41° 19', W. 64° 12'		30.09‡	764.3‡	48	8.9		W	28	12.5		5		W	1 h'r	Long	W	Fair		Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

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

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

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

MARINE SERIES—Miscellaneous.																			
Furnished by the co-operation of the Observers named.																			
Schooner Addie Fuller, St. Simon's Light, Ga		30.24‡	768.1‡	64	17.8	89	NNE	14	6.3			10k		NE	0			Overcast	Capt. James Jorgensen.
Haytian																			
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax," New London Conn. †		30.10‡	764.5‡				WNW			5		2		NW	0	Rough	W	Clear	N. B. Foss.
Schooner Harry and Fred																			Capt. George Gardner.
§ Iron Cross																			Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

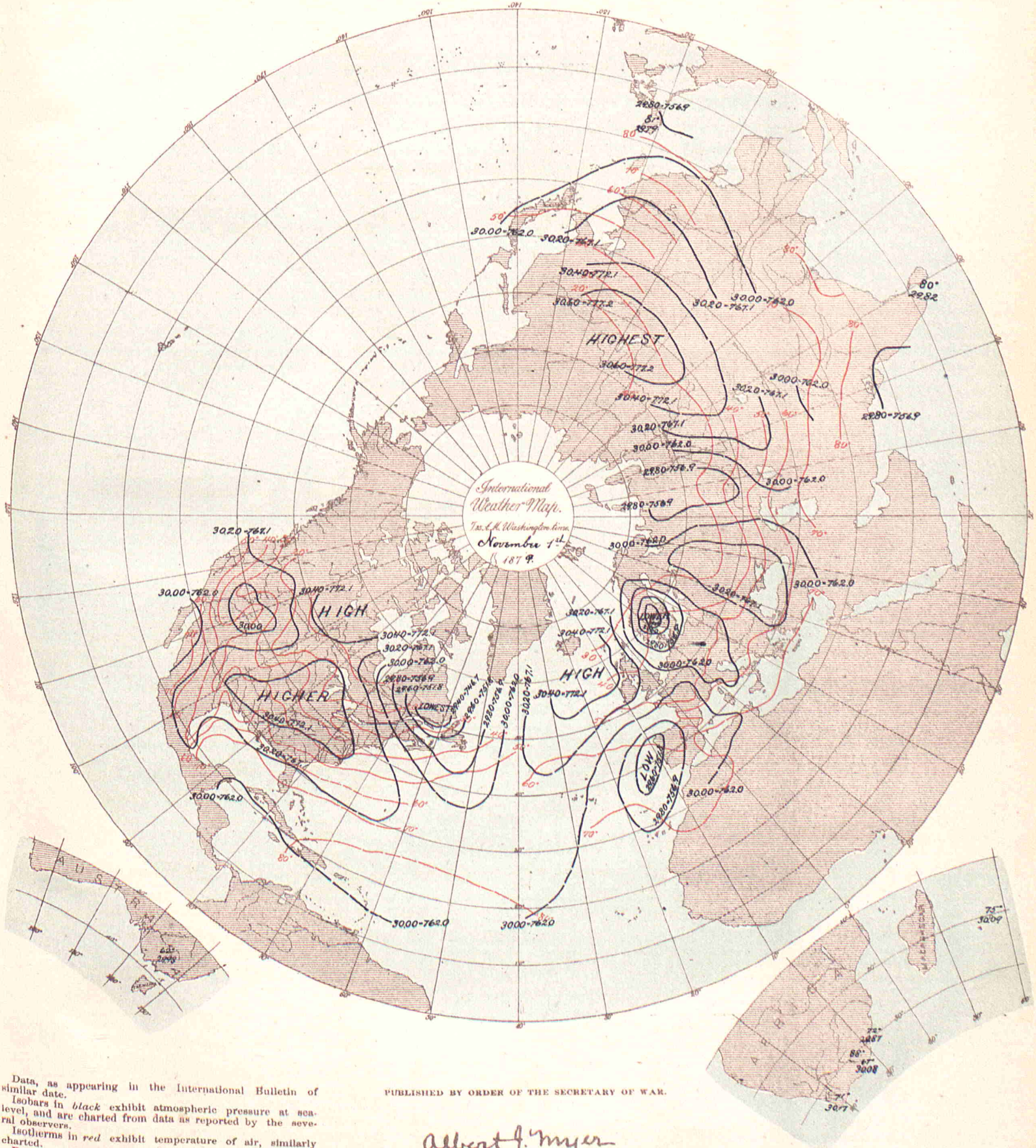
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

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

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

Albert J. Myer

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



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

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

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

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

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

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

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

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BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 2, 1879.

7:35 A. M. WASHINGTON Mean Time.

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

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

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

ALGERIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			29.98	761.6	64.8	18.2	86	SW			1		10			0.433	11.0	Covered	Kesxuche.
Nemours			29.91	759.6	69.8	21.0	87	WNW			1		8			0	0	Very cloudy	Tourillere.
Algiers			29.90	759.4	79.2	26.2	41	WNW			1		0			0	0	Clear	Foufrede.
La Calle			29.89	759.3	72.5	22.5	79	W			1		8			0	0	Very cloudy	Jacques.
Tunis																			Gau.
Sfax			30.03	762.7															Herbin.
Saida																			Watrin.
Tebessa			30.03	762.8	76.0	24.8	44	SSW			5		8			0	0	Very cloudy	Brugnlaux.
Geriville					64.8	18.2	44	SSW			2		10			0	0	Cloudy	Bertrand.
Laghouat			30.00	763.5	81.7	27.6	31	SW			3		0?			0	0	Very cloudy?	Chanvaux.
Biskra			29.95	760.8	79.9	26.6	35	SE			1		5			0	0	Cloudy	

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

AUSTRO-HUNGARIAN SERIES.

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

Agram	29.25	742.9	29.70	756.6	60.6	15.9	69	S			4		5			0.484	12.3		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.00	736.6	29.78	756.0	54.0	12.2	70	NNE	2.9	1 3			0			0	0		Prof. Dr. Karlinski, Dir.
Eperies	28.92	734.5	29.80	756.9	50.7	10.4	91	S			2		108		N	0	0		Julius Mikolik.
Gratz	28.50	723.9	29.76	755.8	48.6	9.2	89	SW			2		7			0.709	18.0		Andreas Rospini.
Hermannstadt	28.44	722.4	29.86	758.5	55.4	13.0	74	S			4		10			0	0		Prof. A. Gottschling.
Kremsmünster	28.31	719.0	29.66	753.3	45.0	7.2	96	Calm			0		10			0	0		Prof. C. Wagner.
Lemberg	28.79	731.3	29.77	756.2	52.7	11.5	83	SW			2		9			0	0		Dr. T. Stanecki.
Pola	29.72	754.8	29.83	757.7	62.1	16.7	80	S			2		9			0.016	0.4		I.R.Hydrographic Office.
Szathmar	29.43	747.6	29.87	758.6	50.4	10.2	90	E			3		10			0	0		Pet. Pancsics.
Szegedin	29.60	751.9	29.88	759.0	57.2	14.0	82	S			2		7			0.089	2.25		Karl Stancel.
Trieste	29.72	754.9	29.82	757.5	58.6	14.8	86	Calm			0		10			0.108	2.7	Raining	P. Busin.
Vienna	29.02	737.0	29.76	755.8	47.7	8 7	96	S			2		10			0.020	0.5		I.R. Central Met.Ob'sy.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmunster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:20, instead of 2:8 p. m., local time,

BELGIAN SERIES.

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

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

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

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BRITISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.21	767.8	30.31	769.9	41.9	5.5		NW	17	7.6			7			0.115	2.92	D. clouds	W. Boswell.
Ardrossan																			Wm.McNeil &G.Carrick
Armagh, (Observatory)	30.27	768.8	30.52	775.2	43.1	6.2		N	6	2.7									S. Call.
Bidston (Liverpool Obs)			30.35	770.9	43.2	6.2		N	26	11.6			1					Blue sky	John Hartnup.
Bolton (Sharples)	29.74	755.4	30.27	768.8	41.9	5.5		N	24	10.7			0					Blue sky	Thomas Mackereth.
Bradford, Yorkshire																0	0		J McLandsborough.
Bridgetown, Barbadoes	29.94	760.5	29.97	761.2	82.5	28.1		NE			2		3					D. clouds	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	30.08	764.0	30.18	766.6	42.0	5.6		N			3–4		7					Showery	H. Todd.
Cardington			30.19	766.8	44.0	6.7		N			3		9					Overcast	John McLaren.
Chatham (School M. E.)	30.02	762.5	30.25	768.3	41.1	5.1		NW			1		9					Overcast	J. Carmell, Sapper, R.E.
Donaghadee	30.42	772.7	30.46	773.7	47	8.3		NNE			5		2					D. clouds	J. Mac Gowan.
Dover	30.07	763.8	30.10	764.5	44	6.7		N			6		5					Squally	J. Costello.
Falmouth (Observatory)	30.10	764.5	30.34	770.6	44.4	6.9		N			5		1					D. clouds	The Staff.
Fort Napier, Natal	27.64	702.0	29.87	758.7	64.8	18.2		E			2		10					Overcast	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone§	29.72	754.9	29.95	760.7	86	30.0		E			0		3					D. clouds	
Galway (Queen's College)			30.50	774.7	46	7.8		NE			2		3					D. clouds	Prof. A. H. Curtis.
Gibraltar, Mediterranean‖	29.74	755.4	29.80	756.9	65.1	18.4		E			2		10					D. clouds	Sergt.Wm. Allen, A. H.
Glasgow, (Observatory)	30.19	766.8	30.40	772.1	43.5	6.4		WNW			4		0					Blue sky	D. G. Maclean. [C.
Great Yarmouth	30.05	763.3	30.05	763.3	44	6.7		NNW			5		7					Squally	G. T. Watson.
Greenwich (Royal Obs'y)	30.00	762.0	30.18	766.6	42.5	5.8		N			4		7					D. clouds	The Staff, for G.B.Airy.
Guernsey	30.01	762.2	30.23	767.8	45	7.2		NNE			4		5					D. clouds	Dr.S.E Hoskins, F.R.S.
Helston	30.48	774.2	30.60	777.2	47	8.3		NNE			4	4ck				0	0	Fine	M. P. Moyle.
Holyhead	30.36	771.1	30.41	772.4	44	6.7		NNE			6		4					D. clouds	John Tilston.
Jersey	29.95	760.7	30.25	768.3	45.0	7.2		NE			5		5					D. clouds	J. Fisher.
Kew (Observatory)	30.16	766.1	30.20	767.1	43.1	6.2		N	23	10.3			6					D. clouds	The Met'g'l Office.
Leicester (Museum)	29.98	761.5	30.24	768.1	45.0	7.2		E			4		5					D. clouds	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	29.91	759.7	29.98	761.5	72	22.2		SE			2	2ck						Blue sky	A. King.
Nairn	30.27	768.8	30.37	771.4	45	7.2		NW			5		5					½ clouded	W. D. Penny.
Nassau, Bahamas			30.08	764.0	78.2	25.7		NE			2		4					D. clouds	C. S. Duncombe.
Nottingham (Observatory)	30.07	763.8	30.27	768.8	44.4	6.9		NNW			6	ck	1k		N	0	0	Blue sky	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.73	755.1	30.27	768.8	42.8	6.0		N			4		1					Blue sky	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)			30.25	768.3	44	6.7		NNW			2		2					D. clouds	H. E. Bellamy.
Plymouth	30.23	767.8	30.31	769.9	45.7	7.6		N			4		0					Blue sky	John Merrifield.
Prince Town																			W. H. Tooker.
*Roche's Point	30.42	772.7	30.50	774.7	48	8.1		NNE			4		2					¾ clouded	Wm. Kennedy.
St. Ann's Head																			John C. Walker.
Sandwick Manse, Orkneys			30.45	773.4	44.8	7.1		NNW	26	11.6			4					Showery	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	29.92	760.0	29.99	761.7	63.2	17.3		SW			1		1					Blue sky	Serg't W. H. Lyne.
Sheffield	30.01	762.2	30.30	769.6	43.9	6.6		NE			3		2			0	0	D. clouds	W. F. Cooper.
Silloth Rectory	30.34	770.6	30.37	771.4	42.4	5.8	76	NE			6		9			0	0	D. clouds	Francis Redford, A. M.
Stonyhurst (Observatory)			30.31	769.9	41.2	5.1		NW	21	9.4			2					Blue sky	Rev. S. J. Perry.
Stratfield, Turgiss	30.01	762.2	30.23	767.6	45.0	7.2		NE			2–3		4					Squally	Rev.C.H.Griffith, F.M.S
Truro (Royal Institution)	30.31	769.9	30.36	771.1	48	8.9		NE			4		8					D. clouds	W. Newcombe.
Valencia Observatory)	30.52	775.2	30.54	775.7	44.1	6.7		ENE	24	10.7			6					D. clouds	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	30.11	764.8	30.15	765.8	70.1	21.2	57	SSE	21	9.4		0	1k						The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.58	649.7			81	27.2		SSW				8k	5k						Robert Burnet.
Hobart Town, Tasmania																			Francis Abbott, F.R.A.S
Leith, (Restairig Perk)			30.39	771.9	45.6	7.2		N			3		5k			0	0	Cloudy	Andrew Gibb.
Mauritius (Observatory)	29.92	760.0	30.11	764.8	75.0	23.9	64	SE	18.0	8.0			8		E	0.06	1.5	Squally	C. Meldrum.
Melbourne (Observatory)	29.98	761.5	30.07	763.8	55.3	12.9	73	NNW	4	1.8			0			0.05	1.3	Fine	R. L. J. Ellery.
Monach Lt-house, Hebrides			30.53	775.4	47	8.3		N			6	8	5	NW		0.2	5.		J. Youngclause.
North Unst, Shetland Is			30.23	767.8							7	2	8	N		Blank	Blank		

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing, but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft., or 670 m.; Colesberg Bridge, unknown. §Observations taken 55 minutes early. ‖Observations taken 47 minutes late. Both of these errors have apparently existed for a long time.

BRITISH MARINE SERIES. VESSELS.																Sea or swell Height scale 0—9	Sea or swell Direction from—		
H. M. S. Alert, Kathleen Bay, Chili			29.25‡	742.9‡	47	8.3		NNW			5		10					Showery	Capt.J.P. Maclear, R.N.
H. M. Sloop Gannet, Callao, Peru			30.01‡	762.2‡	64	17.8		Calm			0		10					Drizzling	Commander E. Bourke, R. N.
H. M. S. Magpie, Shanghai, China			30.27‡	768.8‡	57	13.9		NE			2		2					Blue sky	Capt. R. H. Napier, R.N.
Brig Alliance, N. 19° 00′, W. 57° 05′			30.06‡	763.5‡	84	28.9		ENE			3		3					D. clouds	Capt. W. Scott.
Barque Commewyne N. 24° 00′, W. 34° 55′			30.08‡	764.0‡	80.7	27.1		E			3		1					Blue sky	Capt. Jas. Buchan.
Brig Endymion, N. 49° 25′, W. 12° 55′			30.33	770.4	50	10.0		NE			6		8			7	ENE; NNE	D. clouds	Capt. Balkwill.
S. S. German, Algoa Bay, Cape Colony			30.13‡	765.3‡	66	18.9		SW			5		4					Squally	Capt. O. D. Coxwell.
Barque Queen of Cambria, N. 7° 50′, E. 78° 05′			29.88‡	758.9‡	80	26.7		WSW			4		4					D. clouds	Capt. M. Parry.
S. S. Strathleven, Sydney, N. S. W.			29.89‡	759.2‡	68	20.0		NNE			3		2					Blue sky	Capt. C. W. Pearson.
Schooner Traveller, N. 47° 50′, W. 31° 35′			30.24	768.1	59	15.0		ESE			5		10			4	ENE	Squally	
S. S. Gordon Castle																			
German Brig "W. von Freeden"																			Capt. H. V. Freeden.
Theophane																			Capt. Greig.
S. S. Amanda																			Capt. B. Boyes.
S. S. Peruvian																			Capt. W. H. Smith.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

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

STATIONS.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Millimeters.	Barometer. Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er. 0—10.	L'w'r. 0—10.	Clouds. Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
San José	26.23	666.2	29.95	760.7	68.9	20.5	82	NE			3	7cs	2d		E	0	0		Federico Maison.

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

DANISH SERIES.

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

Stations	Bar. corr. Inches	mm	Bar. sea-level Inches	mm	Temp. F	Temp. C	Humidity %	Wind From—	Miles per hour	Meters per second	Force 0—10	Clouds Up'er	Clouds L'w'r	Dir. Upper	Dir. Lower	Rain Inches	Rain mm	Weather
Copenhagen	29.56	750.7	29.60	751.9	41.7	5.4	82	NW			2		7					
Fanöe	29.72	754.8	29.74	755.3	39.0	3.9	87	N			6		7					
Godthaab (Greenland)																		
Stykkisholm (Iceland)																		
Thorshavn (Faröe)	30.34	770.7	30.38	771.6	46.0	7.8	58	NW			2		2					
Vestervig	29.70	754.4	29.81	757.2	36.5	2.5	77	N			6		9					Raining

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

FRENCH SERIES.

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

Stations	Bar. corr. Inches	mm	Bar. sea-level Inches	mm	Temp. F	Temp. C	Humidity %	Wind From—	Miles per hour	Meters per second	Force 0—10	Clouds Up'er	Clouds L'w'r	Dir. Upper	Dir. Lower	Rain Inches	Rain mm	Weather	Observer
Alençon, Normal School	29.60	751.7	30.15	765.7	46.4	8	59	NE			2		5k		NE	0	0	Cloudy	Collignon, Director.
Amiens, Normal School	29.93	760.3	30.05	763.2	47.1	8.4	72	NNW			2		8		SE	0.126	3.2	Very cloudy	Vaillant, Director.
Arras, Engin'r School	29.75	755.6	30.02	762.4	43.5	6.4	74	N			3		n		NW	0.354	9.0		Klein, Commandant.
Avignon, Normal School	29.72	754.9	29.80	756.9	60.8	16	83	SE			1		10		SSE			Light rain	Giraud, Director.
Bar-sur-Seine	29.44	747.7	30.01	762.2	43.5	6.4	56	NE			2		5kn		NE	0	0	Cloudy	C. Saillard, Director.
Beauvais, Normal School	29.82	757.3	30.09	764.3	44.2	6.8	62	N			3		8			0.039	1.00	Very cloudy	Frere Eugene Marie.
Besançon, Normal School	29.05	737.9	29.98	761.4	41.2	5.1	98	NE			1		10		NE	0.571	14.5	Covered	A. Carré, Director.
Bourg-en-Bresse, N. School	29.09	738.8	30.08	763.9	39.6	4.2	93	N			3		10n	N	N			Raining	Mariot, Diretor.
Bourges, Normal School	29.42	747.2	29.98	761.6	43.9	6.6	77	N			3		10kn		N	0.012	0.3	Covered	M. Gence, Director.
Brest, Naval Observatory	29.97	761.3	30.22	767.5	47.5	8.6	72	NE			3		5		NE	0	0		Ch. de Rermaree, Dir.
Caen, Normal School	30.17	766.4			48.9	9.4	42	NE			1-2		5		NE	0	0	Cloudy	M. Bietrin, Director.
Carcassonne, N. School	29.37	746.1	29.78	756.3	66.2	19	72	E			1		2		E	0	0	Slightly cl'dy	September, Director.
Châlons-sur-Marne, N. Sch'	29.70	754.3	30.02	762.6	45.3	7.4	55	NE			3		5	NE	NE			Cloudy	Jadot, Director.
Chartres, Normal School	29.48	748.9	30.07	763.7	44.6	7	85	NE			4		4		SW	0	0		Vergier, Director.
Clermont-Fd, Puy de D. Obs	28.59	726.3	30.03	762.7	37.9	3.3	95	N			3		10			0.409	10.4		Alluard, Director.
Commercy, Normal School	29.07	738.4	29.95	760.7	43.2	6.2	77	NW			1	2c	3k	NW	NW	0.016	0.4	Cloudy	Dr. Coullet, Director.
Commune de Gréasque*	28.71	729.1	29.85	758.1	60.6	15.9	85	SE			1		10		Calm	0	0		L. Kina, Director.
Grenoble, Normal School	29.05	737.9	29.83	757.6	48.9	9.4	84	NW			1		10kn		W	0.098	2.50	Covered	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	29.86	758.4	30.08	764.0	48.9	9.4	61	NNW			3		5		N	0	0	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.82	757.4	30.13	765.4	44.6	7	77	NNE			4		2		NNE	0	0	Slightly cl'dy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.03	737.4	29.96	760.9	37.2	2.9	93	NE			1		10			0.331	8.40	Raining	A. Baudry, Director
Lorient, Naval Observatory	30.08	764.1	30.19	766.9	47.1	8.4	55	NNE			4				NE	0	0		Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.29	744.0	29.93	760.2	40.6	4.8	95	N			1		10		NNW	0.083	2.1	Rainy	Ch. André, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.54	750.2	29.80	757.0	64.6	18.1	76	E			0-1		10		SW	0	0		E. Stephan, Director.
Mirecourt, Normal School	28.88	733.5	29.95	760.6	41.4	5.2	78	NW			3		k	NW	NW	0	0		Barbier, Director.
Mont-Louis	24.77	629.1	30.08	764.1	52.7	11.5	66	SSW	18.6	8.3			6		W	0	0		M. Cave.
Nice	29.78	756.5	29.82	757.4	64.8	18.2	80	W			4		5	W	W	0	0	Cloudy	M. Boissieré, Director.
Nismes, Normal School	29.66	753.3	29.85	758.3	64.4	18	80	SW			1		10		SE	0	0	Covered	M. Boyer, Director.
Paris, Montsouris Obs'y	29.80	756.8			44.6	7.0	65	NW			3		9			0	0		Marie Davy, Director.
Perpignan	29.67	753.6	29.77	756.2	59.0	15.0	85	NW	5.6	2.5			9		NW	0	0		Dr. Fines.
Pic du Midi (Plantade) H. P.	22.42	569.5			36.1	2.3		SW			1		10		SW	0.142	3.6	Rain & snow	Gen'l de Nansouty.
Pic du Midi (Summit) H. P.																			M. Baylac.
Privas, Normal School	28.76	730.4	29.82	757.5	54.5	12.5	87	S			4		kn	S	S	0	0		Cantier, Director.
Puy de Dome (Summit) Obs	24.97	634.1			27.3	—2.6	96	NNE			2		10			0.551	14.0	Snowing	Alluard, Director.
Rochefort, Naval Obs'y	29.97	761.3	30.00	762.1	48.2	9.0	73	ENE			2		8	ENE	ENE	0	0.	¾ covered	Lt E. Decante, Director
Rouen, Normal School	30.03	762.8	30.12	765.0	44.2	6.8	69	N			3		5		N	0.098	2.5	Cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.17	766.2	30.20	767.0	46.6	8.1	60	NE			4		1	NE	NE	0	0	Clear	Lt. Herouet, Director.
Saint Maur (near Paris)	29.91	759.5	30.08	764.0	45.5	7.5	71	NNW			3				N	0.020	0.5		E. Renou, Director.
Tarbes, Normal School	28.85	732.9	29.92	759.9	53.1	11.7	87	NW			1		2	SW	NW	0	0	Slightly cl'dy	T. Huguet, Director.
Toulouse, Observatory	29.13	740.0	29.85	758.2	63.7	17.6	81	SW			1		10			0	0	Covered	M. Julier Mercadier.
Tours	29.87	758.6	30.07	763.6	47.1	8.4	55	ENE			3		2		NNE	0	0	1-4 covered	Cousin-Marquet.
Versailles, Observatory	29.59	751.6	30.08	764.0	43.5	6.4	62	N			2					0.019	0.47		Dr. A. Beriguy, Director
Villefranche-sur-Saone, N. S	29.30	744.1	30.04	762.9	39.4	4.1	98	N			1		10			0	0	Covered	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.97	761.3	30.00	762.0	79.5	26.4										0	0		L'Abbé Marchési
Zi-Ka-Wei (near Shanghai)	30.25	768.3	30.27	768.9	53.4	11.9	86	NE	5.4	2.4			1			0	0	Clear	Marc Dechevrens.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 313 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centrigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.92	734.5	29.76	755.8	39.7	4.3	79	NW	.....	.....	6	.....	9ks	W	.....	0.012	0.3	.....	Prof. Dr. Hoh.
Berlin	29.52	749.9	29.70	754.4	41.9	5.5	79	SW	.....	.....	2	.....	10	.....	.....	0.039	1.0	.....	Prof. Dr. Arndt.
Breslau	29.20	741.6	29.72	754.9	49.6	9.8	67	S	.....	.....	2	.....	10	.....	.....	0.045	1.13	Rainy	Royal University Obs'y.
Carlsruhe	29.45	747.9	29.88	758.9	43.9	6.6	68	N	.....	.....	2	.....	10	N	.....	0.094	2.4	.....	Albert Senz.
Cassel	29.19	741.4	29.79	756.7	44.4	6.9	63	NW	.....	.....	2	.....	7	NW	.....	0.015	0.38	.....	Dr. H. Möhl.
Emden	.....	.....	29.79	756.7	41.7	5.4	94	N	.....	.....	2	.....	5	.....	.....	0.299	7.6	.....	Prof. Dr. Prestel.
Frankfort on the Main	29.50	749.4	29.87	758.7	45.1	7.3	74	NNW	.....	.....	3	.....	4	.....	.....	0	0	.....	Physical Society.
Friedrichshafen	28.37	720.6	29.83	757.7	41.7	5.4	91	NNE	.....	.....	5	.....	10	NW	.....	0.799	20.3	Raining.....	Chief Telegrapher Wilhelm.
Hamburg	29.63	752.7	29 71	754.5	41.5	5.3	80	NNW	.....	.....	3	.....	9kn	.....	.....	0.055	1.4	Showery...	Captain F. Hegemann.
Kiel	29.64	752.9	29.66	753.3	41.0	5.0	76	WNW	.....	.....	2	.....	10	.....	.....	0.092	2.33	.....	Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.60	751.9	29.69	754.0	43.2	6.2	89	SW	.....	.....	5	.....	9	.....	.....	0.083	2.1	.....	Prof. E. Luther.
Köslin	.....	.....	29.67	753.7	40.6	4.8	.....	W	.....	.....	4	.....	5	.....	.....	0	0	.....	H. Müller.
Leipsic Observatory	29.35	745.6	29.79	756.6	38.1	3.4	90	NW	.....	.....	3	.....	10	NW	.....	.....	.....	Rainy	Prof. Dr. Bruhns, Privy Counselor.
Magdeburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Assmann.
Memel	29.59	751.5	29.63	752.7	46.4	8.0	81	NW	.....	.....	3–4	.....	9ks	.....	.....	.....	.....	.....	Reinbrecht & Ishermann
Munich (München)	27.93	709.5	29.78	756.4	40 3	4.6	92	NW	.....	.....	2	.....	10	NW	.....	0.012	0.3	Raining	Dr. C. Lang.
Neufahrwasser	29.66	753.3	29.67	753.7	44.1	6.7	84	SSW	.....	.....	1	.....	10	.....	.....	0.039	1.0	.....	A. Lothes.
Neustadt (Palatinate)	29.34	745.2	29.86	758.5	45.0	7.2	58	N	.....	.....	6	.....	4	NW	.....	0.094	2.4	.....	Reallehrer Dicknether.
Posen	29.39	746.6	29.69	754.0	46.4	8.0	77	SW	.....	.....	1	.....	10	.....	.....	0.295	7.5	Raining	Prof. Dr. Hagener.
Strassburg (in Alsace)	29.37	746.1	29.94	760.4	43.0	6.1	78	NNE	.....	.....	2	.....	9	WSW	.....	0.164	4.16	.....	Imp. University Observatory.
Stuttgart	28.87	733.3	29.84	757.8	40.1	4.5	82	W	.....	.....	1	.....	10	.....	.....	0.343	8.7	.....	Prof. Dr. Schoder.
Weissenburg (Bavaria)	28.29	718.6	29.84	758.0	39.4	4.1	92	NNW	5	2	.....	.....	10	.....	.....	0.181	4.6	Raining	Reallehrer J. Hopfner.
Wustrow	29.62	752.3	29.64	752.9	37.2	2.9	93	SSW	.....	.....	4	.....	10s	.....	.....	0.433	11.0	.....	E. Schütz, Director.
German Naval Series.																			
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Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

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

Athens	29.69	754.0	30.07	763.8	65.5	18.6	.....	NE	.....	.....	3.3	.....	.....	.....	.....	.....	.....	Hazy.....	Dr. J. F. J. Schmidt.
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Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

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

Kurrachee	29.83	757.8	29.88	759.1	82.4	28.0	68	WNW	11	4.9	.....	.....	2	.....	.....	0	0	D. clouds.....	
Deesa	29.44	746.8	29.92	759.8	81.7	27.6	16	NNE	7.8	3.5	.....	.....	0	.....	.....	0	0	Blue sky.....	
Bombay	29.79	756.6	29.83	757.6	79.5	26.4	79	NW	10	4.5	.....	.....	6	W	.....	0	0	D. clouds.....	
Poona (Yerrowda)	27.97	710.5	29.83	757.6	79.0	26.1	66	SE	10	4.5	.....	.....	9	.....	.....	0.28	7.1	Thunder-storm..	
Belgaum	27.32	693.9	29.88	758.9	70.8	21.6	95	W	18	8.0	.....	.....	10	E	E	1.59	40.4	Overcast.....	
Lahore	29.09	739.0	29.85	758.2	71.2	21.8	40	Calm	1.3	0.6	.....	.....	0	.....	.....	0	0	Blue sky.....	
Roorkee	28.94	735.0	29.86	758.5	66.8	19.3	55	W	1.4	0.6	.....	.....	.....	.....	.....	0	0	.....	
Agra	29.30	744.2	29.88	758.8	73.7	23.2	45	W	4.9	2.2	.....	.....	.....	.....	.....	0	0	.....	
Nagpur	28.79	731.2	29.83	757.6	81.3	27.4	46	NE	3.4	1.5	.....	.....	.....	.....	.....	0	0	Blue sky	
Jubbulpore	28.50	723.8	29.88	758.9	75.1	23.9	41	NE	2.3	1.0	.....	.....	3	.....	N	0	0	D. clouds.....	
Lucknow	29.50	749.3	29.89	759.1	70.4	21.3	55	N	1.3	0.6	.....	.....	.....	.....	.....	0	0	Blue sky.....	
Allahabad	29.55	750.6	29.87	758.8	67.3	19.6	61	Calm	1.8	0.8	.....	.....	0	.....	.....	0	0	Blue sky	
Patna	29.67	753.6	29.86	758.3	75.9	24.4	43	NW	0.1	0.05	.....	.....	0	.....	.....	0	0	Blue sky.....	
Hazaribagh	27.82	706.7	29.87	758.8	68.0	20.0	51	WNW	5.3	2.4	.....	.....	0	.....	.....	0	0	Blue sky.....	
Cuttack	29.76	755.9	29.84	758.0	77.0	25.0	84	W	1.	0.4	.....	.....	9	.....	.....	.....	.....	Drizzling.....	
Calcutta (Alipore)	29.81	757.2	29.83	757.8	76.7	24.8	69	N	2.0	0.9	.....	.....	0	.....	.....	0	0	Blue sky	
Goalpara	29.40	746.8	29.79	756.8	78.7	25.9	62	Calm	1.8	0.8	.....	.....	0	.....	.....	0	0	Blue sky.....	
Chittagong	29.71	754.6	29.80	756.8	78.1	25.6	81	WNW	2.0	1.9	.....	.....	2	.....	.....	0	0	Misty.....	
Sibsagar	29.48	748.8	29.82	757.4	76.1	24.5	81	ENE	1.0	0.4	.....	.....	0	.....	.....	0	0	Blue sky.....	
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Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

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

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

STATIONS	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	29.43	747.4	29.85	758.1	53.1	11.7	96	Calm	0	0	.....	.....	10	.....	.....	0.020	0.5	.....	Prof. Giovanni Clodig.
Milan	29.26	743.2	29.78	756.4	51.4	10.8	94	NE	.....	.....	1	.....	10	.....	.....	0.591	15.0	.....	Prof. Schiaparelli.
Padua	29.69	754.0	29.80	756.8	55.2	12.9	91	NNE	4.3	1.9	.....	.....	10	NE	.....	0.051	1.3	.....	Prof. Dott. Lorenzoni.
Moncalieri	28.89	733.7	29.81	757.2	49.8	9.9	92	E	1.3	0.6	.....	.....	10	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.60	751.9	29.80	756.8	60.8	16.0	86	S	10.5	4.7	.....	.....	10	S	.....	2.126	54.0	.....	Prof. G. M. Garibaldi.
Mondovi	27.87	707.8	29.81	757.2	49.1	9.5	92	NNW	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.76	755.9	29.81	757.2	64 4	18.0	67	NW	9.8	4.4	.....	.....	7	SW	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.58	751 4	29.84	758.0	66.2	19 0	67	S	.....	.....	4	.....	8	WSW	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.76	756.0	29.85	758.2	64.4	18.0	82	SW	14.3	6.4	.....	.....	10	.....	.....	0.020	0.5	.....	Prof. P. Monte.
Rome	29.76	755.8	29.93	760.3	65.5	18.6	68	SE	7.4	3.3	.....	.....	10	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. C. De Giorgi.
Cosenza	29.10	739.1	29.99	761.8	68.5	20.3	74	SW	0.2	0.1	.....	.....	3	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.68	753.8	29.87	758.7	67.5	19.7	81	SE	.....	.....	2	.....	9	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.71	754.6	29.97	761.1	68.4	20.2	67	ENE	1.3	0.6	.....	.....	8	.....	.....	0	0	.....	Prof. G. Ciacciatore.
Syracuse	29.92	760.0	30.00	761.9	71.2	21.8	78	S	8.7	3.9	.....	.....	6	NW	.....	0	0	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. F. Brioschi.
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NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

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

Hiroshima, I. M. Obs'y	30.07	763.8	30.08	764.0	50.9	10.5	77	NNE	1.1	0.5	.....	4ck	ks	.....	.....	0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.93	760.2	30.14	765.5	51.4	10.8	80	N	1.6	0.7	.....	7c	cs	.....	.....	0	0	Cloudy	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.85	758.2	29.92	759.9	50.7	10 4	94	.....	.....	.....	.....	0	0	.....	.....	0	0	Very clear	The Staff.
Wakayama	29.96	761.0	30.02	762.5	52.3	11.8	88	NW	2.8	1.2	.....	3ck	ks	.....	NW	0.015	0 38	Fair	

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

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

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

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	25.17	639.3	30.29	769.3	51.4	10.8	68	Calm	.....	.....	0	.....	1	.....	.....	0	0	Clear	Prof. L. Perez.
Leon	24.56	623.8	30.31	769.9	56.3	13.5	83	NW	.....	.....	1	1c	0	NW	.....	0	0	Clear	Prof. M. Leal.
Mazatlan	29.76	755.8	30.01	762.3	73.9	23.3	89	E	.....	.....	1	0	0	.....	.....	0	0	Fine	I. Guerrero, C. E.
Mexico, Central Observatory	23.19	589.1	30.26	768.6	52.7	11.5	86	Calm	0	0	.....	.....	10k	.....	.....	0	0	Covered	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	56.3	13.5	75	NE	.....	.....	1	.....	10n	.....	.....	0	0	Covered	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.53	597.6	30.41	772.4	47.8	8.8	45	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.37	619.1	30.50	774.7	49.5	9.7	70	NE	.....	.....	1	.....	10	.....	E	0	0	Covered	G. Barroeta, M. D.
Tlacotalpam	30.17	766.4	30.19	766.7	72.7	22.6	89	N	.....	.....	2	3	2	NE	N	0	0	½ clouded	Prof. M. M. Chàzaro.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell.
Zacatecas	22.68	576.1	30.40	772.2	49.3	9 6	87	E	.....	.....	2	.....	10n	.....	E	0	0	Foggy	A. Nuñez.
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NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column; the instrumental correction —0.88 mm., or —0.035 inch, has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

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

Flushing	29.97	761.2	29.97	761.2	46.9	8 3	.....	N	.....	.....	4	.....	.....	.....	.....	0.197	5.0	.....	
Groningen	29.76	756.0	29.82	757 4	41.2	5.1	.....	N	.....	.....	.....	.....	.....	.....	.....	0.260	6.6	.....	
Helder	29.86	758.5	29.86	758.5	45.7	7.6	.....	N	.....	.....	6	.....	.....	.....	.....	0 177	4.5	.....	
Hellevoetsluis	29.91	759.7	29 91	759.7	44 4	6.9	85	NNW	.....	.....	3	.....	.....	.....	.....	0.185	4.7	.....	
Utrecht	29 85	758.1	29.89	759.3	46 9	8.3	76	NW	.....	.....	2	.....	5	.....	.....	0.091	2.3	Cloudy	H. v. d. Brink.

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

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.95	760.6	30.00	762.0	39.2	4.0	64	N	18.3	8.2	.....	.....	0	.....	.....	0	0	.....	
Brönö	29.72	754.9	29.76	755.9	29.8	— 1.2	94	SSW	18	8	.....	.....	10	.....	.....	.....	.....	Snowing	
Christiana	29.75	755.7	29.90	759.5	33.4	0.8	46	N	16	7	.....	.....	0	.....	.....	0.016	0.4	.....	
Tromsö	29.62	752.3	29.66	753.4	26.6	— 3.0	87	SW	13	6	.....	.....	10	.....	.....	0.394	10.0	.....	

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

PORTUGUESE SERIES.

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

Angra (Azores)	29.81	757.2	30.00	762.1	63.3	17.4	74	NE	8.1	3.6	.....	.....	4	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	28.84	732.4	29.86	758.4	63.0	17.2	88	ESE	2.5	1.1	.....	.....	9	.....	.....	0.157	4.0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	29.74	755.3	29.82	757.5	68.9	20.5	54	W	11.9	5.3	.....	.....	1	.....	.....	0.059	1.5	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.51	749.5	29.87	758.6	57.7	14.3	100	ENE	5.6	2.5	.....	.....	10	.....	.....	0.031	0.8	Heavy fog	The Staff.
Ponta Delgada (Azores)	29.86	758.5	29.93	760.3	66.2	19.0	66	NNE	19.2	8.6	.....	.....	3	.....	.....	0.299	7.6	.....	

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

PORTUGUESE Naval Series. Vessels.																Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.. ..	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Rio Lima. Capt. S. C. da Silva Costa. Porto Praya, Cape Verd I'ds.	.....	.....	.....	.....	80.2	26.8	.....	ENE	.....	.....	3	.....	3	.....	ENE	2	.....	D. clouds	A. A. A. Loureiro.
Sà da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Com'd't.
Sado, Capt. J. A. de Brito Capello, St. Paul de Loando	.....	.....	29.93	760.2	80.2	26.8	.....	W	.....	.....	5	.....	2	.....	W	.....	.....	D. clouds	H. Mecudonco, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	.....	.....	30.09	764 2	78.8	26.0	.....	N	.....	.....	3	.....	10	.....	N	1	.....	Overcast	J. G. Felgo, 2nd Lieut.
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Note.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between upper and lower clouds, and no humidity is given. The Sà da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

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

Archangel	30.05	763.3	30.07	763.8	20.8	— 6.2	98	SSW	9	4	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Astrakhan	30.52	775.2	30.44	773.1	42.1	5.6	49	E	9	4	.....	.....	1s	.....	.....	.....	.....	.....	Capt. Wisganow.
Barnaul	29.58	751.3	30.10	764.6	27.9	— 2.3	77	S	4	2	.....	.....	2	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Dorpat	29.39	746.6	29.64	752.9	34.3	1.3	91	SSE	2	1	.....	.....	10n	.....	.....	.....	.....	Snowing	Prof. Dr. Weihrauch.
Ekaterinburg	28.96	735.5	29.98	761.4	20.5	— 6.4	61	WNW	27	12	.....	.....	8	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	30.12	765.0	30.41	772.3	28.2	— 2.1	56	WSW	2	1	.....	.....	1k	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.32	744.8	29.97	761.3	41.7	5.4	75	SSE	13	6	.....	.....	10cks	.....	.....	.....	.....	.....	Physical Cabinet.
Krotkowo*	29.98	761.5	30.49	774.5	25.5	— 3.6	66	NW	0	0	.....	.....	1	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	30.11	764.9	30.32	770.2	40.3	4.6	53	E	9	4	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Moscow	29.65	753.0	30.23	767.7	31.3	— 0.4	61	S	13	6	.....	.....	10s	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	28.17	715.5	30.66	778.7	15.4	— 9.2	60	Calm	0	0	.....	.....	1	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	30.04	763.1	30.11	764.9	49.1	9.5	65	SE	13	6	.....	.....	8cs	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	29.82	757.3	30.05	763.3	56.1	13.4	62	NNW	9	4	.....	.....	9ks	.....	.....	.....	.....	.....	.....
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	30.27	768.8	30.41	772.4	41.9	5.5	58	Calm	0	0	.....	.....	5cs	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	29.69	754.1	29.71	754.5	29.7	— 1.3	94	ESE	13	6	.....	.....	10n	.....	.....	.....	.....	Snowing	Central Physical Obs.
Tashkend	28.52	724.5	30.09	764.3	59.7	15.4	52	.....	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.76	730.6	30.19	766.7	55.2	12.9	90	E	4	2	.....	.....	10	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	29.31	744.4	29.73	755.2	46.8	8.2	88	Calm	0	0	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.29	743.9	29.71	754.6	46.2	7.9	93	SSW	4	2	.....	.....	10	.....	.....	.....	.....	Heavy clouds	Astronomical Obs.
Yenisiesk	30.07	763.7	30.37	771.5	25.7	— 3.5	81	SE	9	4	.....	.....	2	.....	.....	.....	.....	.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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Note.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the ram-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

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

Barcelona, Met. Obs'y	29.70	754.4	29.80	757.0	68.4	20.2	70	SSW	2.6	1.14	.....	.....	1	.....	.....	0	0	Clear	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.84	757.9	29.89	759.3	59.7	15.4	96	E	2.8	1.26	.....	.....	10	.....	.....	0.134	3.4	Raining	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.91	683.5	.....	.....	56.8	13.8	82	NE	4.7	2.12	... ...	0	5	.....	.....	0.008	0.2	Cloudy	Domingo Martin y Perez.
Madrid, Royal Observatory.	27.65	702.4	29.87	758.7	57.0	13.9	97	SE	3.0	1.33	.....	0	10	.....	.....	0.118	3.0	Rainy	The Staff.
Murcia, Met. Obs'y	29.70	754.3	29.84	758.0	73.4	23.0	66	WSW	1.3	0.58	.....	6	3	NE	.....	0	0	Almost cov'd	Olayo Diaz, Director.
Santiago, Met. Obs'y	28.93	734.9	29.81	757.2	63.1	17.3	77	NE	0.7	0.3	.....	.....	3	.....	.....	0.260	6.6	Cloudy	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	30.04	763.1	30.11	764.8	74.8	23.8	86	E	3.1	1.4	.....	5ck;cs	2ks	ENE	E	0.276	7.0	Fair	Benito Vines, S. J.
Manilla, Phillippine Islands	29.78	756.4	29.84	757.8	81.5	27.5		NE	0.4	0.2	.....	.....	9kz	.....	E	0.075	1.9	Covered	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.80	756.8	29.89	759.3	67.5	19.7	82	S	6.3	2.8	.....	0	10	.....	S	0.016	0.4	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.93	760.2	30.02	762.5	79.5	26.4	86	SE	0	0	.....	0	3kn	.....	SE	0.079	2.00	Clear	Enrique Gadea, Chief Eng'r

Note.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8.19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.93	760.2	29.97	761.2	14.4	— 9.8	.....	N	.....	.....	2	.....	4	.....	.....	0	0	.....	
Umea	29.81	757.1	29.86	758.4	24.1	— 4.4	81	N	.....	.....	4	.....	9	.....	.....	0	0	.....	
Hernosand	29.81	757.2	29.86	758.5	24.8	— 4.0	87	N	.....	.....	7	.....	8	.....	.....	0.394	10.0	.....	
Stockholm	29.52	749.7	29.69	754.2	34.2	1.2	89	NW	.....	.....	4	.....	10	.....	.....	0.157	4.0	.....	
Wisby	29.59	751.6	29.65	753.1	38.8	3.8	83	N	.....	.....	6	.....	10	.....	.....	0.106	2.7	.....	
Sub-Series.																			
Upsala	29.58	751.3	29.67	753.5	30.7	— 0.7	100	NNW	19.2	8.6	.....	.....	10	.....	.....	0.001	0.03	Snow-storm	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

SWISS SERIES.

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

Geneva	28.40	721.4	29.85	758.3	45.1	7.3	100	NNE	.....	.....	3	.....	10	.....	.....	0.201	5.1	Raining	The Observatory.
Zurich	28.21	716.5	29.89	759.2	41.4	5.2	95	NW	.....	.....	2	.....	10	.....	.....	1.520	38.6	Raining	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, —4.7 mm.; Thermometer, —2.0 Cent.; Relative Humidity, +25 per cent.

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

TURKISH SERIES.

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

Constantinople	.....	.....	30.12	765.0	61.7	16.5	73	ENE	0	0	.....	.....	1	.....	N	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.03	762.8	66.6	19.2	.....	SW	.....	.....	1	.....	2	.....	.....	0	0	Slightly cl'dy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obsy	29.93	760.3	30.04	763.0	70.2	21.2	59	NW	.....	.....	1	.....	1k	.....	SW	0.12	3.0	D. clouds	Prof. C. V. A. van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. A. Blair.
Charlottetown, P. E. Island	30.05	763.3	30.09	764.3	29.0	— 1.7	59	W	12	5.4	.....	0	2s	.....	.....	0	0	Fine	H. J. Cundall, C. E.
Cornwall, Ontario	30.06	763.5	30.27	768.8	18	—10.6	92	W	.....	.....	1	0	0	.....	.....	0	0	Clear	James Smith, M. A.
Dalhousie, N. B.	29.86	758.4	30.04	763.0	26.5	— 3.1	.....	W	.....	.....	3	.....	10kg	.....	.....	0	0	Gloomy	H. A. Johnson.
Father Point, Quebec	29.99	761.7	30.01	762.2	27.7	— 2.4	77	SW	46	20.6	.....	.....	10s	.....	.....	0	0	Cloudy	J. McWilliams.
Fredericton, N. B.	30.10	764.5	30.17	766.3	27.0	— 2.8	63	W	11	4.9	.....	0	1s	.....	.....	0	0	Clear	Prof. Harrison.
Fort Garry, Manitoba	29.69	754.1	30.61	777.5	4.4	—15.3	90	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	James Stewart.
Granton, Ontario	29.90	736.6	30.16	766.1	27	— 2.8	.....	S	.....	.....	1	.....	10n	.....	.....	Inap.	Inap.	Light snow	James Grant.
Halifax, N. S.	30.07	763.8	30.20	767.1	32.0	0.0	79	W	8	3.6	.....	.....	8ks	.....	.....	0	0	Cloudy	A. Allison, M. A.
Hamilton, Ontario	29.85	758.2	30.25	768.3	29.7	— 1.3	93	NW	.....	.....	1	.....	10s	.....	.....	.....	.....	Snowing	Geo. Dickson, M. A.
Heart's Content, N. F.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.89	759.2	30.24	768.1	29.1	— 1.6	89	SE	4	1.8	.....	.....	10s	.....	.....	0	0	Cloudy.	S. Woods, M. A.
Little Glace Bay, N. S.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. H. Rigby.
Montreal, Quebec	30.07	763.8	30.28	769.1	21.0	— 6.1	86	W	12	5.4	.....	0	Sm'e	.....	.....	0	0	Fine	C. H. McLeod, C. E.
Moose Factory, Ontario	30.10	764.5	30.14	765.5	18.0	—10.6	93	W	.....	.....	3	.....	10	.....	.....	0	0	Cloudy	J. R. Nason.
Norwood	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.03	0.8	.....	Rev. T. F. Fotheringham, M. A.
Parry Sound, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. R. Mosley.
Peterboro, Ontario	29.43	747.5	30.26	768.6	16.6	— 8.6	75	E	.....	.....	1	0	0	.....	.....	0	0	Hazy	J. F. Jeffers, B. A.
Port Dover, Ontario	29.47	748.5	30.20	767.1	27.0	— 2.8	100	NE	5	2.2	.....	.....	10n	.....	.....	0.40	10.2	Light snow	H. Morgan.
Port Hastings, N. S.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.51	749.5	30.19	766.8	28.4	— 2.0	97	W	8	3.6	.....	.....	10n	.....	.....	0.01	0.3	Light snow.	M. Payne.
Quebec, Quebec	29.85	758.2	30.20	767.1	24.5	— 4.2	81	NW	.....	.....	5	.....	10n	.....	.....	0	0	Cloudy	Capt. Ashe, R. N.
Rockliffe, Ontario	29.80	756.9	30.30	769.6	11.5	—11.4	80	Calm	0	0	.....	0	Fog	.....	.....	0	0	Foggy	W. H. McIntyre.
St. Andrews, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Gove.
St. John, N. B.	30.01	762.2	30.19	766.8	26	— 3.3	75	W	11	4.9	.....	1k	0	.....	.....	0.02	0.5	Fine	G. Murdock, C. E.
Saugeen, Ontario	29.39	746.5	30.14	765.5	27.2	— 2.7	99	S	17	7.6	.....	.....	10s	.....	.....	0.17	4.3	Heavy snow	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.84	732.5	30.20	767.1	25.4	— 3.7	96	SW	1	0.4	.....	.....	10s	.....	.....	0.15	3.8	Light snow.	C. J. MacGregor, M. A.
Sydney, C. B.	30.04	763.0	30.08	764.0	33.8	1.0	71	SW	14	6.3	.....	.....	10ks	.....	.....	0	0	Overcast	T. C. Hill, C. E.
Toronto, Ontario	29.83	757.7	30.24	768.1	29.7	— 1.2	76	W	3	1.3	.....	0	8n	.....	.....	Inap.	Inap.	Cloudy	Magnetic Observatory.
Windsor, N. S.	29.98	761.5	30.08	764.0	31.5	— 0.3	84	W	12	5.4	.....	.....	10ks	.....	.....	0	0	Cloudy	Prof. John E. Oram.
Woodstock, Ontario	29.05	737.9	30.17	766.3	27.3	— 2.6	95	SW	1	0.4	.....	.....	10s	.....	.....	0.60	15.2	Overcast	Prof. J. Montgomery.
Yarmouth, N. S.	30.18	766.6	30.25	768.3	33.4	0.8	61	W	.....	.....	3	0	3ks	.....	.....	0	0	Fair	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.80	756.9	30.06	763.5	38.0	3.3	72	SW	.....	.....	.....	5k	5s	.....	.....	0.07	1.8	.....	John Delany.
St. Pierre, N. F.	.....	.....	29.92	760.0	42.1	5.6	.....	NW	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	l'Hopital Maritime.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

UNITED STATES SERIES.

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

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	30.10	764.5	30.34	770.6	31	— 0.6	79	S	6	2.7	.....	10k	0	NW	.....	0	0	Cloudy	
Alpena, Michigan	29.45	748.0	30.13	765.3	24	— 4.4	87	W	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	29.05	737.9	30.22	767.6	48	8.9	71	E	4	1.8	.....	10k	0	W	.....	0	0	Cloudy	
Atlantic City, New Jersey	30.33	770.4	30.34	770.6	36	2.2	80	NW	3	1.3	.....	10c	Haze	W	Calm	0.01	0.3	Cloudy	
Augusta, Georgia	30.07	763.8	30.28	769.1	52	11.1	79	Calm	0	0	.....	2ck	2s	NW	NW	0	0	Fair	
Baltimore, Maryland	30.30	769.6	30.36	771.1	39	3.9	55	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Barnegat, New Jersey	30.32	770 1	30.34	770.6	35	1.7	70	N	6	2.7	.....	5c	2s	W	W	0	0	Fair	
Bismarck, Dakota	8.61	726.7	30.46	773.7	18	— 7.8	78	Calm	0	0	.....	1cs	0	N	.....	0	0	Clear	
Boerne, Texas	28.84	732.5	30.24	768.1	36	2.2	90	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Boise City, Idaho	27.41	696.5	30.38	771.6	29	— 1.7	78	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Boston, Massachusetts	30.19	766.8	30.35	770.9	32	0.0	59	W	8	3.6	.....	5c	0	W	.....	0	0	Fair	
Brackettville, Texas	29.10	739.1	30.20	767.1	45	7.2	84	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	29.38	746.2	30.50	774.7	8	—13.3	100	NW	12	5.4	.....	0	8ks	.....	NW	0.	0	Cloudy	
Brownsville, Texas	30.15	765.8	30.20	767.1	55	12.8	81	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Buffalo, New York	29.47	748.5	30.2	767.1	32	0.0	89	SE	8	3.6	.....	.....	10n	.....	Calm	Inap.	Inap.	Light snow	
Burkes, Arizona	.....	.....	.....	.....	45	7.2	53	N	.....	.....	1	5c	0	Calm	.....	0	0	Fair	
Burlington, Vermont	30.01	762.2	30.33	770.4	25	— 3.9	62	SE	1	0.4	.....	0	0	.....	.....	Inap	Inap.	Clear	
Cairo, Illinois	29.93	760.2	30.34	770.6	39	3.9	73	S	3	1.3	.....	0	1s	.....	Calm	0	0	Clear	
Campo, California	27.55	699.8	30.12	765.0	23	— 5 0	86	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.18	766.6	30.19	766.8	54	12.2	93	NE	24	10.7	.....	.....	10n	.....	NE	0.58	14.7	Light rain	
Cape Henry, Virginia	30.26	768.6	30.28	769.1	53	11.7	48	NE	14	6.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Cape Lookout, N. Carolina	30.18	766.6	30.19	766.8	52	11.1	93	N	24	10.7	.....	.....	10s	.....	N	0	0	Cloudy	
Cape May, New Jersey	30.30	769.6	30.33	770.4	38	3.3	46	NE	9	4.0	.....	0	8ks	.....	Calm	0	0	Fair	
Castroville, Texas	29.53	750.0	30.28	769.1	41	5.0	91	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Charleston, South Carolina	30.17	766.3	30.24	767.8	53	11.7	73	NE	5	2.2	.....	2ck	0	W	.....	0	0	Clear	
Charlotte, North Carolina	29.38	746.2	30.20	767.1	48	8.9	70	Calm	0	0	.....	.....	10s	.....	W	0	0	Cloudy	
Chattanooga, Tennessee	29.44	747.8	30.26	768.6	44	6.7	76	NE	1	0.4	.....	1cs	Sm'e	Calm	Calm	0		Smoky	
Cheyenne, Wyoming	24.14	613.1	30.0	764.0	36	2.2	29	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.3	745.7	30.08	764.0	31	— 0.6	79	SW	6	2.7	.....	.....	10s	.....	SW	0.12	3.0	Cloudy	
Cincinnati, Ohio	29.54	750.3	30.22	767.6	36	2.2	53	SE	3	1.3	.....	.....	10s	.....	SW	0	0	Threatening	
Cleveland, Ohio	29.45	748.0	30.21	767.3	30	— 1.1	78	SE	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Coleman City, Texas	28.46	748.3	30.22	767.6	35	1.7	61	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Columbus, Ohio	29.31	744.5	30.19	766.8	31	— 0.6	69	S	3	1.3	.....	.....	10s	.....	S	0	0	Cloudy	
Concho, Texas	28.38	720.8	30.16	766.1	35	1.7	70	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.89	759.2	30.38	771.6	40	4.4	83	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Davenport, Iowa	29.58	751.3	30.27	768.8	20	— 6.7	56	W	10	4.5	.....	0	1s	.....	W	Inap	Inap.	Clear	
Deadwood, Dakota	25.49	647.4	.....	.....	14	—10.0	64	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas	29.18	741.1	30.36	771.1	58	14.4	64	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Denison, Texas	29.55	750.6	30.39	771.9	38	3.3	81	SE	2	0.9	.....	2cs	0	NW	.....	0	0	Clear	
Denver, Colorado	24.92	633.0	30.14	765.5	22	— 5.6	86	NW	3	1.3	.....	0	0	.....	.....	0	0	Fair	
Des Moines, Iowa	29.42	747.3	30.39	771.9	15	— 9.4	65	NW	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Detroit, Michigan	29.43	747.5	30.13	765.3	29	— 1.7	100	SW	5	2.2	.....	.....	10n	.....	Calm	0.03	0.8	Light snow	
Dodge City, Kansas	27.71	703.8	30.20	767.1	20	— 6.7	70	S	15	6.7	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.48	748.8	30.23	767.8	20	— 6.7	70	NW	6	2.7	.....	.....	10s	.....	NW	0.02	0.5	Cloudy	
Duluth, Minnesota	29.54	750.3	30.27	768.8	17	— 8.3	83	N	16	7.2	.....	.....	10s	.....	N	0.19	4.8	Cloudy	
Eagle Pass, Texas	29.55	750.6	30.31	769.9	46	7.8	84	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	30.15	765.8	30.22	767.6	26	— 3.3	63	SW	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Edinburg, Texas	.....	.....	.....	.....	62	16.7	72	Calm	.....	.....	0	.....	10s	.....	Calm	0	0	Cloudy	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.45	748.0	30.19	766.8	35	1.7	61	SW	7	3.1	.....	.....	10s	.....	SW	0.06	1.5	Cloudy	
Escanaba, Michigan	29.44	747.8	30.13	765.3	26	— 3.3	63	NE	13	5.8	.....	.....	10s	.....	N	0	0	Cloudy	
Florence, Arizona	28.52	724.4	30.12	765.0	53	11.7	73	W	2	0.9	.....	5cs	0	Calm	.....	0	0	Fair	
Fort Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	28.27	718.0	30.28	769.1	15	— 9.4	65	SE	8	3.6	.....	10cs	0	NW	.....	.....	.....	.....	
Fort Custer, Montana	26.97	685.0	.....	.....	22	— 5.6	85	Calm	0	0	.....	.....	10s	.....	W	0	0	Cloudy	
Fort Davis, Texas	25.43	645.9	30.39	771.9	36	2.2	100	Calm	0	0	.....	0	0	.....	.....	0	0	Cloudy	
Fort Gibson, Indian Ter	29.79	756.7	30.37	771.4	31	— 0.6	58	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Grant, Arizona	25.40	645.2	30.20	767.1	49	9.4	39	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	28.99	736.3	30.33	770.4	37	2.8	90	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.63	701.8	.....	.....	22	— 5.6	85	SE	2	0.9	.....	10k	0	W	.....	0	0	Cloudy	
Fort McKavett, Texas	28.01	711.4	30.01	762.2	37	2.8	63	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Stevenson, Dakota	29.07	738.4	30.25	768.3	34	1.1	90	N	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fort Verde, Arizona	28.58	725.9	.....	.....	10	—12.2	79	N	6	2.7	.....	8ck	0	N	.....	0	0	Cloudy	
Fort Yates, Dakota	.....	.....	.....	.....	41	5.0	65	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fredericksburg, Texas	28.41	721.6	29.99	761.7	54	12.2	26	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Galveston, Texas	30.28	769.1	30.33	770.4	53	11.7	80	NE	15	6.7	.....	0	0	.....	.....	0.30	7.6	Clear	
Graham, Texas	29.21	741.9	30.33	770.4	33	0.6	70	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.37	744.6	30.05	763.3	29	— 1.7	100	E	6	2.7	.....	.....	10n	.....	Calm	0.62	15.7	Heavy snow	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.36	745.7	30.34	770.6	38	3.3	91	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Indianapolis, Indiana	29.32	744.7	30.12	765.0	36	2.2	80	S	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Indianola, Texas	30.29	769.4	30.32	770.1	52	11.1	73	N	16	7.2	.....	0	Haze	.....	Calm	0.01	0.3	Clear	
Jacksboro, Texas	29.16	740.7	30.33	770.4	43	6.1	83	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.19	766.8	30.22	767.6	58	14.4	88	NW	4	1.8	.....	.....	10s	.....	.....	0	0	Cloudy	
Keokuk, Iowa	29.62	752.3	30.29	769.4	23	— 5.0	60	NW	9	4.0	.....	0	2s	.....	Calm	0	0	Clear	
Key West, Florida	30.10	764.5	30.13	765.3	75	23.9	77	NE	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Kittyhawk, North Carolina	30.27	768.8	30.29	769.4	52	11.1	86	NE	24	10.7	.....	.....	10ks	.....	NE	0.13	3.3	Cloudy	
Knoxville, Tennessee	29.23	742.4	30.27	768.8	41	5.0	65	NE	1	0.4	.....	.....	10s	.....	SW	0	0	Cloudy	
La Crosse, Wisconsin	29.38	746.2	30.16	766.1	25	— 3.9	87	W	3	1.3	.....	.....	10n	.....	Calm	0.07	1.8	Light snow	
La Mesilla, New Mexico	26.32	668.5	30.47	773.9	39	3.9	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.79	756.7	30.14	765.5	61	16.1	66	E	4	1.8	.....	2c	0	W	.....	0	0	Clear	
Leavenworth, Kansas	29.51	749.5	30.42	772.7	27	— 2.8	53	N	12	5.4	.....	.....	10s	.....	NW	0	0	Cloudy	
Little Rock, Arkansas	30.00	762.0	30.38	771.6	41	5.0	82	NW	4	1.8	.....	0	Sm'e	.....	Calm	0	0	Clear	
Los Angeles, California	29.82	757.4	30.17	766.3	47.0	8.3	81	NE	3	1.3	.....	5c	0	Calm	.....	0	0	Fair	
Louisville, Kentucky	29.65	753.1	30.24	768.1	38	3.3	63	S	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Lynchburg, Virginia	29.62	752.3	30.35	770.4	36	2.2	70	N	2	0.9	.....	.....	10s	.....	W	0	0	Cloudy	
Madison, Wisconsin	29.04	737.6	30.08	764.0	26	— 3.3	75	W	17	7.6	.....	.....	10n	.....	Calm	0.10	2.5	Light snow	
Marquette, Michigan	29.42	747.3	30.16	766.1	30	— 1.1	89	SE	4	1.8	.....	.....	10n	.....	Calm	0.18	4.6	Light snow	
Mason, Texas	28.65	727.7	30.51	774.9	37	2.8	90	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	30.01	762.2	30.36	771.1	41	5.0	82	NE	1	0.4	.....	0	Sm'e	.....	Calm	0	0	Clear	
Milwaukee, Wisconsin	29.29	744.0	30.06	763.5	26	— 3.3	88	W	6	2.7	.....	.....	10s	.....	NW	0.06	1.5	Cloudy	
Mobile, Alabama	30.24	768.1	30.28	769.1	52	11.1	93	N	5	2.2	.....	0	2s	.....	Calm	0.05	1.3	Fair	
Montgomery, Alabama	30.04	763.0	30.28	769.1	52	11.1	86	NE	2	0.9	.....	0	Sm'e	.....	Calm	0	0	Clear	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Morgantown, West Virginia	29.23	742.4	30.27	768.8	31	— 0.6	79	Calm	0	0	.....	5ck	2s	NW	Calm	0	0	Cloudy	
Mt. Washington, N. H.	25.54	597.9	29.90	759.4	— 1	—18.3	68	NW	84	37.5	.....	1k	0	NW	.....	0	0	Clear	
Nashville, Tennessee	29.76	755.9	30.33	770.4	32	0.0	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
New Haven, Connecticut	30.24	768.1	30.36	771.1	30	—1.1	78	NW	1	0.4	.....	5c	0	Calm	.....	0	0	Fair	
New London, Connecticut	30.32	770.1	30.38	771.6	32	0.0	69	N	4	1.8	.....	2cs;k	0	W;NW	.....	0	0	Clear	
New Orleans, Louisiana	30.24	768.1	30.30	769.6	60	15.6	77	NE	1	0.4	.....	5cs	5s	N	Calm	0.21	5.3	Cloudy	
Newport, Rhode Island	30.31	769.9	30.36	771.1	36	2.2	61	W	4	1.8	.....	5c	0	Calm	.....	0	0	Fair	
New York, New York	30.18	766.6	30.37	771.4	36	2.2	62	NW	3	1.3	.....	5cs	2s	Calm	Calm	0	0	Fair	
Norfolk, Virginia	30.21	767.3	30.27	768.8	49	9.4	57	E	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
North Platte, Nebraska	27.40	696.0	30.25	768.3	11	—11.7	70	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter.	30.21	767.3	30.26	768.6	34.0	1.1	95	S	4	1.8	.....	2cs	0	Calm	.....	0	0	Fair	
Omaha, Nebraska	29.24	742.7	30.46	773.7	14	—10.0	82	NW	13	5.8	.....	0	0	.....	.....	Inap	Inap.	Clear	
Oswego, New York	29.93	760.2	30.27	768.8	34	1.1	79	NW	4	1.8	.....	0	8s	.....	Calm	0.19	4.8	Fair	
Pembina, Dakota	29.57	751.1	30.52	775.2	— 3	—19.4	100	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Pensacola, Florida	30.26	768.6	.....	.....	.....	.....	.....	N	.....	.....	1	.....	10s	.....	Calm	0	0	Cloudy	
Philadelphia, Pennsylvania	30.30	769.6	30.36	771.1	40	4.4	56	NW	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Phœnix, Arizona	28.98	736.1	30.80	782.3	55	12.8	56	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.86	453.6	30.07	763.8	13	—10.6	26	N	28	12.5	.....	8cs	0	N	.....	0	0	Fair	
Pilot Point, Texas	29.60	751.8	30.46	773.7	47	8.3	76	S	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Pioche, Nevada	24.18	614.2	29.95	760.7	39	3.9	38	Calm	0	0	.....	2c	0	Calm	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.41	747.0	30.27	768.8	28	— 2.2	77	E	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Port Huron, Michigan	29.44	747.8	30.14	765.5	27	— 2.8	88	S	5	2.2	.....	.....	10n	.....	Calm	0.02	0.5	Light snow.	
Portland, Maine	30.25	768.3	30.30	769.6	29	— 1.7	67	W	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Portland, Oregon	30.23	767.8	30.30	769.6	35.0	1.7	87	S	1	0.4	.....	.....	Fog	.....	SE	0	0	Foggy	
Portsmouth, N. Hampshire	.....	.....	.....	.....	54	12.2	100	NE	29	13.0	.....	.....	10n	.....	NE	0.28	7.1	Light rain	
Prescott, Arizona	24.97	634.2	30.33	770.4	36	2.2	53	SE	.....	.....	1	8c	0	N	.....	0	0	Cloudy	
Punta Rassa, Florida	30.13	765.3	30.15	765.8	69	20.6	85	NE	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Red Bluff, California	29.85	758.2	30.22	767.6	49	9.4	78	NW	4	1.8	.....	2ck	Sm'e	W	Calm	0	0	Fair	
Rio Grande City, Texas	30.14	765.5	30.36	771.1	59	15.0	76	N	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Rochester, New York	29.62	752.3	30.27	768.8	32	0.0	69	SW	2	0.9	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Roseburg, Oregon	29.78	755.1	30.32	770.1	44	6.7	96	E	2	0.9	.....	.....	10s;fg	.....	Calm	0	0	Cloudy	
Sacramento, California	30.12	765 0	30.20	767.1	48.5	9.2	97	Calm	0	0	.....	5c	Fog	Calm	.....	0	0	Fair	
St. Louis, Missouri	29.65	753.1	30.24	768.1	45	7.2	39	W	8	3.6	.....	5ck	0	W	.....	0	0	Fair	
St. Paul, Minnesota	29.32	744.7	30.20	767.1	26	— 3.3	88	NW	9	4.0	.....	.....	10s	.....	Calm	0.19	4.8	Threatening	
Salt Lake City, Utah	25.89	657.6	30.22	767.6	40	4.4	48	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.62	752.3	30.23	767.8	44	6.7	84	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
San Diego, California	30.12	765.0	30.19	766.8	56	13.3	87	N	1	0.4	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.47	748.5	30.18	766.6	33	0.6	70	S	7	3.1	.....	.....	Fog	.....	Calm	0	0	Foggy	
Sandy Hook, New Jersey	30.32	770.1	30.36	771.1	40	4.4	65	SW	2	0.9	.....	8c	0	Calm	.....	0	0	Fair	
San Francisco, California	30.14	765.5	30.21	767.3	55	12.8	87	E	5	2.2	.....	.....	Fog	.....	Calm	0	0	Foggy	
Santa Fé, New Mexico	23.49	596.6	30.03	762.7	33	0.6	51	SE	3	1.2	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.15	765.8	30.24	768.1	54	12.2	67	NE	3	1.3	.....	.....	10s	.....	W	0	0	Cloudy	
Shreveport, Louisiana	30.13	765.3	30.36	771.1	41	5.0	91	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.18	766.6	30.22	767.6	51	10.6	72	N	8	3.6	.....	8k	2s	SW	Calm	Inap.	Inap.	Cloudy	
Socorro, New Mexico	25.68	652.3	29.74	755.4	37	2.8	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois	29.53	750.0	30.24	768.1	34	1.1	70	NW	10	4.5	.....	2s	0	W	.....	0	0	Fair	
Springfield, Massachusetts	30.23	767.8	30.37	771.4	30	— 1.1	68	S	1	0.4	.....	2cs	Sm'e	W	.....	Inap.	Inap.	Fair	
Stockton, Texas	27.18	690.4	30.18	766.6	46	7.8	26	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	30.28	769.1	30.34	770.6	37	2.8	71	W	13	5.8	.....	0	2s	.....	W	0	0	Fair	
Toledo, Ohio	29.46	748.3	30.17	766.3	33	0.6	89	S	12	5.4	.....	.....	10s	.....	W	0	0	Cloudy	
Tucson, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon	30.02	762.5	30.56	776.2	22.0	— 5.6	86	SE	3	1.3	.....	1cs	0	NW	.....	0	0	Clear	
Uvalde, Texas	29.40	746.7	30.24	768.1	46	7.8	84	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	30.08	764.0	30.36	771.1	41	5.0	95	NE	4	1.8	.....	0	Fog	.....	.....	0	0	Clear	
Virginia City, Montana	24.42	620.3	29.90	759.4	30	— 1.1	47	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Visalia, California	29.79	756.7	30.17	766.3	45.5	7.5	88	SW	1	0.4	.....	Haze	0	Calm	.....	0	0	Dense haze.	
Washington, D. C.	30.21	767.3	30.33	770.4	35	1.7	61	NE	3	1.3	.....	8cs	Sm'e	W	Calm	0	0	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	45	7.2	61	NW	.....	.....	1	2c	0	W	.....	0	0	Fair	
Wilmington, North Carolina	30.12	765.0	30.20	767.1	48	8.9	85	NE	6	2.7	.....	.....	10n	.....	NE	Inap.	Inap.	Light rain	
Winnemucca, Nevada	25.86	656.8	30.22	767.6	21	— 6.1	78	NE	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Massachusetts	30.31	769.9	30.35	770.9	38	3.3	54	NW	4	1.8	.....	10cs	0	NW	.....	0	0	Cloudy	
Yankton, Dakota	29.15	740.4	30.61	777.5	7	—13.9	65	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Yuma, Arizona	29.97	761.2	30.14	765.5	57	13.9	52	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	30.02	762.5	30.07	763.8	77	25.0	82	SE	1.2	0.5	.....	8ck; cs	4n	Calm	SE	0.11	2.8	Cloudy	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.18	766.6	30.19	766.8	77	25.0	87	Calm	0	0	.....	0	2cs	.....	.....	0	0	Fair	James Gall.
Medellin, Colombia, S. A.*	25.20	640.1	.....	.....	67.2	19.6	80	Calm	.....	.....	0	4c;cs	2ks	.....	.....	0.38	9.7	.....	Thomas Herran.
Navassa, W. I.	29.94	760.5	30.02	762.5	81	27.2	.....	NE	5	2.2	.....	0	0	.....	.....	0	0	Clear	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.98	761.5	29.98	761.5	83.5	28.6	71	NE	.....	.....	3	5k	7ks	E	.....	0.370	9.40	Cloudy	C. J. Hering.
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	30.40	772.1	30.45	773.4	— 6	—21.1	81	N	16	7.2	.....	0	0	.....	.....	0	0	Clear	J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Medellin, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 575 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,396 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,325.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 m., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 m., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm. *The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

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

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

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.14‡	765.5‡	.....	.....	62	16.7	88	NW	3	1.3	.....	.....	5	.....	W	0	0	.....	.....	Fair	
Navy Yard, Portsmouth, N.H	29.87‡	758.7‡	.....	.....	36	2.2	82	WSW	4	1.8	.....	.....	2	.....	.....	0	0	.....	.....	Clear.....	
Naval Hospital, Yokohama, Japan.....	29.94‡	760.5‡	.....	.....	53.8	12.1	83	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Adams, Mare I'd., Navy Yard, Cal.	30.23‡	767.8‡	.....	.....	55	12.8	93	W	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Alaska, Callao, Peru..... .....*.	30.02‡	762.5‡	.....	.....	62	16.7	88	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....	Misty.....	
Alliance, N. 26° 11′, W. 20° 42′..... .	29.98‡	761.5‡	.....	.....	72	22.2	67	NW	.....	.....	3	.....	3	.....	W	.....	.....	Smooth	W	D. clouds.....	
Colorado, New York, . Y.....	30.32‡	770.1‡	.....	.....	38	3.3	61	Calm	0	0	.....	.....	5	.....	.....	0	0	.....	.....	Misty.....	
Constitution, Navy Yard, Norfolk, Va.	30.34‡	770.6‡	.....	.....	48	8.9	78	Calm	0	0	.....	.....	10	.....	Calm	.....	.....	.....	.....	Overcast.....	
Enterprise, Messina, Sicilly.....	30.05‡	763.3‡	.....	.....	70	21.1	75	NE	.....	.....	3	.....	2	.....	NE	.....	.....	Smooth	.....	Clear.....	
Franklin, Off Navy Yard, Norfolk, Va.	30.30‡	769.6‡	.....	.....	50	10.0	64	E	3	1.3	.....	.....	10	.....	.....	0	0	.....	.....	Cloudy.....	
Hartford, N. 20° 45′, W. 58° 03′.....	30.04‡	763.0‡	.....	.....	81	27.2	74	E	.....	.....	2	.....	5?	.....	ENE	0	0	Smooth	.....	Clear?.....	
Independence, Mare I'd, Navy Yard, Cal.	30.18‡	766.6‡	.....	.....	61	16.1	88	Calm.	0	0	.....	.....	7	.....	W	0	0	.....	.....	Cloudy.....	
Kearsage, Norfolk, Va	30.28‡	769.1‡	.....	.....	50	10.0	79	NNE	.....	.....	1	.....	2	.....	N	0	0	.....	.....	Fair.....	
Lackawana, N. 7° 15′, E. 179° 40′.. †.	29.87‡	758.7‡	.....	.....	82	27.8	75	ENE	.....	.....	2	.....	2	.....	NE	.....	.....	Long	E	Clear.....	
Marion, Off Norfolk, Va.	30.30‡	769.6‡	.....	.....	54	12.2	61	NE	.....	.....	1	.....	10	.....	NE	.....	.....	Smooth	.....	Hazy.....	
Michigan, Erie, Pa.....	30.15‡	765.8‡	.....	.....	35	1.7	70	WSW	.....	.....	4	.....	10	.....	.....	.....	.....	.....	.....	Overcast.....	
Monocacy, Shanghai, China..	30.28‡	769.1‡	.....	.....	56	13.3	75	NE	.....	.....	2-3	.....	2	.....	NE	.....	.....	.....	.....	Fair.....	
New Hampshire, Port Royal, S. C.....	30.22‡	767.6‡	.....	.....	57	13.9	75	NE	14	6.3	.....	.....	2	.....	NE	0	0	.....	.....	Clear.....	
Onward, Callao, Peru ....†.	29.99‡	761.7‡	.....	.....	62	16.7	88	NW	.....	.....	1	.....	10	.....	.....	.....	.....	Long	W	Foggy	
Palos, Shanghai, China.....	30.27‡	768.8‡	.....	.....	55	12.8	87	NE	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Overcast?...	
Passaic, Washington, D. C.....	30.35‡	770.9‡	.....	.....	34	1.1	75	NE	.....	.....	1	.....	10	.....	.....	0	0	.....	.....	Cloudy.....	
Pensacola, S. 14° 31′, W. 76° 51′.....	30.02‡	762.5‡	.....	.....	64	17 8	78	SE	.....	.....	4	.....	5	.....	.....	.....	.....	Long	.....	D. clouds.....	
Portsmouth, Hampton Roads, Va....	30.29‡	769.4‡	.....	.....	52	11.1	100	E	.....	.....	4	.....	2?	.....	.....	0	0	Smooth	.....	Cloudy?.....	
Powhatan, Norfolk, Va.....	30.27‡	768.8‡	.....	.....	51	10.6	65	E	.....	.....	1	.....	1?	.....	Calm	0	0	.....	.....	Cloudy.....	
Quinnebaug, Leghorn, Italy	29.80‡	756.9‡	.....	.....	65	18.3	84	SSW	.....	.....	5	.....	10	.....	SSW	.....	.....	.....	.....	Threatening	
Ranger, Yokohama, Japan.....	30.08‡	764.0‡	.....	.....	61	16.1	77	NW	.....	.....	2	.....	2	.....	Calm	.....	.....	Smooth	.....	Fair	
Richmond, Shanghai, China.....	30.28‡	769.1‡	.....	.....	57	13.9	87	NNE	.....	.....	2	.....	0	.....	.....	0	0	Smooth	.....	Pleasant.....	
Rio Bravo, Brownsville, Texas.....	30.28‡	769.1‡	.....	.....	55	12.8	93	NNW	3	1.3	.....	.....	5	.....	Calm	0	0	.....	.....	Cloudy.....	
Santee, Annapolis, Md	30.32‡	770.1‡	.....	.....	44	6.7	68	E	.....	.....	3	.....	8	.....	W	0	0	.....	.....	Cloudy.....	
Shenandoah, N. 20° 30′, W. 35° —′.. .. .	30.05‡	763.3‡	.....	.....	75	23.9	95	ENE	.....	.....	1	.....	2	.....	ENE	.....	.....	Smooth	.....	Fair	
St. Louis, League Island, Pa.....	30.30‡	769.6‡	.....	.....	36	2.2	82	Calm	0	0	.....	.....	8	.....	.....	0	0	.....	.....	Fair.....	
Trenton, Villafranca, France	29.83‡	757.7‡	.....	.....	68	20.0	65	SSW	.....	.....	3	.....	10	.....	SW	0	0	Smooth	.....	Cloudy	
Tuscarora, N. 15° 58′, W. 97° 42′.....	29.91‡	759.7‡	.....	.....	78	25.6	86	NW	.....	.....	1	.....	2	.....	Calm	0	0	Long	S	Fair.....	
Vandalia, Vera Cruz, Mexico.....	30.24‡	768.1‡	.....	.....	75	23.9	90	NNW	.....	.....	4	.....	8	.....	NW	.....	.....	.....	.....	Cloudy	
Wabash, Boston, Mass.....	30.36‡	771.1‡	.....	.....	34	1.1	75	SW	4	1.8	.....	.....	2	.....	.....	0	0	.....	.....	Fair.....	
Wachusett, N. 20° —′, W. 38° —′.....	30.09‡	764.3‡	.....	.....	79	26.1	86	E	.....	.....	4	.....	2	.....	E	.....	.....	Smooth	SE	Fair.....	
Wyoming, Villafranca, France.....	29.78‡	756.4‡	.....	.....	66	18.9	68	SSW	.....	.....	1-2	.....	8	.....	SW	.....	.....	Smooth	SW	Cloudy.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

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

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S. S. Samaria																			Capt. T. Roberts.
Note—†Aneroid. *The error of the barometer is not known.																			
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama																			Capt. Seabury.
S. S. City of Peking																			Capt. Berry.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio, Capt. Maury																			L. B. Walls.
S. S. Colima																			Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota, Capt. H. G. Morse																			W. House & R. Lawless.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin																			F. W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, N. 26° 07′, W. 151° 06′		30.15‡	765.8‡				Var.			1			E		Smooth	NE	Fine		R. C. Ghest, 1st Officer.
Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
Note.—The orginals give the barometer as read off; wind-force by the scale 0 to to 12; for the Brittanic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer N. 31° 13′, W. 160° 34′	†	30.18‡	766.6‡	70	21.1	75	W			3		2		W		Mod'ate	WNW	D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson N. 38° 47′, E. 148° 27′	§†	29.92‡	760.0‡	60	15.6		NW			4		ck		NW	0	Rough Head	NE	D. clouds	J. A. Thompson, C. O. J. G. Cameron.
S. S. Oceanic, Capt. J. Metcalf																			
Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office. §The date of this observation on the Gaelic is uncertain by one day.																			
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Pfeiffer																			S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 39° 52′, W. 66° 06′		30.35‡	770.9‡				NW			4		8		N		4	NW	Cloudy	Capt. G. Meyer.
Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			

UNITED STATES MARINE SERIES—Continued.

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

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Liverpool, Eng		30.39‡	771.9‡	46	7.8	92	N			7		1		N	Mod'ate			Clear	Capt. R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.

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

RED STAR LINE MARINE SERIES.

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

Belgenland, N. 42° 51′, W. 57° 44′		30.12‡	765.0‡	52	11.1		NW	22	9.8			8		NW	0	Long	NW	Cloudy	Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

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

ALLAN LINE MARINE SERIES.

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

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

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

MARINE SERIES—Miscellaneous.

Furnished by the co-operation of the Observers named.

Schooner Addie Fuller, N. 34° 24′, W. 80° 00′		30.16‡	766.1‡	69	20.6	??	N	5	2.2			5ks		N	0.07 in. or 1.8 mm		NNE	Squally	Capt. James Jorgensen.
Haytian																			
§ Iron Cross																			
Schooner Charley Buck																			Capt. W. Randall.
Brigantine "George of Halifax," N. 39° 07′, W. 71° 21′	†	30.26‡	768.6‡	48	8.9		Calm			0		2		SW	0	6 month	NW	Clear	W. H. Champlin.
Schooner Harry and Fred																			N. B. Foss.
Nordenskiold of Sundsvall, Sweden																			Capt. George Gardner.
Sch'r A. A. Rowe, Capt. Beckwith																			Capt. P. Sandelin.
																			L. Dunbar.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

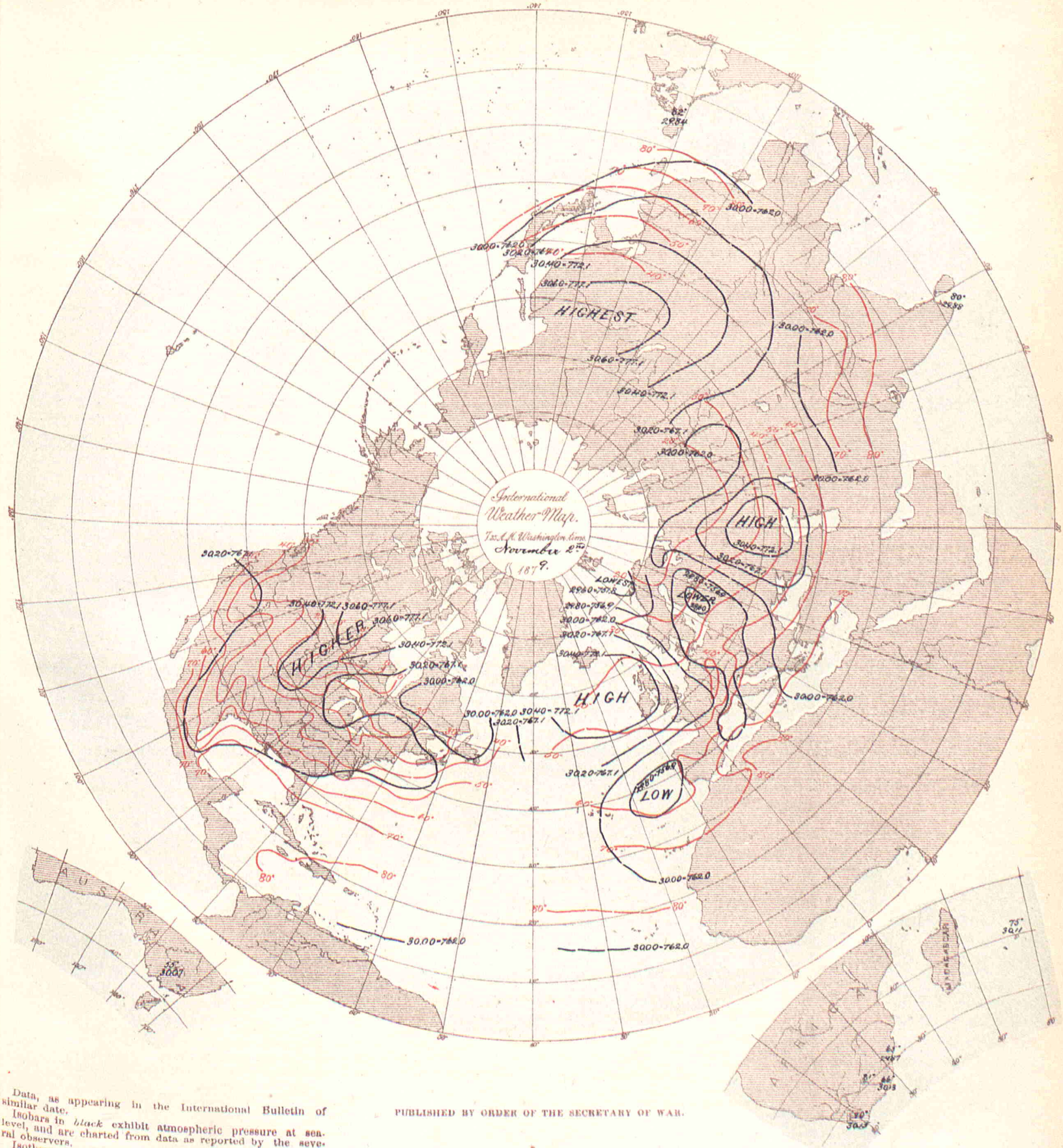
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

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

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

Albert J. Myer

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



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

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

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

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

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

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

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

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 3, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time
1:57 P. M. C[illegible] mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. [illegible] mean time.
2:44 P. M. ST. [illegible] mean time.
4:38 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI ([illegible] mean time.
10:23 P. M. [illegible] mean time.

ALGERIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.06	763.5	65.1	18.4	84	SW	.....	.....	1	.....	8	.....	.....	0.217	5.5	Very cloudy	
Nemours	.....	.....	30.02	762.4	66.2	19.0	96	Calm	.....	.....	0	.....	10	.....	.....	0.059	1.5	Raining	Kesxuche.
Algiers	.....	.....	30.04	762.9	73.4	23.0	62	W	.....	.....	3	.....	5	.....	.....	Inap.	Inap.	Cloudy	Tourilliers.
La Calle	.....	.....	29.98	761.5	75.2	24.0	74	N	.....	.....	1	.....	8	.....	.....	0	0	Very cloudy	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.02	762.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Herbin.
Tebessa	.....	.....	30.02	762.6	79.3	26.3	39	NW	.....	.....	3	.....	5	.....	.....	0	0	Cloudy	Watrin.
Geriville	.....	.....	.....	.....	63.3	17.4	59	NW	.....	.....	4	.....	8	.....	.....	0	0	Very cloudy	Brugniaux.
Laghouat	.....	.....	30.10	764.5	73.0	22.8	41	SSW	.....	.....	2	.....	10	.....	.....	0	0	Covered	Bertrand.
Biskra	.....	.....	29.91	759.8	82.8	28.2	35	SE	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

AUSTRO-HUNGARIAN SERIES.

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

Agram	29.37	745.9	29.92	760.0	33.8	0.7	96	W	.....	.....	2	.....	10	.....	.....	0.933	23.7	Rain & snow	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.08	738.7	29.87	758.7	38.8	3.8	80	W	6.6	2.9	.....	.....	10	.....	.....	0.220	5.6	Rain & snow	Prof. Dr. Karlinski, Dir.
Eperies	28.88	733.5	29.79	756.6	35.2	1.8	96	NW	.....	.....	2	.....	10	.....	.....	0.709	18.00	Foggy	Julius Mikolik.
Gratz	28.62	727.0	29.91	759.8	36.1	2.3	88	[illegible]	.....	.....	3	.....	10	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.24	717.3	29.63	752.7	58.3	14.6	56	SSE	.....	.....	4	.....	10	.....	.....	0.380	9.65	.....	Prof. A. Gottschling.
Kremsmünster	28.62	727.0	30.01	762.3	35.6	2.0	84	WSW	.....	.....	[illegible]	.....	10	.....	.....	0.402	10.2	.....	Prof. C. Wagner.
Lemberg	28.71	729.2	29.72	754.8	39.4	4.2	93	NW	.....	.....	2	.....	10	.....	.....	0.295	7.5	.....	Dr. T. Stanecki.
Pola	29.53	750.0	29.85	758.0	42.5	5.8	84	E	.....	.....	9	.....	10	.....	.....	0.063	1.6	.....	I.R.Hydrographic Office.
Szathmar	29.21	742.0	29.69	754.0	41.0	5.0	94	W	.....	.....	3	.....	10	.....	.....	0.650	16.5	.....	Pet. Panesios.
Szegedin	29.55	750.6	29.88	757.9	42.1	5.6	79	E	.....	.....	3	.....	10	.....	.....	0.059	1.50	.....	Karl Stancel.
Trieste	29.63	752.5	29.73	755.1	41.7	5.4	72	ENE	.....	.....	4	.....	10	.....	.....	0.906	23.0	Raining	P. Busin.
Vienna	29.19	741.5	29.93	760.1	40.9	4.9	67	NW	.....	.....	2	.....	10	.....	.....	0.228	5.8	.....	I.R. Central Met.Ob'sy.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:20, instead of 2:8 p. m., local time,

BELGIAN SERIES.

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

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

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

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BRITISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.35	770.9	30.45	773.4	48.0	8.9		NW	23	10.3			4			0	0	Blue sky	W. Boswell.
Ardrossan	30.50	774.7	30.52	775.2	50	10.0		WNW			3		1						Wm. McNeil & G. Carrick
Armagh, (Observatory)	30.35	770.9	30.58	776.7	47.8	8.8		NNE	7	3.1			4					D. clouds	S. Call.
Bidston (Liverpool Obs)			30.49	774.4	47.8	8.8		NW	11	4.9			10					Overcast	John Hartnup.
Bolton (Sharples)	29.91	759.7	30.44	773.2	45.4	7.4		NW	6	2.7			10					Gloomy	Thomas Mackereth.
Bradford, Yorkshire	30.04	763.0	30.43	772.9	46.4	8.0		NE			2		10			0	0	Overcast	J McLandsborough.
Bridgetown, Barbadoes	29.93	760.2	29.96	761.0	83	28.3		NE			1		3					D. clouds	Pvt. G. Surgener, A.H.C.
Cambridge (Observatory)	30.29	769.4	30.39	771.9	47.0	8.3		N			1		10					Drizzling	H. Todd.
Cardington			30.37	771.4	45.4	7.4		NNW			0–1		10					Overcast	John McLaren.
Chatham (School M. E.)	30.22	767.6	30.35	770.9	47.1	8.4		NW			2		9					Overcast	J. Carmell, Sapper, R.E.
Donaghadee	30.52	775.2	30.56	776.2	52	11.1		N			4		2					D. clouds	J. Mac Gowan.
Dover	30.29	769.4	30.32	770.1	48	8.9		N			4		7					¾ clouded	J. Costello.
Falmouth (Observatory)	30.24	768.1	30.48	774.2	48.5	9.2		NNE			3		1					D. clouds	The Staff.
Fort Napier, Natal	27.78	705.6	30.00	762.0	70.2	21.2		E			1		4					Blue sky	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone§	29.72	754.9	29.95	760.7	85	29.4		E			0		3					D. clouds	
Galway (Queen's College)			30.61	777.5	49	9.4		NNW			1		10					Overcast	Prof. A. H. Curtis.
Gibraltar, Mediterranean‖	29.79	756.7	29.84	757.9	59.8	15.4		W			3		9					Showery	Sergt. Wm. Allen, A. H.
Glasgow, (Observatory)	30.30	769.6	30.50	774.7	49.2	9.6		W			3	2c						Blue sky	D. G. Maclean. [C.
Great Yarmouth	30.31	769.9	30.32	770.1	47	8.3		N			4		7					D. clouds	G. T. Watson.
Greenwich (Royal Obs'y)	30.20	767.1	30.37	771.4	47.6	8.7		N			1		10					Overcast	The Staff, for G. B. Airy.
Guernsey	30.16	766.1	30.38	771.6	48	8.9		NNE			2		7					D. clouds	Dr. S. E Hoskins, F.R.S.
Helston	30.55	776.0	30.67	779.0	51	10.6		NE			0	c				0	0	Very fine	M. P. Moyle.
Holyhead	30.46	773.7	30.51	774.9	50	10.0		NNE			3		1					Blue sky	John Tilston.
Jersey	30.11	764.8	30.41	772.4	47.9	8.8		NNE			4		9					Gloomy	J. Fisher.
Kew (Observatory)	30.34	770.6	30.38	771.6	46.2	7.9		NNW	10	4.5			10					Misty	The Met'g'l Office.
Leicester (Museum)	30.15	765.8	30.42	772.7	45.5	7.5		N			1		10					Overcast	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	29.82	757.4	29.89	759.2	74.3	23.5		SE			2		2k					Blue sky	A. King.
Nairn	30.40	772.1	30.49	774.4	48	8.9		Calm			0		8					¾ clouded	W. D. Penny.
Nassau, Bahamas			30.05	763.3	77.0	25.0		NE			2		6					D. clouds	C. S. Duncombe.
Nottingham (Observatory)	30.23	767.8	30.43	772.9	47.6	8.7		N			2		10kd		N	0	0	Overcast	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.96	759.4	30.44	773.2	44.5	6.9		NNW			3		10					Overcast	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)			30.40	772.1	46	7.8		N			2		10					Overcast	H. E. Bellamy.
Plymouth	30.36	771.1	30.44	773.2	49.8	9.9		NE			3		7					D. clouds	John Merrifield.
Prince Town																			W. H. Tooker.
*Roche's Point	30.48	774.2	30.56	776.2	49	9.4		NNE			3		2					¾ clouded	Wm. Kennedy.
St. Ann's Head	30.34	770.6	30.50	774.7	50	10.0		NE			2		3					Blue sky	John C. Walker.
Sandwick Manse, Orkneys			30.43	772.9	45.9	7.7		NW	33	14.8			8					Showery	Rev. C. Clouston, L.L.D.
Scutari Cemetery, Turkey			30.43	772.9	45.9	7.7		NW			1		3					D. clouds	Serg't W. H. Lyne.
Sheffield	29.84	757.9	29.91	759.7	66.0	18.9		SW			1		3						W. F. Cooper.
Silloth Rectory	30.17	766.3	30.46	773.7	47.2	8.4		NE			1		10			0.02	0.5	Overcast	Francis Redford, A. M.
Stonyhurst (Observatory)	30.47	773.9	30.50	774.7	49.7	9.8	82	Calm			0		6			0	0	D. clouds	Rev. S. J. Perry.
Strathfield, Turgiss			30.44	773.2	47.0	8.3		N	9	4.0			10					Overcast	Rev. C. H. Griffith, F.M.S.
Truro (Royal Institution)	30.18	766.6	30.40	772.1	46.8	8.2		N			2		10					D. clouds	W. Newcombe.
Valencia Observatory)	30.41	772.4	30.46	773.7	53	11.7		NE			4		4					D. clouds	The Met'g'l Office.
	30.56	776.2	30.58	776.7	49.7	9.8		ENE	24	10.7			5					D. clouds	
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	30.11	764.8	30.15	765.8	75.4	23.9	48	S	14.5	6.5		4	6k;cs						The Staff, for D. Gill.
Colesberg Bridge, Cape Col.																			Robert Burnet.
Hobart Town, Tasmania			29.76	755.9	52.0	11.1	65	SW			5		0			0.01	0.3		Francis Abbott, F.R.A.S
Leith, (Restalrig Perk)			30.52	775.2	50.2	10.1		NW			2					0	0	Fine	Andrew Gibb.
Mauritius (Observatory)	29.87	758.7	30.06	763.5	76.4	24.7	63	ENE	14.0	6.3		1	2		ENE	0.01	0.3	Fine	C. Meldrum.
Melbourne (Observatory)	30.00	762.0	30.09	764.3	57.0	13.9	80	SE	3	1.3			8			0	0	Dull	R. L. J. Ellery.
Monach Lt-house, Hebrides			30.59	777.0	48	8.9		NNW			4		10			0	0		J. Youngclause.
North Unst, Shetland Is			30.25	768.3				NNW			6		10			Blank	Blank		

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing, but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 9 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft., or 670 m.; Colesberg Bridge, unknown. §Observations taken 55 minutes early. ‖Observations taken 47 minutes late. Both of these errors have apparently existed for a long time.

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. Alert, Off Temple Inlet, Patagonia			29.61‡	752.1‡	40.8	4.9		WNW			3		10					Showery	Capt. J. P. Maclear, R.N
H. M. Sloop Gannet, Callao, Peru			30.02‡	762.5‡	60	15.6		NW			1		8					Misty	Commander E. Bourke, R. N.
H. M. S. Magpie, Shanghai, China			30.33‡	770.4‡	57	13.9		N			2		7					Misty	Capt. R. H. Napier, R.N.
Brig Alliance, N. 20°25′, W. 57° 10′			30.08‡	764.0‡	82.5	28.1		ENE			3		2					Blue sky	Capt. W. Scott.
Barque Commewyne N. 22° 55′, W. 35° 55′			30.08‡	764.0‡	81.5	27.5		NE			3		1					Blue sky	Capt. Jas. Buchan.
Brig Endymion, N. 51° 00′, W. 13° 00′			30.54	775.7	50	10.0		ENE			5		8			5	ENE; NNE	Showery	Capt. Balkwill.
S. S. German, Algoa Bay, Cape Colony			30.17‡	766.3‡	68	20.0		E			3		3					D. clouds	Capt. O. D. Coxwell.
Barque Queen of Cambria, N. 7° 40′, E. 77° 55′			29.84‡	757.9‡	81	27.2		W			4		3					D. clouds	Capt. M. Parry.
S. S. Strathleven, Sydney, N. S. W.			29.90‡	759.4‡	70	21.1		Calm			0		0					Blue sky	Capt. C. W. Pearson.
Schooner Traveller, N. 48° 45′, W. 29° 55′			30.35	770.9	58	14.4		SE			5		8			5	ENE	D. clouds	
S. S. Gordon Castle																			Capt. H. V. Freeden.
German Brig "W. von Freeden"																			Capt. Greig.
Theophane																			Capt. B. Boyes.
S. S. Amanda																			Capt. W. H. Smith.
S. S. Peruvian																			

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

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

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	L'w'r 0—10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER.
San José	26.24	666.5	29.96	761.0	66.6	19.2	88	SE	.....	.....	2	8s	4d	.....	NE	Inap.	Inap.	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

DANISH SERIES.

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

Copenhagen	29.91	759.6	29.95	760.8	43.2	6.2	81	NW	.....	.....	4	.....	1	.....	.....	.....	.....	.....	.....
Fanöe	30.04	762.9	30.06	763.4	43.7	6.5	83	WSW	.....	.....	4	.....	6	.....	.....	.....	.....	.....	.....
Godthaab (Greenland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stykkisholm (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thorshavn (Faröe)	30.28	769.2	30.32	770.1	47.1	8.4	74	NW	.....	.....	4	.....	7	.....	.....	.....	.....	.....	.....
Vestervig	29.91	759.7	30.02	762.5	42.6	5.9	74	WNW	.....	.....	2	.....	1	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

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

Alençon, Normal School	29.80	756.9	30.35	770.9	46.4	8	64	NE	.....	.....	3	.....	8kn	NE	NE	0	0	Very cloudy	Collignon, Director.
Amiens, Normal School	30.13	765.4	30.25	768.3	48.9	9.4	84	NW	.....	.....	1	.....	8	.....	SE	0	0	Very cloudy	Vaillant, Director.
Arras, Engin'r School	30.01	762.0	30.26	768.6	46.9	8.3	85	N	.....	.....	3	.....	n	.....	NE	0.071	1.8	.....	Klein, Commandant.
Avignon, Normal School	29.87	758.8	29.95	760.8	48.2	9	44	NNW	.....	.....	7	.....	10	.....	NNW	0.071	1.8	Raining	Giraud, Director.
Bar-sur-Seine	29.67	753.5	30.24	768.1	45.1	7.3	57	E	.....	.....	1	.....	8kn	.....	NE	0	0	Very cloudy	C. Saillard, Director
Beauvais, Normal School	30.03	762.7	30.30	769.6	48.0	8.9	66	N	.....	.....	2	.....	8	.....	N	0.008	0.20	Very cloudy	Frere Eugene Marie
Besançon, Normal School	29.29	744.0	30.22	767.5	41.4	5 2	87	N	.....	.....	1	.....	8	.....	N	0 51	13.	Very cloudy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.30	744.2	30.29	769.4	40.6	4.8	77	N	.....	.....	4	.....	2s	SW	SW	0.071	1.8	Slightlycl'dy	Marlot, Director.
Bourges, Normal School	29.67	753.6	30.24	768.1	45.0	7.2	91	N	.....	.....	1	.....	2k	.....	N	0	0	Slightly cl'dy	M. Gence, Director.
Brest, Naval Observatory	30.17	766.3	30.41	772.4	49.6	9.8	73	NE	.....	.....	1	.....	9	.....	NE	0	0	.....	Ch. de Rermaree, Dir.
Caen, Normal School	30.38	771.6	.....	.....	46.2	7.9	86	NNE	.....	.....	1	.....	10	.....	NE	0.08	2.	Covered	M. Bietrin, Director.
Carcassonne, N. School	29.74	755.4	30.17	766.2	48.4	9.1	92	W	.....	.....	3	.....	2	.....	NW	0	0	Slightly cl'dy	September, Director.
Châlons-sur-Marne, N. Sch'	29.94	760.4	30.26	768.7	45.9	7.7	76	NW	.....	.....	3	.....	5	NE	NE	.....	.....	Cloudy	Jadot, Director.
Chartres, Normal School	29.71	754.5	30.29	769.3	46.8	8.2	89	NW	.....	.....	2	.....	8	.....	SE	0	0	.....	Vergier, Director.
Clermont-Fd, Puy de D. Obs	28.79	731.3	30.19	766.8	42.4	5.8	53	N	.....	.....	3	.....	8	.....	N	0.417	10.6	.....	Alluard, Director.
Commercy, Normal School	29.31	744.5	30.20	767.0	42.8	6	91	NW	.....	.....	1	.....	5k	NW	NW	0	0	Cloudy	Dr. Coullet, Director.
Commune de Gréasque*	28.69	728.6	29.83	757.6	45.5	7.5	42	NW	.....	.....	6	.....	0	.....	.....	0.051	1.3	.....	L. Kina, Director.
Grenoble, Normal School	29.30	744.1	30.09	764.2	44.2	6.8	46	N	.....	.....	1	.....	k	NE	.....	0	0	.....	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.12	765.1	30.35	770.8	48.9	9.4	58	N	.....	.....	1	.....	2	.....	NE	0	0	Slightlycl'dy	Mouillot, Director.
Le Mans, Normal School	30.02	762.4	30.33	770.4	48.2	9	63	NNE	.....	.....	3	.....	2	.....	NNE	0	0	Slightly cl'dy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.27	743.5	30.21	767.4	40.1	4.5	74	NE	.....	.....	1	.....	5n	N	N	0.35	9.	Cloudy	A. Baudry, Director
Lorient, Naval Observatory	30.28	769.0	30.39	771.8	48.9	9.4	69	NNE	.....	.....	3	.....	.....	.....	NE	0	0	.....	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.54	750.2	30.17	766.4	43.7	6.5	53	N	.....	.....	2	.....	1n	.....	N	0.315	8.0	Clear	Ch. André, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	29.51	749.5	29.78	756.4	48.7	9.3	48	NW	.....	.....	6	.....	1	.....	NW	0	0	Clear	E. Stephan, Director.
Mirecourt, Normal School	29.14	740.1	30.22	767.5	40.8	4.9	74	NW	.....	.....	3	.....	ks	NW	NW	0	0	.....	Barbier, Director.
Mont-Louis	24.82	630.5	30.14	765.5	39.2	4.0	32	N	26.2	11.7	.....	.....	0	.....	.....	0	0	.....	M. Cave.
Nice	29.63	752.5	29.66	753.4	63.0	17.2	43	E	.....	.....	4	.....	5	E	E	0	0	Cloudy	M. Boissieré, Director.
Nismes, Normal School	29.80	756.8	30.00	762.0	50.0	10	39	N	.....	.....	6	.....	2	.....	NE	0	0	Slightly cl'dy	M. Boyer, Director.
Paris, Montsouris Obs'y	30.00	762.0	.....	.....	47.1	8 4	65	N	.....	.....	2	.....	5	.....	N	0	0	.....	Marie Davy, Director.
Perpignan	29.96	760.9	30.06	763.5	49.8	9 9	56	NE	22.4	10.0	.....	.....	0	.....	.....	0.280	7.1	.....	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.46	570.4	.....	.....	22.1	—5.5	.....	NE	.....	.....	3	.....	1	.....	NE	0.098	2.5	.....	Gen'l de Nansouty.
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Privas, Normal School	28.96	735.6	30.06	763.4	42.8	6	51	N	.....	.....	4	.....	.....	N	N	1.26	32.	.....	Cantier, Director.
Puy de Dome (Summit) Obs	25.16	639.0	.....	.....	25.0	—3.9	95	NE	.....	.....	3	.....	.....	.....	.....	0.638	16.2	Fog, frost-work.	Alluard, Director.
Rochefort, Naval Obs'y	30.30	769.6	30.33	770.4	47.5	8.6	76	NE	.....	.....	3	.....	2	NE	NE	0	0	¼ covered	Lt E. Decante, Director
Rouen, Normal School	30.23	767.8	30.32	770.0	46.0	7.8	89	NNW	.....	.....	1	.....	10	.....	N	0.63	1.6	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.34	770.6	30.37	771.3	48.0	8.9	68	NE	.....	.....	3	.....	8	NE	NE	0	0	Very cloudy	Lt. Hercouet, Director.
Saint Maur (near Paris)	30.12	765.0	30.28	769.2	47.1	8.4	71	NNW	.....	.....	3	.....	.....	.....	NNE	0	0	.....	E. Renou, Director.
Tarbes, Normal School	29.02	737.0	30.10	764.5	54.1	12.3	98	SW	.....	.....	1	.....	1	SSW	W	0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.50	749.4	30.23	767.9	45.1	7.8	65	NW	.....	.....	3	.....	2	.....	.....	0	0	Slightly cl'dy	M. Julier Mercadier.
Tours	30.10	764.4	30.29	769.4	48.7	9.3	56	NE	.....	.....	3	.....	5	.....	NNE	0	0	⅛ covered	Cousin-Marquet.
Versailles, Observatory	29.80	756.9	30.29	769.4	48.2	9.0	63	N	.....	.....	3	.....	.....	.....	.....	0	0	.....	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.45	747.9	30.14	765.6	42.8	6	77	NE	.....	.....	3	.....	5	.....	NE	0.661	16.8	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.95	760.6	29.97	761.3	80.6	27	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L'Abbé Marchési
Zi-Ka-Wei (near Shanghai)	30.32	770.1	30.34	770.7	52.2	11.2	75	N	5.4	2.4	.....	.....	9	.....	.....	0	0	Covered	Marc Dechevrens.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second: the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 342 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature.		Barometer. Reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind. Direction.	Wind. Velocity.		Wind. Force.	Clouds. Amount.		Clouds. Direction.		Rain-fall or melted snow in the past 24 hours.		Weather.	Observer.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centrigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0-10.	Up'er 0-10.	Lo'er 0-10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
Bamberg	29.20	741.8	30.05	763.2	38.5	3.6	70	NW			4		8ks	W		0.008	0.2		Prof. Dr. Hoh.
Berlin	29.82	757.4	30.00	761.9	40.6	4.8	65	N			10		6			0.043	1.1		Prof. Dr. Arndt.
Breslau	29.37	746.1	29.90	759.5	38.6	3.6	80	NW			3		10			0.438	11.12		Royal University Obs'y.
Carlsruhe	29.72	754.8	30.16	766.0	41.0	5 0	66	N			1		9	N		0.008	0.2		Albert Senz.
Cassel	29.55	750.5	30.16	766.0	39.2	4.0	67	N			3		1	NW		0.135	3.42		Dr. H. Möhl.
Emden			30.17	766.4	41.9	5.5	68	NE			0		1			0.232	5.9		Prof. Dr. Prestel.
Frankfort on the Main	29.78	756.5	30.16	766.0	43.3	6.3	49	N			2		3			Inap.	Inap.		Physical Society.
Friedrichshafen	28.66	728.0	30.15	765.9	37 5	3.2	66	NW			3		10	NW		0	0		Chief Telegrapher Wilhelm.
Hamburg	30.06	763.4	30.13	765.2	39.0	3.9	67	NW			4	3k				0.154	3.9	Clear	Captain F. Hegemann.
Kiel	30.07	763.6	30.08	764.1	40.8	4.9	60	WNW			5		0			0.048	1.22		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.63	752.7	29.72	754.8	39.9	4.4	62	NW			4		4			0.166	4.2		Prof. E. Luther.
Köslin			29.90	759.4	37.2	2.9		NW			4		0			0.646	16.4		H. Müller.
Leipsic Observatory	29.64	752.8	30.08	763.9	38.1	3.4	78	NNW			2		8	NW		0.110	2.8		Prof. Dr. Bruhns, Privy Counselor.
Magdeburg																			Dr. Assmann.
Memel	29.60	751.7	29.64	752.9	38.3	3.5	80	NNW			6		8kn						Reinbrecht & Ishermann
Munich (München)	28.21	716.6	30.08	764.0	34.2	1.2	80	NW			2		10	NW		0.366	9.3	Light hail	Dr. C. Lang.
Neufahrwasser	29.80	757.0	29.82	757.4	36.9	2.7	80	NW			4		10			0.177	4.5		A. Lothes.
Neustadt (Palatinate)	29.61	752.2	30.14	765.6	41.2	5.1	68	ESE			2		5	N		0	0		Reallehrer Dicknether.
Posen	29.81	743.5	29.81	752.0	39.9	4.4	72	NW			5		10			0.031	0.8	Raining	Prof. Dr. Hagener.
Strassburg (in Alsace)	29.63	752.6	30.20	767.0	42.3	5 7	55	NNE			3		7	N		0	0		Imp. University Observatory.
Stuttgart	29.15	740.4	30.12	765.1	38.8	3.8	67	N			1		9	N				Light rain	Prof. Dr. Schoder.
Weissenburg (Bavaria)	28.54	725.0	30.11	764.7	35.2	1.8	88	NNW	7	3			10		W	0.118	3.0		Reallehrer J. Hopfner.
Wustrow	30.00	762.1	30.03	762.7	41.5	5.3	60	NNW			4		8ks			0.165	4.2		E. Schütz, Director.
German Naval Series.																			

NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

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

Athens	29.62	752.4	30.01	762.2	69.8	21.0		SW			2.5		0					Clear	Dr. J. F. J. Schmidt.

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

INDIAN SERIES.

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

Kurrachee	29.84	758.0	29.90	759.3	81.7	27.6	67	WNW	16	7.2			0			0	0	Blue sky	
Deesa	29.42	747.3	29.90	759.4	78.7	25.9	25	NW	7.7	3.4			0			0	0	Blue sky	
Bombay	29.79	756.6	29.83	757.6	78.9	26.1	82	NW	11	4.9			5	WNW		0	0	D. clouds	
Poona (Yerrowda)	27.98	710.6	29.83	757.6	79.5	26.3	54	WNW	14	6.3			4			0.15	3.8	D. clouds	
Belgaum	27.31	693.7	29.88	758.8	70.8	21.6	94	W	6	2.7			9	E	E	0.84	21.3	Threatening	
Lahore	29.07	738.3	29.83	757.6	68.7	20.4	52	Calm	0.6	0.3			0			0	0	Blue sky	
Roorkee	28.92	734.6	29.84	758.0	67.8	19.9	60	N	1.5	0.7						0	0		
Agra	29.29	744.0	29.87	758.6	74.2	23.4	40	W	2.9	1.3						0	0		
Nagpur	28.78	731.0	29.82	757.5	79.1	26.2	39	Calm	2.8	1.2						0	0	Blue sky	
Jubbulpore	28.49	723.5	29.87	758.7	73.3	22.9	40	Calm	1.9	0.9						0	0	Blue sky	
Lucknow	29.47	748.5	29.86	758.3	71.6	22.0	50	N	0.6	0.3						0	0	Blue sky	
Allahabad	29.54	750.3	29.86	758.5	66.0	18.9	87	Calm	1.7	0.8			0			0	0	Blue sky	
Patna	29.66	753.4	29.84	758.0	75.3	24.1	51	Calm	0	0			0			0	0	Blue sky	
Hazaribagh	27.80	706.2	29.86	758.4	66.8	19.3	38	NW	6.9	3.1			0			0	0	Blue sky	
Cuttack	29.78	756.4	29.86	758.5	76.2	24.6	79	NE	2	0.9			10			0.15	3.8	Showery	
Calcutta (Alipore)	29.80	756.9	29.82	757.4	71.5	21.9	64	NW	2.0	0.9			0			0	0	Blue sky	
Goalpara	29.36	746.1	29.77	756.1	77.8	25.4	61	ENE	2.7	1.2			0			0	0	Blue sky	
Chittagong	29.72	755.0	29.82	757.3	76.3	24.6	68	NW	3.6	1.6			2			0	0	Misty	
Sibsagar	29.48	748.7	29.82	757.3	75.9	24.4	81	ENE	0.8	0.4			0			0	0	Blue sky	

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufor: notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

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

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

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.40	746.7	29.82	757.4	49.1	9.5	89	Calm	0	0	.....	.....	10	.....	.....	1.862	47.3	.....	Prof. Giovanni Clodig.
Milan	29.25	743.0	29.77	756.2	39.9	4.4	55	SE	.....	.....	1	.....	7	WSW	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.74	755.3	29.85	758.1	41.7	5.4	84	NE	10.2	8.6	.....	.....	10	NE	.....	0.559	14.2	.....	Prof. Dott. Lorenzoni.
Moncalieri	28.85	732.7	29.78	756.3	53.4	11.9	97	NW	3.1	1.4	.....	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.48	748.9	29.68	753.8	54.7	12.6	28	N	16.1	7.2	.....	.....	6	SW	.....	0.012	0.3	.....	Prof. G. M. Garibaldi.
Mondovi	27.86	707.7	29.81	757.1	46.9	8.3	39	W	.....	.....	2	.....	9	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.59	751.6	29.64	752.9	51.8	11.0	90	NW	19.2	8.6	.....	.....	10	NW	.....	0.185	4.7	.....	Prof. Luigi Guidi.
Florence	29.44	747.7	29.70	754.3	48.6	9.2	73	NE	.....	.....	6	.....	10	W	.....	0.224	5.7	.....	Cav. F. Meucci.
Leghorn	29.54	750.4	29.63	752.6	62.6	17.0	54	WSW	16.1	7.2	.....	.....	4	.....	.....	0.067	1.7	.....	Prof. P. Monte.
Rome	29.52	749.8	29.70	754.3	66.6	19.2	74	SW	14.8	6.4	.....	.....	10	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. C. De Giorgi.
Cosenza	28.91	734.8	29.80	757.0	72.3	22.4	76	SW	.0	0	.....	.....	6	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.64	752.8	29.83	757.7	64.6	18.1	59	NW	.....	.....	4	.....	3	W	.....	0.039	1.0	.....	Prof. A. Pacinotti.
Palermo	29.56	750.7	29.81	757.2	70.5	21.4	31	WSW	9.4	4.2	.....	.....	10	.....	.....	0	0	.....	Prof. G. Ciacciatore.
Syracuse	29.78	756.4	29.85	758.3	73.2	22.9	80	SSW	13.7	6.1	.....	.....	8	W	.....	0	0	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 461 m., or 1,480 ft.

JAPANESE SERIES.

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

Hiroshima, I. M. Obs'y	30.11	764.8	30.12	765.0	48.2	9.1	88	NNE	1.6	0.7	.....	8ck	.....	.....	.....	0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.96	761.0	30.17	766.3	47.3	8.5	87	N	0.2	0.1	.....	....	0	....	.....	0	0	Clear	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.86	758.4	29.92	759.9	51.7	10.9	82	ESE	5.4	2.4	.....	10cs	0	....	.....	0	0	Covered	The Staff.
Wakayama	30.02	762.5	30.07	763.8	51.0	10.6	87	ENE	4.0	1.8	.....	.....	10ks;s	....	.....	0	0	Cloudy	.....

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

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

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

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	25.19	639.8	30.30	769.6	51.8	11.0	62	SE	.....	.....	1	.....	1	.....	.....	0	0	Clear	Prof. L. Perez.
Leon	24.58	624.4	30.39	771.9	52.5	11.4	86	W	.....	.....	2	.....	0	....	.....	0	0	Fine	Prof. M. Leal.
Mazatlan	29.78	756.4	30.04	763.0	74.1	23.4	93	Calm	.....	.....	0	1s	0	.. ..	.....	0	0	Clear	I. Guerrero, C. E.
Mexico, Central Observatory	23.19	589.0	30.32	770.0	49.1	9.5	88	W	0.7	0.3	.....	.....	10pk	....	SE	0	0	Covered	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	59.0	10.0	78	Calm	.....	.....	0	0	0	....	.....	0	0	Fine	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.52	597.5	30.44	773.1	45.9	7.7	39	Calm	0	0	.....	0	0	....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.30	617.3	30.35	770.8	54.0	12.2	60	NE	.....	.....	1	0	5	.....	E	0	0	½ clouded	G. Barroeta, M. D.
Tlacotalpam	30.16	766.0	30.17	766.3	72.1	22.3	92	W	.....	.....	1	.....	10	....	N	0.03	0.8	Threatening	Prof. M. M. Chàzaro.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	.....	.....	.....	.....	Prof. J. Rossell.
Zacatecas	22.67	575.9	30.37	771.3	51.8	11.0	66	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	A. Nuñez.

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

NETHERLANDS SERIES.

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

Flushing	30.25	768.8	30.25	768.3	49.6	9.8	.....	N	.....	.....	4	.....	.....	.....	.....	0.244	6.2	.....	
Groningen	30.18	765.4	30.19	766.8	42.8	6.0	.....	E	.....	.....	.....	.....	.....	.....	.....	0.051	1.3	.....	
Helder	30.20	767.0	30.20	767.0	47.8	8.8	.....	NNE	.....	.....	4	.....	.....	.....	.....	0.087	2.2	.....	
Hellevoetsluis	30.22	767.5	30.22	767.5	49.6	9.8	85	NNW	.....	.....	3	.....	.....	.....	.....	0.209	5.3	.....	
Utrecht	30.16	766.0	30.21	767.2	48.4	9.1	76	NW	.....	.....	3	.....	5	.....	.....	0.020	0.5	Cloudy	H. v. d. Brink.

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

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From→	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.04	763.1	30.10	764.5	45.3	7.4	86	NNW	13.4	6.0	.....	.....	10	.....	.....	0.055	1.4	Light rain...	
Brönö	29.69	754.2	29.73	755.2	37.4	3.0	66	NNW	9	4	.....	.....	.....	.....	.....	0	0	.....	
Christiana	29.66	753.4	29.81	757.2	37.4	3.1	54	WNW	4	2	.....	.....	2	.....	.....	0	0	Foggy	
Tromsö	29.63	752.5	29.67	753.6	21.0	-5.9	71	Calm	0	0	.....	.....	2	.....	.....	0.020	0.5	....	

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

PORTUGUESE SERIES.

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

Angra (Azores)	29.82	757.4	30.01	762.2	64.4	18.0	78	ENE	12.5	5.6	.....	.....	3	.....	.....	0.236	6.0	....	Dr. J. A. Sampaio.
Campo Major	28.85	733.5	29.90	759.5	63.0	17.2	76	WSW	1.8	0.8	.....	.....	8	....	.....	0.437	11.1	....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	29.75	755.7	29.84	757.9	69.8	21.0	70	W	8.1	3.6	.....	.....	6	....	.....	0.465	11.8	....	Capt. D. A. de Cunha.
Lisbon Observatory	29.52	749.9	29.88	759.0	61.3	16.3	90	ESE	4.9	2.2	.....	.....	8	SSW	.....	0.177	4.5	....	The Staff.
Ponta Delgada (Azores)	29.86	758.4	29.93	760.2	67.3	19.6	68	NNE	13.0	5.8	.....	.....	3	.....	.....	0.134	3.4	....	

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

PORTUGUESE NAVAL SERIES. VESSELS.															Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa, Porto Praya, Cape Verd I'ds.	.....	.....	.....	.....	79.5	26.4	.....	ENE	.....	.....	3	.....	1	.....	.....	1	.....	D. clouds....	A. A. A. Loureiro.
Sà da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Com'd't.
Sado, Capt. J. A. de Brito Capello, St. Paul de Loando	.....	.....	30.02	762.4	79.7	26.5	.....	W	.....	.....	3	.....	1	.....	W	.....	.....	D. clouds	H. Mecudonco, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	.....	.....	29.92	760.0	84.2	29.0	.....	N	.....	.....	4	.....	10	.....	N	3	N	Raining, 12 hr's rain-fall.]	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

RUSSIAN SERIES.

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

Archangel	29.45	748.0	29.47	748.5	23.0	— 5.0	98	E	4	2	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Astrakhan	30.37	771.4	30.29	769.3	44.8	7.1	68	ESE	11	5	.....	9ck	.....	.....	.....	.....	.....	.....	Capt. Wisganow.
Barnaul	29.54	750.2	30.07	763.6	25.0	— 3.9	82	SW	4	2	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	29.15	740.3	29.39	746.6	35.4	1.9	91	WSW	2	1	.....	.....	10n	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	29.34	745.1	30.37	771.5	19.6	— 6.9	73	WSW	13	6	.....	c	6cs;s	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	29.88	759.0	30.17	766.2	30.4	— 0.9	57	S	22	10	.....	.....	9	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	28.96	735.6	29.59	751.6	53.1	11.7	83	S	11	5	.....	.....	9ks	.....	.....	.....	.....	.....	Physical Cabinet.
Krotkowo*	29.78	756.3	30.27	768.9	29.5	— 1.4	68	S	40	18	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	29.76	755.8	29.96	761.0	49.3	9.6	74	SSE	13	6	.....	.....	9	.....	.....	.....	.....	.....	Meteorological Obs.
Moscow	29.17	740.8	29.72	755.0	35.6	2.0	82	S	13	6	.....	.....	9ks	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	28.13	714.5	30.63	778.1	11.5	—11.4	77	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	29.81	757.2	29.88	759.0	54.3	12.4	80	S	18	8	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	29.92	760.0	30.16	766.0	49.3	9.6	.....	ENE	22	10	.....	.....	9ks	.....	.....	.....	.....	.....	.....
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	30.31	769.9	30.45	773.5	38.7	3.7	85	Calm	0	0	.....	.....	9n	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	29.34	745.1	29.35	745.5	30.7	— 0.7	96	NNE	11	5	.....	.....	10n	.....	.....	.....	.....	Snowing....	Central Physical Obs.
Tashkend	28.55	725.1	30.10	764.6	62.6	17	41	.....	.....	.....	.....	.....	4	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.74	730.1	30.16	766.1	57.0	13.9	75	E	4	2	.....	2ck	.....	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	29.32	744.7	29.75	755.7	39.2	4.0	90	NW	11	5	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.16	740.7	29.60	751.7	35.1	1.7	94	W	7	3	.....	.....	10	.....	.....	.....	.....	Heavy clouds...	Astronomical Obs.
Yenisiesk	29.65	753.0	29.95	760.6	28.2	— 2.1	91	ESE	4	2	.....	.....	10	.....	.....	.....	.....	Snowing.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

SPANISH SERIES.

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

Barcelona, Met. Obs'y	29.87	758.7	29.98	761.4	54.1	12.3	70	NNW	0.9	0.39	.....	.....	10	.....	.....	0.315	8.01	Misty.....	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.18	766.6	30.24	768.1	51.8	11.0	68	E	1.6	0.70	.....	2	3	W	.....	0.205	5.2	Cloudy.....	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.11	688.7	.....	.....	39.2	4.0	58	NE	12.2	5.47	.....	0	6	.....	.....	0	0	Cloudy.....	Domingo Martin y Perez.
Madrid, Royal Observatory	27.69	703.2	29.96	761.0	45.0	7.2	76	NE	20.9	9.34	.....	0	10	.....	.....	0.327	8.3	Rainy.....	The Staff.
Murcia, Met. Obs'y	29.71	754.6	29.85	758.3	72.7	22.6	70	ENE	3.9	1.75	.....	2	4	E	.....	0.969	24.61	Raining....	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.06	738.2	29.98	761.4	49.6	9.8	53	NE	24.8	11.1	.....	.....	9	.....	.....	0	0	Almost cov'd	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.03	762.9	30.10	764.6	79.5	21.4	84	Calm	0	0	.....	1cs	2k	W	NE	Inap.	Inap.	Fair.....	Benito Vines, S. J.
Manilla, Phillippine Islands	29.72	754.9	29.77	756.2	82.0	27.8	...	E	0	0	.....	.....	4ks	.....	E	0.488	12.4	Cloudy.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.85	758.3	29.95	760.8	62.6	17.0	81	NE	6.7	3.0	.....	0	9	.....	E	0.036	0.9	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.92	759.9	30.01	762.2	79.2	26.2	84	SW	0	0	.....	1s	3k	SW	SW	0.039	1.00	Clear.....	Enrique Gadea, Chief Eng'r

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8.19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.61	752.2	29.65	753.2	15.8	— 9.0	....	N	.....	.....	2	.....	7	.....	.....	0	0	.....	
Umea	29.60	751.9	29.65	753.2	22.3	— 5.4	85	NW	.....	.....	2	.....	9	.....	.....	0	0	.....	
Hernosand	29.58	751.4	29.63	752.7	26.2	— 3.2	91	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	
Stockholm	29.50	749.2	29.67	753.7	32.0	0.0	85	NNW	.....	.....	4	.....	10	.....	.....	.....	.....	Light snow.	
Wisby	29.61	752.1	29.67	753.6	36.0	2.2	72	NNW	.....	.....	7	.....	7	.....	.....	0.028	0.7	.....	
Sub-Series.																			
Upsala	29.57	751.1	29.66	753.3	31.8	— 0.1	87	W	5.4	2.4	.....	.....	10	.....	WNW	0.100	0.04	Snowing	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

SWISS SERIES.

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

Geneva	28.69	728.7	30.16	766.1	39.4	4.1	68	NE	.....	.....	7	.....	9	.....	.....	0.433	11.0	Covered	The Observatory.
Zurich	28.48	723.4	30.18	766.5	36.7	2.6	76	NW	.....	.....	1	.....	6	.....	.....	0.016	0.4	Cloudy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, +2.6 mm.; Thermometer, —5.0 Cent.; Relative Humidity, -7 per cent.
NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

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

Constantinople	.....	.....	30.00	762.0	64.2	17.9	70	SW	11	5.0	.....	.....	1	.....	N	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.95	760.8	64.2	17.9	.....	S	.....	.....	3	.....	5	.....	.....	0	0	Cloudy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obsy	29.88	758.9	29.99	761.8	74.8	23.8	46	N	.....	.....	4	7c	.....	.....	.....	0	0	D clouds	Prof. C. V. A. van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. A. Blair.
Charlottetown, P. E. Island	30.00	762.0	30.05	763.3	30.3	— 0.9	65	N	6	2.7	.....	.....	10s	.....	.....	0	0	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.66	753.4	29.86	758.4	26.4	— 3.1	91	E	.....	.....	3	.....	10n	.....	.....	0.15	3.8	Cloudy	James Smith, M. A.
Dalhousie, N. B.	29.95	760.7	30.13	765.3	21.5	— 5.8	.....	W	..	.....	1	0	7s	.....	.....	0	0	Cloudy	H. A. Johnson,
Father Point, Quebec	30.10	764.5	30.12	765.0	25.2	— 3.8	75	NW	14	6.3	.....	.....	10s	.....	.....	0	0	Cloudy	J. McWilliams.
Fredericton, N. B.	30.04	763.0	30.10	764.5	24.0	— 4.4	74	NW	2	0.9	.....	1ck	1s	.....	.....	0	0	Clear	Prof. Harrison.
Fort Garry, Manitoba	29.62	752.3	30.55	776.0	5.5	—14.7	88	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	James Stewart.
Granton, Ontario	28.93	734.8	30.10	764.5	25	— 3.9	.....	N	.....	.....	2	5ck	0	N	.....	0	0	Fair	James Grant.
Halifax, N. S.	29.95	760.7	30.08	764.0	29.0	— 1.7	89	NE	7	3.1	.....	.....	8n	.....	.....	0.04	1.0	Light snow.	A. Allison, M. A.
Hamilton, Ontario	29.62	752.3	30.01	762.2	27.7	— 2.4	88	NW	.....	.....	1	.....	10cs	.....	NW	0.65	16.5	Cloudy	Geo. Dickson, M. A.
Heart's Content, N. F.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon,
Kingston, Ontario	29.44	747.8	29.79	756.7	30.3	— 0.9	95	E	8	3.6	.....	.....	10s	.....	.....	1.12	28.4	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S.	30.03	762.7	30.06	763.5	37.6	3.1	75	S	5	2.2	.....	.....	10n	.....	.....	.....	.....	Snowing	C. H. Rigby.
Montreal, Quebec	29.76	755.9	29.97	761.2	26.6	— 3.3	91	NE	13	5.8	.....	.....	10s	.....	.....	0.35	8.9	Overcast	C. H. McLeod, C. E.
Moose Factory, Ontario	30.19	766.8	30.23	767.8	11.8	—11.2	98	W	.....	.....	3	.....	10	.....	.....	0.15	3.8	Snowing	J. R. Nason.
Norwood	29.13	739.9	29.86	758.4	23.0	— 5.0	100	N	.....	.....	3	.....	10s	.....	.....	0.09	2.3	Snowing	Rev. T. F. Fotheringham, M. A.
Parry Sound, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. R. Mosley.
Peterboro, Ontario	29.13	739.9	29.92	760.0	24.8	— 4.0	86	W	.....	.....	5	.....	10n	.....	.....	1.10	27.9	Snowing	J. F. Jeffers, B. A.
Port Dover, Ontario	29.29	744.0	30.01	762.2	28.0	— 2.2	77	NW	20	8.9	.....	.....	10k	.....	NW	0	0	Cloudy	H. Morgan.
Port Hastings, N. S.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.37	746.0	30.06	763.5	26.7	— 2.9	81	NW	10	4.5	.....	5ck	0	N	.....	1.20	30.5	Fair	M. Payne.
Quebec, Quebec	29.76	755.9	30.10	764.5	24	— 4.4	87	NE	..	.....	3	0	2s	.....	.....	0	0	Clear	Capt. Ashe, R. N.
Rockliffe, Ontario	29.59	751.6	30.08	764.0	20.1	— 6.6	72	N	8	3.6	.....	.....	10s	.....	.....	0.05	1.3	Light snow	W. H. McIntyre.
St. Andrews, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Gove.
St. John, N. B.	29.84	757.9	30.02	762.5	27	— 2.8	76	N	9	4.0	.....	.....	10ks	.....	.....	Inap.	Inap.	Overcast	G. Murdock, C. E.
Saugeen, Ontario	29.38	746.2	30.14	765.5	25.0	— 3.9	88	N	16	7.2	.....	.....	10s	.....	.....	0.40	10.2	Snowing	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.72	729.5	30.09	764.3	24.0	— 4.4	95	SE	15	6.7	.....	.....	10s	.....	.....	0.20	5.1	Cloudy	C. J. MacGregor, M. A.
Sydney, C. B.	30.04	763.0	30.08	764.0	32.8	0.4	85	E	1	0.4	.....	.....	10ks	.....	.....	0	0	Overcast	T. C. Hill, C. E.
Toronto, Ontario	29.57	751.1	29.98	761.5	22.5	— 5.3	88	NW	24	10.7	.....	.....	10ks	.....	N	0.60	15.2	Cloudy	Magnetic Observatory.
Windsor, N. S.	29.93	760.2	30.03	762.7	29.0	— 1.7	94	E	3	1.3	.....	.....	10n	.....	.....	.....	.....	Snowing	Prof. John E. Oram.
Woodstock, Ontario	29.04	737.6	30.17	766.3	25.7	— 3.5	80	W	25	11.2	.....	.....	10s	.....	N	0	0	Overcast	Prof. J. Montgomery.
Yarmouth, N. S.	29.95	760.7	30.02	762.5	30.5	— 0.8	96	E	.....	.....	1	.....	9n;ks	.....	.....	0.08	2.0	Cloudy	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	30.07	763.8	30.33	770.4	38.0	3.3	81	SW	.....	.....	.....	10k	10s	.....	.....	0.03	0.8	Cloudy	John Delany.
St. Pierre, N. F.	.....	.....	30.06	763.6	43.9	6.6	.....	SW	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	l'Hopital Maritime.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

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

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.62	752.3	29.86	758.4	35	1.7	85	SE	1	0.4	.....	.....	10n	.....	S	0.06	1.5	Light snow.	
Alpena, Michigan	29.55	750 6	30.25	768.3	20	— 6.7	85	NW	14	6.3	.....	.....	10s	.....	Calm	0.70	17.8	Cloudy	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	29.03	737.3	30.22	767.6	42	5.6	58	NW	7	3.1	.....	0	Sm'e	.....	Calm	0	0	Clear	
Atlantic City, New Jersey	29.96	761.0	29.98	761.5	37	2.8	63	W	11	4.9	.....	5k	0	W	.....	0	0	Fair	
Augusta, Georgia	30.02	762,5	30.22	767.6	43	6.1	83	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Fair	
Baltimore, Maryland	30.00	762.0	30.05	763.3	35	1.7	53	NW	16	7.2	.....	Haze	0	Calm	.....	0	0	Clear	
Barnegat, New Jersey	29.92	760.0	29 94	760.5	37	2.8	81	NW	15	6.7	.....	10k	0	SW	.....	0.11	2.8	Cloudy	
Bismarck, Dakota	28.47	723.1	30.33	770.4	17	— 8.3	83	SE	10	4.5	.....	10cs	0	NW	NW	0	0	Cloudy	
Boerne, Texas	28.79	731.3	30.16	766.1	40	4.4	91	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Boise City, Idaho	27.24	691.9	30 20	767.1	33	0.6	70	E	4	1.8	.....	5ck	2s	W	W	0	0	Fair	
Boston, Massachusetts	9.77	756.1	29.93	760.2	36	2.2	100	SE	18	8.0	.....	.....	10n	.....	E	0.01	0.3	Light snow.	
Brackettville, Texas	29.04	737.6	30.13	765.3	48	8.9	63	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	29.44	747.8	30.58	776.7	2	—16.7	100	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Brownsville, Texas	30.17	766.3	30.22	767.6	63	17.2	89	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Buffalo, New York	29.17	740.9	29.90	759.4	28	— 2.2	94	NW	12	5.4	.....	.....	10n	.....	NW	0.14	3.6	Heavy snow	
Burkes, Arizona	.....	.....	.....	.....	50	10.0	45	Calm	.....	.....	0	.....	10s	.....	Calm	0	0	Cloudy	
Burlington, Vermont	29.61	752.1	29.90	759.4	32	0.0	89	SE	3	1.3	.....	.....	10n	.....	SE	0.16	4.1	Light snow.	
Cairo, Illinois	30.07	763.8	30.49	774.4	32	0.0	59	N	13	5.8	.....	10ck	0	NW	.....	0	0	Cloudy	
Campo, California	27.56	700.0	30.13	765.3	38	3.3	63	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.04	763.0	30.05	763.3	55	12.8	68	W	17	7.6	.....	0	1ks	.....	Calm	0.13	3.3	Clear	
Cape Henry, Virginia	30.03	762.7	30.05	763.3	46	7.8	62	NW	26	11.6	.....	2c	2s	SW	Calm	0	0	Fair	
Cape Lookout, N. Carolina	30.06	763.5	30.07	763 8	51	10.6	65	NW	28	12,5	.....	0	0	.....	.....	0	0	Clear	
Cape May, New Jersey	29.97	761.2	30.00	762.0	41	5.0	57	W	32	14.3	.....	2k	Haze	W	.....	0	0	Clear	
Castroville, Texas	29.46	748.3	30.20	767.1	44	6.7	92	NW	4	1.8	.....	2c	0	Calm	.....	0	0	Fair	
Charleston, South Carolina	30.11	764.8	30.16	766.1	51	10.6	65	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Charlotte, North Carolina	29.25	742.9	30.42	772.7	45	7.2	53	NW	2	0.9	.....	5c	Sm'e	W	Calm	0	0	Fair	
Chattanooga, Tennessee	29.47	748.8	30.32	770.1	36	2.2	71	N	6	2.7	.....	2cs	Sm'e	NW	Calm	0	0	Fair	
Cheyenne, Wyoming	24.19	614.4	30.13	765.3	39	3.9	31	W	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29 64	752.6	30.38	771.6	22	— 5.6	72	NW	12	5.4	.....	2cs	2s	Calm	NW	0	0	Fair	
Cincinnati, Ohio	29.66	753.4	30.36	771.1	26	— 3.3	63	NW	7	3.1	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Cleveland, Ohio	29.3	745.5	30.11	764.8	33	0.6	79	NW	19	8.5	.....	.....	10n	.....	NW	0.31	7.9	Light snow.	
Coleman City, Texas	28.42	721.9	30.14	765.5	45	7.2	61	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Columbus, Ohio	29.37	746.0	30.26	768.6	24	— 4.4	72	W	5	2.2	.....	.....	Fog	.....	Calm	0	0	Foggy	
Concho, Texas	28 30	718.8	30.02	762.5	45	7.2	76	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.83	757.7	30.32	770.1	44	6.7	84	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Davenport, Iowa	29.82	757.4	30.52	775.2	19	— 7.2	69	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Deadwood, Dakota	25.45	646 4	.....	.....	39	3.9	82	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas	29.12	739.6	30.30	769 6	62	16.7	77	SE	8	3.6	.....	0	2s	.....	SW	0	0	Fair	
Denison, Texas	29.52	749.8	30.36	771.1	39	3.9	64	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Denver, Colorado	24.98	634.5	30.20	767.1	36	2.2	39	S	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	29.49	751.6	30.56	776.2	18	— 7.8	68	Calm	0	0	.....	0	Sm'e	.....	Calm	0	0	Clear	
Detroit, Michigan	29.49	749.0	30.21	767.3	22	— 5.6	86	N	12	5.4	.....	0	2s	.....	Calm	0.12	3.0	Clear	
Dodge City, Kansas	27.74	704.6	30.12	765.3	22	— 5.6	32	Calm	0	0	.....	0	8s	.....	Calm	0	0	Cloudy	
Dubuque, Iowa	29.75	755.6	30.52	775.2	17	— 8.3	67	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Duluth, Minnesota	29.78	756.4	30.54	775.7	10	—12.2	79	NW	2	0.9	.....	0	2s	.....	Calm	0.02	0.5	Fair	
Eagle Pass, Texas	29.51	749.5	30.37	771.4	47	8.3	92	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	29.97	761.2	30.04	763.0	31	— 0.6	89	NE	12	5.4	.....	10k	0	SW	.....	0	0	Cloudy	
El Paso, Texas	.....	.....	.....	.....	64	17.8	83	Calm	.....	.....	0	.....	10s	.....	Calm	0	0	Cloudy	
Erie, Pennsylvania	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Escanaba, Michigan	29.30	744.2	30.04	763.0	32	0.0	69	NW	20	8.9	.....	.....	10ks	.....	NW	0.49	12.4	Cloudy	
Florence, Arizona	29.66	753.4	30.37	771.4	16	— 8.9	66	NW	13	5.8	.....	0	0	.....	.....	0.03	0.8	Clear	
Fort Apache, Arizona	28.57	725.7	30.17	766.3	52	11.1	66	NE	2	0.9	.....	8cs	0	Calm	.....	0	0	Fair	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	28.07	713.0	30.02	762.5	22	— 5.6	72	SE	5	2.2	.....	5c	0	Calm	.....	0	0	Fair	
Fort Custer, Montana	26.92	683.8	.....	.....	30	— 1.1	59	SE	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.39	644.9	30.35	770.9	36	2.2	100	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.85	758.2	30.42	772.7	39	3.9	38	N	7	3.1	.....	.....	10s	.....	N	0	0	Cloudy	
Fort Grant, Arizona	25.35	643.9	30.15	765.8	52	11.1	25	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	28.97	735.8	30.28	769.1	44	6.7	99	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.50	698.5	.....	.....	24	— 4.4	74	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	27.94	709.7	29.93	760.2	43	6.1	75	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	29.12	739.6	30.30	769.6	34	1.1	61	N	.....	.....	4	0	0	.....	.....	0	0	.....	
Fort Stevenson, Dakota	28.42	721.9	.....	.....	16	— 8.9	83	SE	12	5.4	.....	8ck	0	SE	.....	0	0	Clear	
Fort Verde, Arizona	.....	.....	.....	.....	42	5.6	74	NW	.....	.....	1	10cs	0	W	.....	0	0	Cloudy	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.34	719.8	29.94	760.5	45	7.2	61	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Galveston, Texas	30.24	768.1	30.29	769.4	58	14 4	76	N	8	3.6	.....	1cs	0	Calm	.....	0	0	Clear	
Graham, Texas	29.17	740.9	30.26	768.6	45	7.2	84	NE	2	0.9	.....	2cs	0	NW	.....	0	0	Fair	
Grand Haven, Michigan	29.60	751.8	30.30	769.6	25	— 3.9	87	E	6	2.7	.....	0	2s	.....	Calm	0.80	20.3	Fair	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.31	745.2	30.32	770.1	39	3.9	64	NE	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Indianapolis, Indiana	29.48	748.8	30.31	769.9	24.5	— 4.2	62	W	2	0.9	.....	.....	10s	.....	W	0	0	Cloudy	
Indianola, Texas	30.27	768.8	30.30	769.6	56	13.3	87	N	7	3.1	.....	0	Haze	.....	Calm	0	0	Clear	
Jacksboro, Texas	29.17	740.9	30.34	770.6	45	7.2	76	N	8	3.6	.....	5c	0	NE	.....	0	0	Fair	
Jacksonville, Florida	30.18	766.6	30.21	767.3	56	13.3	87	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Keokuk, Iowa	29.80	756.9	30.49	774.4	19	— 7.2	69	NW	5	2.2	.....	0	2s	.....	Calm	0	0	Clear	
Key West, Florida	30.08	764.0	30.11	764.8	75	23.9	77	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Kittyhawk, North Carolina	30.06	763.5	30.09	764.3	49	9.4	37	NW	24	10.7	.....	0	0	.....	.....	0	0	Clear	
Knoxville, Tennessee	29.29	744.0	30.36	771.1	31	— 0.6	89	N	3	1.3	.....	2ck	2s	W	W	0.11	2.8	Clear	
La Crosse, Wisconsin	29.70	754.4	30.52	775.2	15	— 9.4	65	W	2	0.9	.....	0	0	.....	.....	0	0	Fair	
La Mesilla, New Mexico	26.26	667.0	30.41	772.4	38	3.3	81	Calm	0	0	.....	1c	0	Calm	.....	0.01	0.3	Clear	
Laredo, Texas	29.81	757.2	30.16	766.1	56	13.3	63	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.60	751.8	30.52	775.2	23	— 5.0	73	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Little Rock, Arkansas	30.09	764.3	30.48	774.2	39	3.9	55	N	6	2.7	.....	8ck	0	W	.....	0	0	Clear	
Los Angeles, California	29.80	756.9	30.14	765.5	47.5	8.6	85	Calm	0	0	.....	5c	0	Calm	.....	0	0	Fair	
Louisville, Kentucky	29.79	756.7	30.39	771.9	31	— 0.6	58	W	6	2.7	.....	0	0	.....	.....	0	0	Fair	
Lynchburg, Virginia	29.44	747 8	30.15	765.8	37	2.8	29	W	6	2.7	.....	1cs	0	W	.....	0	0	Clear	
Madison, Wisconsin	29.36	745.7	30.44	773.2	17	— 8.3	67	NW	14	6.3	.....	0	0	.....	.....	0.01	0.3	Clear	
Marquette, Michigan	29.59	751.6	30.35	770.9	21	— 6.1	86	NW	16	7.2	.....	.....	10n	.....	Calm	1.23	31.2	Light snow.	
Mason, Texas	28.58	725.9	30.40	772.1	44	6.7	92	NW	1	0.4	.....	1cs	0	NW	.....	0	0	Clear	
Memphis, Tennessee	30.10	764.5	30.46	773.7	34	1.1	43	N	7	3.1	.....	2c	5s	Calm	NW	0	0	Fair	
Milwaukee, Wisconsin	29.61	752.1	30.41	772.4	17	— 8.3	67	NW	13	5.8	.....	0	1s	.....	Calm	0.02	0.5	Clear	
Mobile, Alabama	30.24	768.1	30.29	769 4	45.5	7.5	84	N	6	2.7	.....	1c	0	W	.....	0	0	Clear	
Montgomery, Alabama	30.05	763.3	30.29	769.4	44	6.7	87	NW	2	0.9	.....	0	Fog	.....	NW	0	0	Clear	

UNITED STATES SERIES—CONTINUED.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Morgantown, West Virginia	29.14	740.1	30.17	766.3	35	1.7	80	SW	10	4.5	.....	.....	10ks	.....	SW	0.06	1.5	Cloudy	
Mt. Washington, N. H.	23.49	596.6	29.85	758.2	17	— 8.3	100	SE	18	8.0	.....	.....	10n	.....	SE	0.23	5.8	Light snow.	
Nashville, Tennessee	29.86	758.4	30.44	773.2	30	— 1.1	68	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
New Haven, Connecticut	29.76	755.9	29.88	758.9	35	1.7	90	N	6	2.7	.....	5cs	5s	Calm	Calm	0.28	7.1	Cloudy	
New London, Connecticut	29.82	757.4	29.87	758.7	43	6.1	83	S	4	1.8	.....	.....	10ks	.....	S	0.45	11.4	Cloudy.....	
New Orleans, Louisiana	30.22	767.6	30.18	769.1	57	13.9	69	NE	4	1.8	.....	0	Sm'e	.....	Calm	0	0	Smoky	
Newport, Rhode Island	29.88	758.9	29.93	760.2	39	3.9	100	E	9	4.0	.....	.....	10n	.....	Calm	0.16	4.1	Light rain.	
New York, New York	29.74	755.4	29.92	760.0	36	2.2	90	NW	8	3.6	.....	5ck	2s	E	Calm	0.12	3.0	Fair	
Norfolk, Virginia	30.02	762.5	30.08	764.0	43	6.1	59	NW	11	4.9	.....	0	0	.....	.....	0	0	Clear.....	
North Platte, Nebraska	27.34	694.4	30.16	766.1	14	—10.0	73	SE	12	5.4	.....	0	0	.....	.....	0	0	Clear.....	
Olympia, Washington Ter.	29.92	760.0	29.96	761.0	41.5	5.3	96	S	3	1.3	.....	.....	10s	.....	S	0	0	Cloudy.....	
Omaha, Nebraska	29.29	744.0	30.49	774.4	23	— 5.0	60	NE	5	2.2	.....	5k	2s	NW	Calm	0	0	Fair	
Oswego, New York	29.50	749.3	29.82	757.4	35	1.7	80	SW	6	2.7	.....	.....	10s	.....	SW	0.14	1.0	Cloudy	
Pembina, Dakota	29.56	750.8	30.52	775.2	— 7	—21.7	100	S	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Pensacola, Florida	30.26	768.6	.....	.....	.....	.....	.....	N	.....	.....	2	1c	Haze	W	Calm	0	0	Clear.....	
Philadelphia, Pennsylvania	29.92	760.0	29.98	761.5	36	2.2	53	W	17	7.6	.....	0	0	.....	.....	0	0	Clear.....	
Phœnix, Arizona	28.90	734.0	30.72	780.3	55	12.8	45	W	3	1.3	.....	5k	0	Calm	.....	0.06	1.5	Clear.....	
Pike's Peak, Colorado	17.91	454.9	30.12	765.0	12	—11.1	23	NW	12	5.4	.....	0	0	.....	.....	0	0	Fair.....	
Pilot Point, Texas	29.62	749.8	30.39	771.9	41	5.0	48	NE	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Pioche, Nevada	24.12	612.6	29.89	759.2	42	5.6	34	S	1	0.4	.....	5c	0	Calm	.....	0	0	Clear.	
Pittsburg, Pennsylvania	29.22	742.2	30.08	764.0	27	— 2.8	76	W	13	5.8	.....	.....	10n	.....	Calm	0.05	1.3	Fair.....	
Port Huron, Michigan	29.45	748.0	30.16	766.1	25	— 3.9	87	NW	16	7.2	.....	.....	10ks	.....	NW	0.80	20.3	Light snow.	
Portland, Maine	29.93	760.2	29.98	761.5	35	1.7	61	NE	16	7.2	.....	.....	10s	.....	S	0	0	Cloudy.....	
Portland, Oregon	29.96	761.0	30.03	762.7	44.6	6.9	82	Calm	0	0	.....	.....	10ks	.....	SW	0	0	Cloudy.....	
Portsmouth, N. Hampshire	.....	.....	.....	.....	53	11.7	73	NW	24	10.7	.....	2cs	0	Calm	.....	0.02	0.5	Clear.....	
Prescott, Arizona	24.92	633.0	30.28	769.1	42	5.6	34	SE	.....	.....	1	10c	0	W	.....	0	0	Cloudy.....	
Punta Rassa, Florida	30.11	764.8	30.13	765.3	68	20.0	84	N	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Red Bluff, California	29.80	756.9	30.17	766.3	47	8.3	70	NW	7	3.1	.....	2c	Sm'e	NW	Calm	0	0	Fair.....	
Rio Grande City, Texas	30.04	763.0	30.26	768.6	62	16.7	83	Calm	0	0	.....	.....	10s	.....	S	0	0	Cloudy.....	
Rochester, New York	29.18	741.1	29.81	757.2	31	— 0.6	79	Calm	0	0	.....	.....	10s	.....	W	0.09	2.3	Cloudy	
Roseburg, Oregon	29.51	749.5	30.09	764.3	44	6.7	92	S	2	0.9	.....	10k;cs	0	SW	.....	0	0	Cloudy.....	
Sacramento, California	30.07	763.8	30.16	766.1	49	9.4	93	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
St. Louis, Missouri	29.87	758.7	30.49	774.4	27	— 2.8	64	N	10	4.5	.....	0	8ks	.....	NW	0	0	Fair.....	
St. Paul, Minnesota	29.61	752.1	30.53	775.4	13	—10.6	71	NW	1	0.4	.....	0	0	.....	.....	0.03	0.8	Clear..	
Salt Lake City, Utah	25.86	656.8	30.19	766.8	36	2.2	53	Calm	0	0	.....	4c	0	Calm	.....	0	0	Fair	
San Antonio, Texas	29.57	751.1	30.17	766.3	49	9.4	78	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
San Diego, California	30.07	763.8	30.14	765.5	57	13.9	87	E	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Sandusky, Ohio	29.49	749.0	30.20	767.1	30	—1.3	78	NW	28	12.5	.....	.....	10ks	.....	NW	0.02	0.5	Cloudy.....	
Sandy Hook, New Jersey	29.89	759.2	29.93	760.2	38	3.3	81	W	20	8.9	.....	2k	8s	W	W	0.27	6.9	Cloudy.	
San Francisco, California	30.14	765.5	30.20	767.1	53	11.7	86	W	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Santa Fé, New Mexico	23.48	596.4	30.02	762.5	34	1.1	52	NE	5	2.2	.....	5c	0	Calm	.....	0	0	Fair.....	
Savannah, Georgia	30.10	764.5	30.20	767.1	51	10.6	65	NW	5	2.2	.....	0	Sm'e	.....	Calm	0	0	Clear	
Shreveport, Louisiana	30.11	764.8	30.34	770.6	43	6.1	59	S	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.12	765.0	30.16	766.1	47	8.3	85	W	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Socorro, New Mexico	25.64	651.2	29.70	754.4	43	6.1	36	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois	29.76	755.9	30.50	774.7	21	— 6.1	64	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear.....	
Springfield, Massachusetts	29.77	756.1	29.90	759.4	34	1.1	90	NE	2	0.9	.....	.....	10n	.....	N	0.43	10.9	Heavy snow	
Stockton, Texas	27.18	690.4	30.18	766.6	57	13.9	10	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Thatcher's Island, Mass	29.89	759.2	29.94	760.5	42	5.6	100	SE	20	8.9	.....	.....	10s	.....	SE	0	0	Cloudy.....	
Toledo, Ohio	29.51	749.5	30.24	768.1	27	— 2.8	100	NW	8	3.6	.....	1k	0	W	.....	0.01	0.3	Clear.....	
Tucson, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon	29.78	756.4	30.30	769.6	24.0	— 4.4	87	SE	5	2.2	.....	8ck	0	SW	.....	0	0	Cloudy	
Uvalde, Texas	29.31	744.5	30.15	765.8	49	9.4	85	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Vicksburg, Mississippi	30.06	763.5	30.34	770.6	43	6.1	75	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Virginia City, Montana	24.35	618.5	29.83	757.7	32	0.0	59	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Visalia, California	29.73	755.1	30.11	764.8	46.5	8.1	88	E	1	0.4	.....	5c	0	Calm	.....	0	0	Clear.....	
Washington, D. C	29.95	760.7	30.07	763.8	33.5	0.8	74	NW	20	8.9	.....	2ck	0	W	.....	0	0	Fair.....	
Wickenburg, Arizona	.....	.....	.....	.....	47	8.3	48	NW	.....	.....	.....	2c	0	W	.....	0	0	Clear	
Wilmington, North Carolina	30.05	763.3	30.13	765.3	48	8.9	70	W	6	2.7	.....	0	0	.....	.....	0	0	Fair.....	
Winnemucca, Nevada	25.74	653.4	30.10	764.5	30	— 1.1	57	NE	8	3.6	.....	0	48	.....	NE	0.02	0.5	Clear.....	
Wood's Holl, Massachusetts	29.84	757.9	29.88	758.9	44	6.7	67	SE	10	4.5	.....	.....	10ks	.....	SE	0	0	Fair.....	
Yankton, Dakota	29.15	740.4	30.56	776.2	22	— 5.6	72	E	7	3.1	.....	5ck	0	N	.....	0	0	Threatening	
Yuma, Arizona	29.91	759.7	30.08	764.0	59	15.0	54	NE	1	0.4	.....	5c	0	Calm	.....	0	0	Fair.....	
SUB-SERIES.																			
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Havana, Cuba, W. I.	30.02	762.5	30.07	763.8	75	23.9	72	Calm	0	0	.....	0	2ks	.....	NW	0	0	Fair.....	J. B. Gordon.
Kingston, Jamaica, W. I.	30.16	766.1	30.17	766.3	78	25.6	83	N	4	1.8	.....	Haze	2cs	Calm	.....	0	0	Fair.....	Chas. Hasselbrink.
Medellin, Colombia, S. A.*	25.24	641.1	.....	.....	65.5	18.6	85	Calm	.....	.....	0	4c;cs	2ks	.....	.....	0.02	0.5	Fair.....	James Gall.
Navassa, W. I.	29.90	759.4	29.98	761.5	80	26.7	.....	NE	8	3.6	.....	2k	2s	NE	NE	0	0	.....	Thomas Herran.
Paramaribo, D. Guiana, S. A	29.97	761.2	29.97	761.2	82	27.8	75	E	.....	.....	2	4k	0	E	.....	0	0	Fair.....	F. M. Everett.
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. Hering.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
York Factory, B. A.	30.28	769.1	30.34	770.6	5.0	—15.0	88	NW	10	4.5	.....	8c	0	W	.....	0	0	Fair.....	G. O. Gellich.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.
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NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Medellin, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 575 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3.488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 m., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 m., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm. *The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

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

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

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.24‡	768.1‡	.....	.....	56	13.3	75	N	5	2.2	.....	.....	0	.....	.....	0	0	.....	.....	Clear	.....
Navy Yard, Portsmouth, N.H.	29.75‡	755.6‡	.....	.....	39	3.9	68	ESE	4	1.8	....	.....	10	.....	.....	0.5	13.	.....	.....	Snowing	.....
Naval Hospital, Yokohama, Japan	29.96‡	761.0‡	.....	.....	52	11.1	83	Calm	.....	.....	0	.....	9ks	.....	W	0	0	.....	.....	Cloudy	.....
Adams, Mare I'd., Navy Yard, Cal.	30.17‡	766.3‡	.....	.....	55	12.8	93	SW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	.....
Alaska, Callao, Peru	*. 29.99‡	761.7‡	.....	.....	61	16.1	88	NNW	.....	....	1	.....	10	.....	.....	.....	.....	.....	.....	Misty	.....
Alliance, N. 25° 05′, W. 20° 53′	.....	30.00‡	762.0‡	.....	.....	74	23.3	68	WSW	.....	.....	1	.....	8	.....	W	.....	.....	Smooth	W	D. clouds
Colorado, New York, . Y.	.....	29.84‡	757.9‡	.....	.....	38	3.3	83	W	.....	.....	3	.....	8	.....	SW	0.10	2.5	.....	.....	Misty
Constitution, Navy Yard, Norfolk, Va.	30.15‡	765.8‡	.....	.....	45	7.2	76	NNW	5	2.2	.....	.....	2	.....	W	.....	.....	.....	.....	Pleasant	.....
Enterprise, Messina, Sicily	.....	29.90‡	759.4‡	.....	.....	72	22.2	76	SSW	.....	.....	4	.....	5	.....	SW	.....	.....	Smooth	.....	Cloudy
Franklin, Off Navy Yard, Norfolk, Va.	30.05‡	763.3‡	.....	.....	45	7.2	68	NNW	9.6	4.3	.....	.....	2	.....	WNW	0	0	.....	.....	Clear	.....
Hartford. N. 21° 53′, W. 59° 42′	.....	30.06‡	763.5‡	.....	.....	83	28.3	71	E	.....	.....	4	.....	8?	.....	ENE	0	0	Smooth	.....	Clear?
Independence, Mare I'd, Navy Yard, Cal.	30.13‡	765.3‡	.....	.....	62	16.7	72	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	.....	Clear	.....
Kearsage, Norfolk, Va	.....	30.08‡	764.0‡	.....	.....	47	8.3	70	SE	.....	.....	2	.....	4	.....	S	0	0	.....	.....	Clear
Lackawana, N. 8° 58′ E. 179° 57′	.. †.	29.86‡	758.4‡	.....	.....	81	27.2	83	NE	.....	.....	4	.....	8	.....	NE	.....	.....	Long	ENE	Fair
Marion. Off Norfolk, Va.	.....	30.16‡	766.1‡	.....	.....	46	7.8	69	NNW	.....	.....	3	.....	2	.....	NW	.....	.....	Smooth	.....	Clear
Michigan. Erie, Pa.	.....	29.99‡	761.7‡	.....	.....	34.5	1.4	67	NNW	.....	.....	6	.....	10	.....	NNW	.....	.....	.....	.....	Cloudy
Monocacy, Shanghai, China..	.....	30.30‡	769.6‡	.....	.....	54	12.2	80	NNE	.....	.....	2	.....	8	.....	NE	.....	.....	.....	.....	Cloudy
New Hampshire, Port Royal, S. C.	.....	30.16‡	766.1‡	.....	.....	55	12.8	80	NW	6	2.7	.....	.....	0	.....	.....	0	0	.....	.....	Clear
Onward, Callao, Peru	....†.	29.97‡	761.2‡	.....	.....	61	16.1	88	NW	.....	.....	1	.....	10	.....	.....	.....	.....	Long	W	Foggy
Palos, Shanghai, China	.....	30.31‡	769.9‡	.....	.....	52	11.1	86	NNE	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Clear?
Passaic, Washington, D. C.	.....	30.04‡	763.0‡	.....	.....	38	3.3	61	NW	.....	.....	3	.....	5	.....	.....	0	0	.....	.....	Fair
Pensacola, S. 12° 04′, W. 77° 20′	.....	30.00‡	762.0‡	.....	.....	61	16.1	94	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Long	.....	Overcast
Portsmouth, Hampton Roads, Va.	.....	30.12‡	765.0‡	.....	.....	46	7.8	92	N	.....	.....	2	.....	2	.....	.....	0	0	Smooth	.....	Clear
Powhatan, Norfolk, Va.	.....	29.98‡	761.5‡	.....	.....	46	7.8	62	NNW	.....	....	3	.....	2	.....	Calm	0	0	.....	.....	Fair
Quinnebaug, Leghorn, Italy	.....	29.61‡	752.1‡	.....	.....	64	17.8	58	W	.....	.....	4	.....	2	.....	W	.....	.....	.....	.....	Fair
Ranger, Yokohama, Japan	.....	29.91‡	759.7‡	.....	.....	59	15.0	82	WNW	.....	.....	1–2	.....	2	.....	Calm	.....	.....	Smooth	.....	Fair
Richmond, Shanghai, China	.....	30.32‡	770.1‡	.....	.....	55	12.8	74	NE	.....	.....	2	.....	8	.....	NE	0	0	Smooth	.....	Pleasant
Rio Bravo, Brownsville, Texas	.....	30.22‡	767.6‡	.....	.....	63	17.2	94	NNW	2	0.9	.....	2	2	NNW	Calm	0	0	.....	.....	Fair
Santee, Annapolis, Md	.....	30.05‡	763.3‡	.....	.....	38	3.3	83	W	.....	.....	3	.....	8	.....	NW	0	0	.....	.....	Cloudy
Shenandoah, N. 19° 20′, W. 34° —′	.....	30.03‡	762.7‡	.....	.....	75	23.9	95	ENE	.....	.....	4	.....	10	.....	.....	.....	.....	Smooth	.....	Cloudy
St. Louis, League Island, Pa.	.....	30.01‡	762.2‡	.....	.....	37	2.8	75	NW	11	4.9	.....	.....	2	.....	.....	0.02	0.5	.....	.....	Clear
Trenton, Villafranca, France	.....	29.62‡	752.3‡	.....	.....	66	18.9	68	NNE	....	.....	2	.....	2	.....	NE	0.01	0.3	Smooth	.....	Clear
Tuscarora, N. 15° 58′, W. 97° 42′	.....	29.88‡	758.9‡	.....	.....	77	25.0	91	Calm	.....	.....	0	.....	2	.....	Calm	0	0	Long	S	Fair
Vandalia, Vera Cruz, Mexico	.....	30.21‡	767.3‡	.....	.....	76	24.4	91	NNW	.....	.....	4	.....	5	.....	NW	.....	.....	.....	.....	Fair
Wabash, Boston, Mass	.....	29.96‡	761.0‡	.....	.....	37	2.8	75	SE	12	5.4	.....	.....	10	.....	.....	0.10	2.5	.....	.....	Raining
Wachusett, N. 19° —′, W 37° —′	.....	30.09‡	764.3‡	.....	.....	77	25.0	100	NE	.....	.....	2	.....	1	.....	NE	.....	.....	Smooth	E	Fair
Wyoming, Villafranca, France	.....	29.63‡	752 6‡	.....	.....	58	14.4	76	ESE	.....	.....	5	.....	2	.....	SE	.....	.....	Mod'ate	SE	Fair

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

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

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

CUNARD LINE MARINE SERIES.

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

S. S. Samaria																			Capt. T. Roberts.

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

PACIFIC MAIL S. S. CO. MARINE SERIES.

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

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitebury.
S. S. Costa Rica																			W. House & R. Lawless.
S. S. Dakota, Capt. H. G. Morse																			Capt. Connolly.
S. S. Georgia																			F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin																			Capt. A. Fuller.
S. S. Wilmington																			R. C. Ghest, 1st Officer.
S. S. Zealandia, N. 23° 40′, W. 155° 28′		30.14‡	765.6‡				NE			2				NE		Smooth	NE	Clear	

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

WHITE STAR LINE MARINE SERIES.

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

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

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

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

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

S. S. Belgic, Capt. L. Meyer N. 31° 12′, W. 165° 13′..†		30.15‡	765.8‡	73	22.8	75	WSW			4		2		WSW		Mod'ate	WSW	D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson N. 40° 27′, E. 152° 10′..§†		29.75‡	755.6‡	55	12.8	....	Var.			3		ks		NW	0	Rough	NNE	Raining	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																Head			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:36 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office. §The date of this observation on the Gaelic is uncertain by one day.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

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

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undutsch.
S. S. Leipzig, Capt. F. Pfeiffer																			S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 41° 28′, W. 61° 22′		29.74‡	755.4‡				E			5		10		W		5	E	Raining	Capt. G. Meyer.

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

UNITED STATES MARINE SERIES—Continued.

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

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Liverpool, Eng		30.50‡	774.7‡	52	11.1	93	W			3		5		W	Mod'ate			Fair	Capt. R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.

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

RED STAR LINE MARINE SERIES.

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

Belgenland, N. 44° 39′, W. 51° 27′		30.19‡	766.8‡	49	9.4		SSE	20	8.9			10			0	Mod'ate	SSE	Overcast	Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

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

ALLAN LINE MARINE SERIES.

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

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

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

MARINE SERIES—Miscellaneous.

Furnished by the co-operation of the Observers named.

Schooner Addie Fuller, N. 31° 26′, W. 78° 40′		30.16‡	766.1‡	70	21.1	57	NNW	6	2.7			0			0	Short		Clear	Capt. James Jorgensen.
Haytian																			
§ Iron Cross																			Capt. W. Randall.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax," N. 37° 59′, W. 71° 00′	†	29.91‡	759.7‡	57	13.9		W			4		2		W	Blank	Mod'ate	E	Clear	N. B. Foss.
Schooner Harry and Fred																			Capt. George Gardner.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

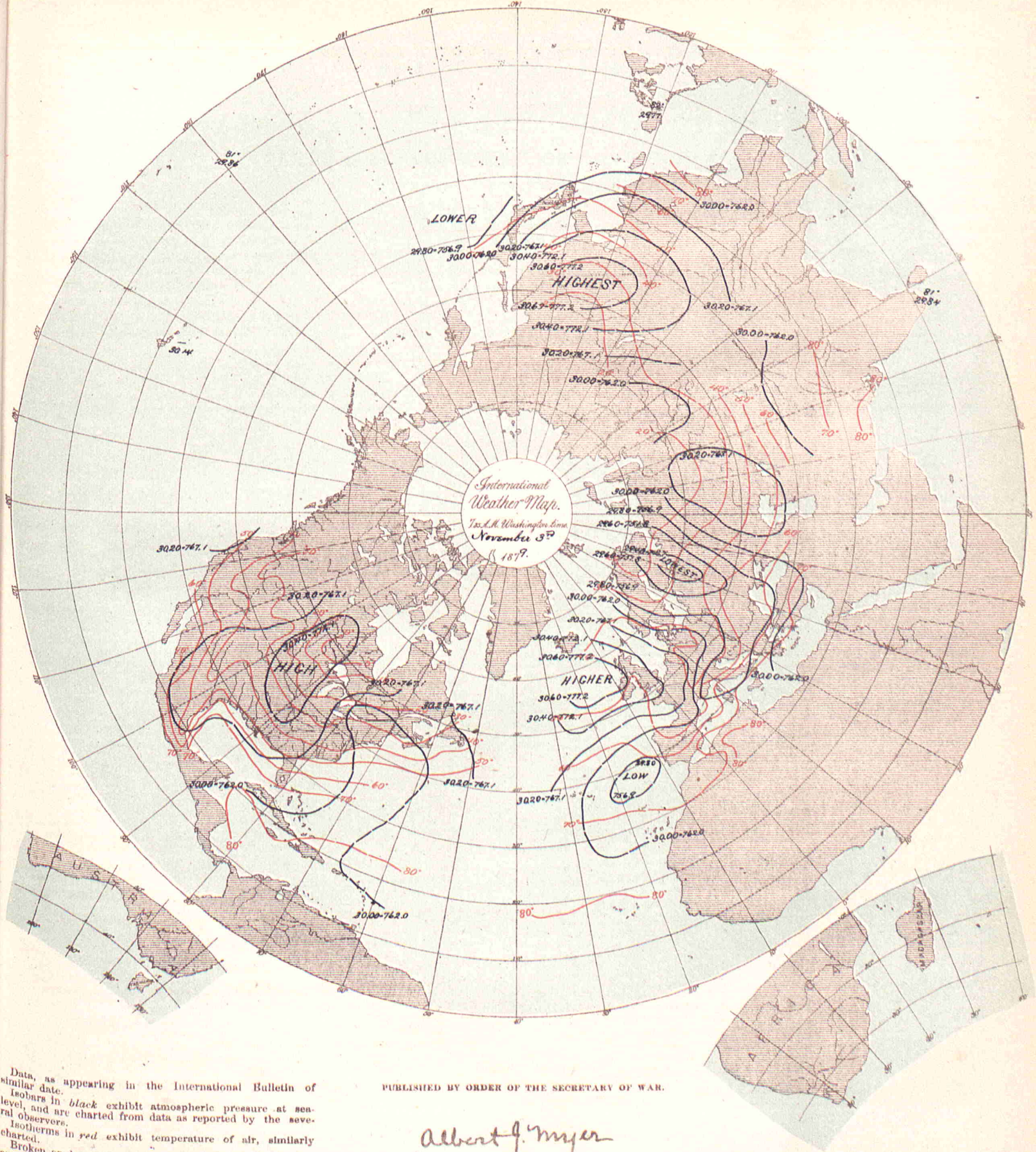
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

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

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

Albert J. Myer

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



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

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

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

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

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

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

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

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 4, 1879.

7:35 A. M. WASHINGTON Mean Time.

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

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:40 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

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

ALGERIAN SERIES.

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

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.13	765.3	64.9	18.3	84	W	.....	.....	1	.....	2	.....	.....	0	0	Fair.....	
Nemours	.....	.....	30.20	767.1	67.3	19.6	81	Calm	.....	.....	0	.....	0	.....	.....	0	0	Clear.....	Kesxuche.
Algiers	.....	.....	30.26	768.7	61.5	16.4	71	NE	.....	.....	3	.....	10	.....	.....	0.598	15.2	Covered.....	Tourillere.
La Calle	.....	.....	30.24	768.0	64.4	18.0	69	NW	.....	.....	5	.....	10	.....	.....	0.150	3.8	Covered...	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.24	768.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Herbin.
Tebessa	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Geriville	.....	.....	30.20	767.0	57.9	14.4	67	N	.....	.....	4	.....	8	.....	.....	0	0	Very cloudy	Watrin.
Laghouat	.....	.....	.....	.....	63.5	17.5	59	N	.....	.....	1	.....	2	.....	.....	0	0	Fair	Brugniaux.
Biskra	.....	.....	30.13	765.4	70.5	21.4	36	NNW	.....	.....	1	.....	5	.....	.....	0	0	Cloudy.....	Bertraud.
.....	.....	.....	30.11	764.8	79.5	26.4	44	NW	.....	.....	3	.....	2	.....	.....	0	0	Fair.....	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

AUSTRO-HUNGARIAN SERIES.

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

Agram	29.56	750.7	30.13	765.2	38.5	3.6	78	W	.....	.....	3	.....	4	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.19	741.3	29.98	761.6	34.5	1.4	96	W	10.3	4.6	.....	.....	10	.....	.....	0.071	1.8	.....	Prof. Dr. Karlinski, Dir.
Eperies	28.97	735.7	29.87	758.6	39.2	4.0	95	NW	.....	.....	1	.....	10ks	.....	.....	0.488	12.40	.....	Julius Mikolik.
Gratz	28.95	735.2	30.23	767.9	43.2	6.2	55	N	.....	.....	4	.....	3	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.42	721.8	29.88	759.0	39.2	4.0	63	NW	.....	.....	4	.....	10	.....	.....	0.057	1.45	.....	Prof. A. Gottschling.
Kremsmünster	28.80	733.7	30.29	769.3	35.6	2.0	78	WNW	.....	.....	4	.....	10	.....	.....	0.091	2.3	.....	Prof. C. Wagner.
Lemberg	28.74	730.0	29.75	755.6	38.5	3.6	90	NW	.....	.....	3	.....	10	.....	.....	0.035	0.9	.....	Dr. T. Stanecki.
Pola	30.01	762.3	30.13	765.2	49.5	9.7	37	N	.....	.....	1	.....	0	.....	.....	0.335	8.5	.....	I.R. Hydrographic Office.
Szathmar	29.47	748.6	29.95	760.8	38.5	3.6	63	NW	.....	.....	3	.....	10	.....	.....	0	0	.....	Pet. Pancsics.
Szegedin	29.74	755.3	30.02	762.6	47.5	8.6	81	N	.....	.....	2	.....	6	.....	.....	0.508	12.90	.....	Karl Stancel.
Trieste	30.06	763.5	30.16	766.1	47.1	8.4	52	Calm	.....	.....	0	.....	1	.....	.....	0	0	.....	P. Busin.
Vienna	29.36	745.8	30.09	764.3	37.6	3.1	81	WNW	.....	.....	6	.....	10	.....	.....	0.102	2.6	.....	I.R. Central Met. Ob'sy.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2:20, instead of 2:8 p. m., local time.

BELGIAN SERIES.

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

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

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

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

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

BRITISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lw'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.35	770.9	30.45	773.4	48.9	9.4	.....	W	12	5.4	.....	.....	4	....	.....	0	0	Blue sky.....	W. Boswell.
Ardrossan	30.50	774.7	30.52	775.2	49	9.4	.....	WNW	.....	.....	3	.....	8	.....	.....	.....	.....	Overcast...	Wm.McNeil &G.Carrick
Armagh, (Observatory)	30.41	772.4	30.65	778.5	47.2	8.4	.....	W	4	1.8	.....	.....	9	.....	.....	.....	.....	Overcast....	S. Call.
Bidston (Liverpool Obs)	.....	.....	30.56	776.2	46.8	8.2	.....	NW	15	6.7	.....	.....	10	.....	.....	.....	.....	Overcast....	John Hartnup.
Bolton (Sharples)	29.99	761.7	30.54	775.7	44.4	6.9	.....	NW	6	2.7	.....	.....	10	.....	.....	.....	.....	Overcast....	Thomas Mackereth.
Bradford, Yorkshire	30.11	764.8	30.51	774.9	45 1	7.3	.....	NW	.....	.....	2	.....	10	....	.....	0	0	Overcast....	J McLandsborough.
Bridgetown, Barbadoes	29.93	760.2	29.96	761.0	83	28.3	.....	NE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds...	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	30.44	773.2	30.54	775.7	45.1	7.3	.....	NW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast....	H. Todd.
Cardington	.....	.....	30.52	775.2	46.0	7.8	.....	NNW	.....	.....	0–1	.....	10	.....	.....	.....	.....	Foggy	John McLaren.
Chatham (School M. E.)	30.42	772.7	30.56	776.2	46.1	7.8	.....	N	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast....	J. Carmell, Sapper, R.E.
Donaghadee	30.54	775.7	30.58	776.7	47	8.3	.....	NW	.....	.....	3	.....	8	.....	.....	.....	.....	D. clouds....	J. Mac Gowan.
Dover	30.51	774.9	30.54	775.7	48	8.9	.....	NNW	.....	.....	3	.....	9	.....	.....	.....	.....	Misty.....	J. Costello.
Falmouth (Observatory)	30.38	771.6	30.62	777.7	48.5	9.2	.....	ENE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast...	The Staff.
Fort Napier, Natal	27.67	702.8	29.90	759.4	72.0	22.2	.....	NE	.....	.....	1	.....	5	.....	.....	.....	.....	Blue sky.....	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone§	29.79	756.7	30.02	762.5	84	28.9	.....	E	.....	.....	0	.....	3	.....	.....	.....	.....	D. clouds....	
Galway (Queen's College)	.....	.....	30.58	776.7	46	7.8	.....	ESE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast..	Prof. A. H. Curtis.
Gibraltar, Mediterranean‖	30.06	763.5	30.10	764.5	63.3	17.4	.....	E	.....	.....	3	.....	10	.....	.....	.....	.....	D. clouds....	Sergt.Wm. Allen, A. H.
Glasgow, (Observatory)	30.30	769.6	30.51	774.9	44.9	7.2	.....	W	.....	.....	2	.....	9	.....	.....	.....	.....	Gloomy.....	D. G. Maclean. [C.
Great Yarmouth	30.49	774.4	30.49	774.4	47	8.3	.....	NNW	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds....	G. T. Watson.
Greenwich (Royal Obs'y)	30.38	771.6	30.56	776.2	46.0	7.8	.....	N	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast....	The Staff, for G.B.Airy.
Guernsey	30.33	770.4	30.55	*776.0	54	12 2	.....	NNE	.....	.....	2	.....	8	....	.....	.....	.....	D. clouds....	Dr. S.E Hoskins, F.R.S.
Helston	30.69	779.5	30.81	782 6	49	9.4	.....	ENE	.....	.....	0	....	10k	.....	.....	0	0	Gloomy.....	M. P. Moyle.
Holyhead	30.52	775.2	30.57	776.5	48	8.9	.....	NW	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast....	John Tilston.
Jersey	30.29	769.4	30.59	777.0	51.4	10.8	.....	ENE	.....	.....	2	.....	9	.....	.....	.....	.....	Gloomy.....	J. Fisher.
Kew (Observatory)	30.53	775.4	30.57	776.5	47.1	8.4	.....	NNW	4	1.8	.....	.....	10	.....	.....	.....	.....	Misty.....	The Met'g'l Office.
Leicester (Museum)	30.28	769.1	30.55	776.0	46.3	7.9	.....	NW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast....	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	29.84	757.9	29.92	760.0	66.4	19.1	.....	NW	.....	.....	3	8ck	.....	.....	.....	.....	.....	Overcast....	A. King.
Nairn	30.34	770.6	30.43	772.9	47	8.3	.....	W	.....	.....	1	.....	8	.....	.....	.....	.....	¾ clouded...	W. D. Penny.
Nassau, Bahamas	.....	.....	30.06	763.5	78.0	25.6	.....	N	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds ..	C. S. Duncombe.
Nottingham (Observatory)	30.35	770.9	30.55	*776.0	45.6	7.6	.....	WNW	.....	.....	1	.....	10k;cs	.....	W	0	0	Overcast..	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	30.02	762.5	30.56	776.2	45.0	7.2	.....	NW	.....	.....	1–2	.....	10	.....	.....	.....	.....	Overcast..	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)	.....	.....	30.58	776.7	47	8.3	.....	NNW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast....	H. E. Bellamy.
Plymouth	30.53	775.4	30.60	777.2	47.6	8.7	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast....	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	30.56	776.2	30.65	778.5	48	8.9	.....	NNE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast....	Wm. Kennedy.
St. Ann's Head	30.45	773.4	30.62	777.7	49	9.4	.....	NNE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast....	John C. Walker.
Sandwick Manse, Orkneys	.....	.....	30.34	770.6	48	8.9	.....	W	29	13.0	.....	.....	3	.....	.....	.....	.....	Showery....	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	.....	.....	29.74	755.4	55.0	12.8	62	W	.....	.....	3	.....	7kn	.....	.....	.....	.....	Heavy rain..	Serg't W. H. Lyne.
Sheffield	29.58	751.3	29.64	752.8	50.4	10.2	.....	N	.....	.....	3	.....	10	.....	.....	0	0	Overcast....	W. F. Cooper.
Silloth Rectory	30.27	768.8	30.56	776.2	47.0	8.3	.....	NE	.....	.....	1	.....	10	.....	.....	0.037	0.94	Blue sky	Francis Redford, A. M.
Stonyhurst (Observatory)	30.51	774.9	30.54	775.7	49.0	9.4	76	E	.....	.....	1	.....	0	.....	.....	.....	.....	Overcast....	Rev. S. J. Perry.
Strathfield, Turgiss	.....	.....	30.53	775.4	44.8	7.1	.....	W	10	4.5	.....	.....	10	.....	.....	.....	.....	Overcast....	Rev.C.H.Griffith, F.M.S
Truro (Royal Institution)	30.36	771.1	30.58	776.7	47.8	8.8	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Overcast....	W. Newcombe.
Valencia Observatory)	30.56	776.2	30.61	777.5	53	11.7	.....	E	.....	.....	4	.....	10	.....	.....	.....	.....	Gloomy	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	29.94	760.5	29.98	761.5	74.5	23.6	69	S	17.1	7.6	.....	2cs	3ks	....	.....	.....	.....	.....	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.52	648.2	.....	.....	80	26.7	.....	SW	.....	.....	.....	0	0	.....	.....	.....	.....	.....	Robert Burnet.
Hobart Town, Tasmania	.....	.....	29.74	755.4	55.0	12.8	62	W	.....	.....	3	.....	7kn	.....	.....	0.01	0.3	Cloudy	Francis Abbott, F.R.A.S.
Leith, (Restalrig Perk)	.....	.....	30.53	775.4	47.0	8.3	.....	NW	.....	.....	2	.....	.....	.....	.....	0	0	Fine.....	Andrew Gibb.
Mauritius (Observatory)	29.84	757.9	30.03	762.8	77.3	25.2	66	NW	10.5	4.7	.....	0	6	.....	NNE	0	0	Cloudy.....	C. Meldrum.
Melbourne (Observatory)	29.94	760.5	30.03	762.7	53.2	11.8	74	SSE	6	2.7	.....	.....	2	.....	.....	0	0	Very fine ...	R. L. J. Ellery.
Monach Lt-house, Hebrides	.....	.....	30.41	772.4	49	9.4	.....	W	.....	.....	6	5	5	W	.....	0	0	....	J. Youngclause.
North Unst, Shetland Is	.....	.....	29.99	761.7	.....	.....	.....	NW	.....	.....	6	.....	10	.....	.....	Blank	Blank	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing, but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft., or 670 m.; Colesberg Bridge, unknown. §Observations taken 55 minutes early. ‖Observations taken 47 minutes late. Both of these errors have apparently existed for a long time.

BRITISH MARINE SERIES. VESSELS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lw'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0–9.	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. Alert, Puerto Bueno, Patagonia	.....	.....	29.77‡	756.1‡	43	6.1	WNW	.....	.....	3–7	.....	9	.....	.....	.....	.....	Hail showers	Capt. J.P. Maclear, R.N.
H. M. Sloop Gannet, Callao, Peru	.....	.....	29.98‡	761.5‡	59	15.0	NNW	.....	.....	2	.....	10	.....	.....	.....	.....	Drizzling.....	Commander E. Bourke, R. N.
H. M. S. Magpie, Shanghai, China	.....	.....	30.35‡	770.9‡	57	13.9	NE	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds.....	Capt. R. H. Napier, R.N.
Brig Alliance, N. 21° 50′, W. 57° 20′	.....	.....	30.12‡	765.0‡	84.3	29.1	E	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds.....	Capt. W. Scott.
Barque Commewyne N. 21° 45′, W. 36° 35′	.....	.....	30.07‡	763.8‡	77.5	25.3	WNW	.....	.....	4	.....	2	.....	.....	.....	.....	Blue sky.....	Capt. Jas. Buchan.
Brig Endymion, N. 50° 45′, W. 12° 20′	.....	.....	30.55	776.0	53	11.7	Var.	.....	.....	1	.....	10	.....	.....	.....	3	ENE	Showery.....	Capt. Balkwill.
S. S. German, Algoa Bay, Cape Colony	.....	.....	30.09‡	764.3‡	63	17.2	ESE	.....	.....	3	.....	4	.....	.....	.....	.....	.....	D. clouds.....	Capt. O. D. Coxwell.
Barque Queen of Cambria, N. 7° 45′, E. 77° 10′	.....	.....	29.88‡	758.9‡	80	26.7	W	.....	.....	3	.....	3	.....	.....	.....	.....	.....	D. clouds.....	Capt. M. Parry.
S. S. Strathleven, Sydney, N. S. W.	.....	.....	29.95‡	760.7‡	69	20.6	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	Blue sky.....	Capt. C. W. Pearson.
Schooner Traveller, N. 49° 10′, W. 28° 30′	.....	.....	30.62	777.7	57	13.9	SE	.....	.....	2	.....	0	.....	.....	.....	4	ENE	Blue sky.....	.....
S. S. Gordon Castle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. V. Freeden.
German Brig "W. von Freeden"	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Greig.
Theophane	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. H. Smith.
S. S. Peruvian	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

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

STATIONS.	Barometer, corrected for instrum'tal error and temperature. Inches.	Barometer, corrected for instrum'tal error and temperature. Millimeters.	Barometer, reduced to sea-level. Inches.	Barometer, reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.23	666.2	29.95	760.7	66.6	19.2	86	.....	.....	.....	.....	10s	.....	.....	.....	0.4	10.	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

DANISH SERIES.

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

Copenhagen	29.99	761.8	30.04	763.0	44.6	7.0	91	NW	.....	.....	2	.....	7	.....	.....	.....	.....	.....	.....
Fanöe	30.13	765.3	30.15	765.8	48.9	9.4	82	NW	.....	.....	4	.....	8	.....	.....	.....	.....	.....	.....
Godthaab (Greenland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stykkisholm (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thorshavn (Faröe)	30.01	762.3	30.05	763.2	48.0	8.9	83	W	.....	.....	5	.....	10	.....	.....	.....	.....	.....	.....
Vestervig	29.98	761.4	30.09	764.2	47.7	8.7	83	NW	.....	.....	6	.....	0	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

FRENCH SERIES.

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

Alençon, Normal School	30.01	762.3	30.56	776.3	50.0	10	74	NE	.....	.....	1	.....	8n	.....	NE	0	0	Very cloudy	Collignon, Director.
Amiens, Normal School	30.38	771.7	30.50	774.6	48.2	9	89	NW	.....	.....	1	.....	8	.....	SE	0.102	2.6	Very cloudy	Vaillant, Director.
Arras, Engin'r School	30.26	768.5	30.52	775.2	46.9	8.3	72	N	.....	.....	4	.....	n	.....	NE	0	0	.....	Klein, Commandant.
Avignon, Normal School	30.16	766.1	30.24	768.1	50.0	10	37	N	.....	.....	7	.....	0	.....	.....	0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.94	760.4	30.52	775.2	43.3	6.3	82	NE	.....	.....	1	.....	10	.....	NE	0	0	Covered	C. Saillard, Director
Beauvais, Normal School	30.26	768.7	30.54	775.7	48.6	9.2	73	N	.....	.....	1	.....	10	.....	N	0.010	0.25	Covered	Frere Eugene Marie
Besançon, Normal School	29.56	750.8	30.49	774.4	42.1	5.6	75	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Carré, Director.
Bourg-en-Bresse, N. School	29.57	751.0	30.54	775.8	44.2	6.8	62	N	.....	.....	3	.....	0	.....	.....	0	0	Clear	Marlot, Diretor.
Bourges, Normal School	29.91	759.6	30.48	774.2	44.6	7	82	NE	.....	.....	3	2ck	.....	.....	NNE	0	0	Slightlycl'dy	M. Gence, Director.
Brest, Naval Observatory	30.32	770.0	30.56	776.1	51.4	10.8	77	ENE	.....	.....	1	.....	10	.....	NE	0	0	.....	Ch. de Rermaree, Dir.
Caen, Normal School	30.56	776.2	.....	.....	49.3	9.6	81	NNE	.....	.....	.....	.....	10	.....	N	0.008	0.2	Covered	M. Bietrin, Director.
Carcassonne, N. School	29.91	759.8	30.34	770.6	52.0	11.1	54	WSW	.....	.....	2	.....	0	.....	.....	0	0	Clear	September, Director.
Châlons-sur-Marne, N. Sch'	30.19	766.8	30.52	775.2	48.0	8.9	73	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Covered	Jadot, Director.
Chartres, Normal School	29.95	760.7	30.51	775.6	46.8	8.2	89	N	.....	.....	2	.....	9	.....	S	0	0	.....	Vergier, Director.
Clermont-Fd, Puy de D. Obs	29.08	738.7	30.59	774.7	39.2	4.0	80	N	.....	.....	2	.....	8	.....	N	0	0	.....	Alluard, Director.
Commercy, Normal School	29.55	750.6	30.45	773.3	43.2	6.2	94	NW	.....	.....	1	.....	10kn	NW	NW	0	0	Covered	Dr. Coullet, Director.
Commune de Gréasque*	29.14	740.1	30.28	769.1	53.1	11.7	36	SW	.....	.....	1	.....	2	.....	SW	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.63	752.7	30.44	773.1	42.1	5.6	61	ENE	.....	.....	1	.....	cs	NE	.....	0.98	25.	.....	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.32	770.2	30.54	775.8	48.9	9.4	73	NE	.....	.....	1	.....	2	.....	SE	0	0	Slightlycl'dy	Mouillot, Director.
Le Mans, Normal School	30.21	767.4	30.53	775.5	49.6	9.8	64	E	.....	.....	3	.....	10	.....	E	0	0	Covered	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.52	749.8	30.47	774.0	43.7	6.5	56	NE	.....	.....	3	.....	0	.....	.....	0.024	0.60	Clear	A. Baudry, Director
Lorient, Naval Observatory	30.42	772.6	30.53	775.4	52.5	11.4	71	NE	.....	.....	3	.....	.....	.....	NE	0	0	.....	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.80	757.0	30.44	773.2	47.3	8.5	57	N	.....	.....	1	1c	.....	.....	N	0	0	Clear	Ch. André, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	29.91	759.8	30.19	766.7	56.7	13.7	57	NNW	.....	.....	1-2	.....	1	.....	NW	0	0	Clear	E. Stephan, Director.
Mirecourt, Normal School	29.40	746.8	30.48	774.2	43.5	6.4	88	NW	.....	.....	1	.....	k	NW	NW	0	0	.....	Barbier, Director.
Mont-Louis	25.01	635.3	30.33	770.3	49.1	9.5	20	SE	24.2	10.8	.....	.....	0	.....	.....	0	0	.....	M. Cave.
Nice	30.17	766.4	30.21	767.2	60.8	16.0	58	W	.....	.....	3	.....	1	W	W	0	0	Clear	M. Boissieré, Director.
Nismes, Normal School	30.07	763.7	30.27	768.9	54.3	12.4	41	N	.....	.....	4	.....	2	.....	NE	0	0	Slightlycl'dy	M. Boyer, Director.
Paris, Montsouris Obs'y	30.25	768.3	.....	.....	47.5	8.6	81	NNE	.....	.....	1	.....	10	.....	NNE	0.012	0.3	.....	Marie Davy, Director.
Perpignan	30.19	766.9	30.30	769.5	53.3	12.1	37	NE	5.6	2.5	.....	.....	0	.....	.....	0	0	.....	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.70	576.6	.....	.....	44.8	7.1	.....	W	.....	.....	1	.....	1	.....	W	0	0	Clear	Gen'l de Nansouty.
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Privas, Normal School	29.23	742.5	30.33	770.4	47.7	8.7	48	N	.....	.....	4	.....	1	N	N	0	0	Clear	Cantier, Director.
Puy de Dome (Summit) Obs	25.37	644.5	.....	.....	28.6	—1.9	93	E	.....	.....	3	.....	5	.....	.....	0	0	Rain at distance	Alluard, Director.
Rochefort, Naval Obs'y	30.43	772.8	30.46	773.6	49.5	9.7	65	NE	.....	.....	4	.....	2	NE	NE	0	0	¾ covered	Lt E. Decante, Director
Rouen, Normal School	30.47	773.8	30.55	776.0	49.1	9.5	76	N	.....	.....	1	.....	10	.....	N	0.047	1.2	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.51	775.0	30.54	775.8	51.6	10.9	79	E	.....	.....	2	.....	8	ENE	ENE	0	0	Very cloudy	Lt. Hercouet, Director.
Saint Maur (near Paris)	30.37	771.3	30.53	775.5	48.4	9.1	85	NW	.....	.....	1	.....	.....	.....	N	0.004	0.1	.....	E. Renou, Director.
Tarbes, Normal School	29.27	743.4	30.34	770.7	39.2	4	90	SW	.....	.....	1	.....	1	W	W	0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.67	753.7	30.41	772.3	46.2	7.9	65	NNW	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. Julier Mercadier.
Tours	30.28	769.2	30.48	774.2	.....	.....	.....	NE	.....	.....	2	.....	10	.....	E	0	0	Covered	Cousin-Marquet.
Versailles, Observatory	30.04	762.9	30.53	775.4	47.8	8.8	78	N	.....	.....	1	.....	.....	.....	.....	0.009	0.23	.....	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.73	755.2	30.47	773.9	48.2	9	80	N	.....	.....	1	.....	2	.....	N	0	0	Slightly cl'dy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.93	760.1	29.95	760.8	81.3	27.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	L'Abbé Marchési
Zi-Ka-Wei (near Shanghai)	30.32	770.2	30.35	770.9	51.6	10.9	85	NE	2.9	1.3	.....	.....	3k	.....	.....	0	0	Fair	Marc Dechevrens.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 312 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centrigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.40	746.8	30.25	768.4	42.1	5.6	88	W			4		6k	W				Raining	Prof. Dr. Hoh.
Berlin	29.93	760.1	30.10	764.5	48.6	9.2	70	W			5		7			0	0		Prof. Dr. Arndt.
Breslau	29.48	748.9	30.02	762.4	41.9	5.5	79	NW			4		10			0.003	0.02		Royal University Obs'y.
Carlsruhe	29.96	761.0	30.41	772.3	41.4	5.2	89	SW			2		10	NW		0.051	1.3	Light rain	Albert Senz.
Cassel	29.65	753.0	30.26	768.6	47.7	8.7	80	NNW			3		7	NW		0.099	2.53		Dr. H. Möhl.
Emden			30.27	768.9	49.3	9.6	84	NW			1		10	S		0.067	1.7		Prof. Dr. Prestel.
Frankfort on the Main	29.98	761.4	30.35	771.0	45.1	7.3	65	SSW			1		8			0.004	0.1	Raining	Physical Society.
Friedrichshafen	28.96	735.5	30.46	773.6	39.0	3.9	77	SW			2		9	WNW		0	0		Chief Telegrapher Wilhelm.
Hamburg	30.10	764.5	30.17	766.3	48.7	9.3	86	NNW			3		10ks			0.008	0.2	Light haze	Captain F. Hegemann.
Kiel	30.11	764.7	30.12	765.1	50.0	10.0	73	NW			3		5			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.78	756.4	29.87	758.6	38.8	3.8	67	N			2		5			0.283	7.2	Snowing	Prof. E. Luther.
Köslin			30.03	762.8	42.6	5.9		N			4		0			0	0		H. Müller.
Leipsic Observatory	29.77	756.1	30.20	767.1	45.5	7.5	86	NW			3		10	NW		0.114	2.9		Prof. Dr. Bruhns, Privy Counselor.
Magdeburg																			Dr. Assmann.
Memel	29.52	757.3	29.86	758.5	35.8	2.1	68	NNE			2-3		9ks						Reinbrecht & Ishermann
Munich (München)	28.48	723.4	30.36	771.2	35.8	2.1	69	W			5		10			0	0		Dr. C. Lang.
Neufahrwasser	29.92	760.0	29.94	760.4	41.5	5.3	93	N			6		10			0.043	1.1		A. Lothes.
Neustadt (Palatinate)	29.84	757.9	30.37	771.4	46.6	8.1	81	W			4		9			0.039	1.0		Reallehrer Dicknether.
Posen	29.71	754.6	30.00	762.1	43.0	6.1	49	NW			9		4			0	0		Prof. Dr. Hagener.
Strassburg (in Alsace)	29.90	759.5	30.47	774.0	43.9	6.6	79	SW			2		10	NW		0.032	0.83		Imp. University Observatory.
Stuttgart	29.39	746.4	30.36	771.1	42.8	6.0	78	NW			1		10			0.024	0.6		Prof. Dr. Schoder.
Weissenburg (Bavaria)	28.78	731.1	30.36	771.2	35.6	2.0	91	W	9	4			10		W	0.036	0.9	Foggy	Reallehrer J. Hopfner.
Wustrow	30.11	764.9	30.14	765.5	44.4	6.9	90	W			2		8s			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.6 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

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

Athens	29.32	744.7	29.70	754.4	72.9	22.7		SW.			5.0							Hazy	Dr. J. F. J. Schmidt.

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

INDIAN SERIES.

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

Kurrachee	29.83	757.7	29.88	759.0	80.3	26.8	62	WSW	14	6.3			0			0	0	Blue sky	
Deesa	29.44	747.8	29.92	759.9	79.7	26.5	31	SSW	6.9	3.1			0			0	0	Blue sky	
Bombay	29.82	757.5	29.86	758.5	78.0	25.6	86	NW	10	4.5			0			0	0	Blue sky	
Poona (Yerrowda)	27.99	711.0	29.84	757.9	81.5	27.5	43	WNW	11	4.9			1		E	0	0	D. clouds	
Belgaum	27.34	694.4	29.90	759.4	71.5	21.9	93	W	2	0.9			9	E	E	1.70	43.2	Raining	
Lahore	29.11	739.4	29.87	758.6	70.7	21.5	49	Calm	0.2	0.11			0			0	0	Blue sky	
Roorkee	29.00	736.6	29.92	760.1	66.8	19.3	55	SE	1.8	0.8						0	0		
Agra	29.33	745.0	29.91	759.6	72.7	22.6	46	Calm	2.7	1.2						0	0		
Nagpur	28.83	732.3	29.88	759.0	76.1	24.5	32	NE	2.5	1.1						0	0	Blue sky	
Jubbulpore	28.58	724.6	29.92	760.0	70.5	21.4	44	Calm	2.4	1.1						0	0	Blue sky	
Lucknow	29.47	748.6	29.86	758.4	71.1	21.7	53	N	0.3	0.1						0	0	Blue sky	
Allahabad	29.57	751.0	29.89	759.2	67.0	19.4	59	Calm	1.4	0.6			0			0	0	Blue sky	
Patna	29.68	753.9	29.87	758.6	75.9	24.4	45	Calm	0	0			0			0	0	Blue sky	
Hazaribagh	27.84	707.1	29.91	759.6	65.0	18.3	47	WNW	5.4	2.4			0			0	0	Blue sky	
Cuttack	29.79	756.7	29.88	758.8	64.0	23.3	79	SW	2	0.9			0			0.11	2.8	Blue sky	
Calcutta (Alipore)	29.83	757.6	29.85	758.2	71.8	22.1	77	NNW	2.0	0.9			0			0	0	Blue sky	
Goalpara	29.89	746.6	29.76	755.8	77.9	25.5	87	Calm	4.0	1.8			0			0	0	Blue sky	
Chittagong	29.75	755.6	29.84	757.8	75.0	23.9	75	Calm	3.0	1.3			0			0	0	Misty	
Sibsagar	29.47	748.6	29.81	757.2	75.1	23.9	82	ENE	1.8	0.6			0			0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

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

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

STATIONS	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	29.74	755.3	30.16	766.0	45.3	7.4	55	Calm	0	0	.....	.....	0	... .	.....	0.366	9.3	.....	Prof. Giovanni Clodig.
Milan	29.64	752.9	30.17	766.3	45.1	7.3	65	W	.....	.....	2	.....	1	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	30.04	762.9	30.15	765.7	49.5	9.7	46	S	4.3	1.9	.....	.....	0	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.27	743.4	30.20	767.0	49.3	9.6	81	ESE	3.1	1.4	.....	.....	2	NE	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.97	761.3	30.17	766.2	58.1	14.5	16	N	1.8	0.8	.....	.....	1	W	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.22	716.8	30.17	766.2	52.5	11.4	25	E	.....	.....	2	.....	2	NE	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.10	764.5	30.15	765.7	50 0	10.0	46	NE	14.3	6.4	.....	.....	1	.....	.....	0.303	7.7	.....	Prof. Luigi Guidi.
Florence	29.92	759.9	30.18	766.5	50.9	10.5	41	N	....	.....	4	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	30.10	764.5	30.19	766.7	53.4	11.9	34	NE	9.4	4.2	.....	.....	0	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.80	756.9	29.98	761.4	55.0	12.8	26	N	23.0	10.3	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. C. De Giorgi.
Cosenza	26.95	735.3	29.84	758.0	61.5	16.4	75	NE	2.5	1.1	.....	.....	10	.....	.....	0.425	10.8	.....	Prof. D. Conti.
Cagliari	29.92	759.9	30.11	764.8	60.4	15.8	28	NE	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.08	753.9	29.94	760.4	58.1	14.5	65	WSW	19.2	8.6	.....	.....	10	WNW	... .	0.031	0.8	.....	Prof. G. Ciacciatore.
Syracuse	29.79	756.6	29.86	758.4	70.9	21.6	57	SW	9.8	4.4	.....	.....	7	NNE	.....	0	0	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. F. Brioschi.

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

JAPANESE SERIES.

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

Hiroshima, I. M. Obs'y	30.21	767.3	30.23	767.8	46.4	8.0	77	NNE	6.2	2.8	.....	.....	0	.....	.....	0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	30.03	762.7	30.24	768.1	50.0	10.0	73	E	2.4	1.1	.....	.....	0	.....	.....	0	0	Clear	S. Takehayashi.
Tokei, (Yeddo) Observatory	30.03	762.7	30.10	764.5	48.0	8 9	69	NNW	5.8	2.6	.....	.....	2ck	.....	.....	0	0	Fair	The Staff.
Wakayama	30.13	765.3	30.19	766.8	49.9	9.9	72	NE	5.7	2.5	.....	.....	0	.....	.....	0	0	Clear	.....

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

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

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

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	25.18	639.6	30.32	770.0	49.1	9.5	61	Calm	.....	.....	0	.....	0	.....	.....	0	0	Very clear	Prof. L. Perez.
Leon	24.56	623.8	30.25	768.4	53.1	11.7	85	NW	.....	.....	1	0	0	.....	.....	0	0	Fine	Prof. M. Leal.
Mazatlan	29.73	755.2	29.99	761.8	75.4	24.1	82	NE	.....	.....	1	1c	1k	.....	SW	0	0	Clear	I. Guerrero, C. E.
Mexico, Central Observatory	23.18	588.8	30.37	771.3	47.8	8.8	83	NW	0.2	0.1	.....	1c	8k	....	NE	0	0	Cloudy	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	51.8	11 0	83	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.52	597.3	30.44	773.1	45.1	7.3	82	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.82	617.6	30.43	772.9	52.0	11.1	49	NE	.....	.....	1	.....	10	.....	E	0	0	Covered	G. Barroeta, M. D.
Tlacotalpam	30.13	765 4	30.15	765.7	71.8	22.1	92	W	.....	.....	1	3	2	E	N	0.008	0.2	Fair	Prof. M. M. Chazaro.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell.
Zacatecas	22.65	575.3	30.32	770.0	53.6	12 0	67	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	A. Nuñez.

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

NETHERLANDS SERIES.

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

Flushing	30.48	774.1	30.48	774.1	50.4	10.2	.....	NW	.....	.....	4	.....	.....	.....	.....	0.110	2.8	.....	
Groningen	30.25	768.4	30.31	769 8	48.6	9.2	.....	N	.....	.....	.....	.....	.....	.....	.....	0.020	0.5	.....	
Helder	30.35	771.0	30.35	771.0	49.1	9.5	.....	NNW	.....	... ..	4	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.42	772.7	30.42	772.7	50.7	10.4	82	NNW	.....	.....	4	.....	.....	.....	.....	0.106	2.7	.....	
Utrecht	30.36	771.0	30.40	772.2	50 5	10.3	80	WNW	.....	.....	3	.....	5	.....	.....	0.020	0.5	Cloudy	H. v. d. Brink.

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

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.09	764.3	30.16	765.7	45.3	7.4	91	Calm	0	0	.....	.....	8	.....	.....	0.598	15.2	.....	.....
Brönö	29.84	758.0	29.85	759.0	33.8	1.0	65	S	7	3	.....	.....	10	.....	.....	0.669	17.0	.....	.....
Christiana	29.83	757.6	29.98	761.4	40.6	4.8	78	Calm	0	0	.....	.....	2	.....	.....	0	0	.....	.....
Tromsö	29.78	756.3	29.82	757.4	24.8	— 4.0	80	SW	7	3	.....	.....	4	.....	.....	0	0	.....	.....

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

PORTUGUESE SERIES.

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

Angra (Azores)	30.00	762.0	30.19	766.9	61.7	16.5	70	ENE	18.1	8.1	.....	.....	5	.....	.....	0.098	2.5	.....	Dr. J. A. Sampaio.
Campo Major	29.16	740.6	30.18	766.6	62.6	17.0	72	ESE	5.6	2.5	.....	.....	8	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	29.81	757.2	29.90	759.4	66.9	19.4	87	Calm	0	0	.....	.....	5	.....	.....	0.870	22.1	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.77	756.2	30.13	765.3	62.1	16.7	87	ESE	7.4	3.3	.....	.....	10	S	.....	0.016	0.4	Raining	The Staff.
Ponta Delgada (Azores)	30.02	762.5	30.09	764.3	63.7	17.6	76	NE	15.0	6.7	.....	.....	3	.....	.....	0.331	8.4	.....	.....

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

PORTUGUESE NAVAL SERIES. VESSELS.																Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa. Fogo, Cape Verd Islands	.....	.....	.....	.....	80.6	27.0	.....	SW	.....	.....	2	.....	2	.....	.....	1	.....	D. clouds	A. A. A. Loureiro.
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Com'd't.
Sado, Capt. J. A de Brito Capello, St. Paul de Loando	.....	.....	29.93	760.3	81.5	27.5	.....	WNW	.....	.....	3	.....	5	.....	WNW	.....	.....	D. clouds	H. Mecudonco, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	.....	.....	30.16	766.1	76.6	24.8	.....	NE	.....	.....	5	.....	1	.....	NE	4	NE	Blue sky	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

RUSSIAN SERIES.

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

Archangel	29.32	744.6	29.34	745.1	23.7	— 4.6	98	NNW	4	2	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sselliwerstow.
Astrakhan	30.04	762.9	29.95	760.8	45.0	7.2	69	SE	7	3	.....	.....	10ks	.....	.....	.....	.....	.....	Capt. Wisganow.
Barnaul	30.12	765.0	30.67	778.9	18.1	— 7.7	81	SW	4	2	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	29.51	749.6	29.77	756.1	27.3	— 2.6	74	WNW	7	3	.....	.....	10n	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	29.06	738.1	30.07	763.6	30.4	— 0.9	42	S	22	10	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	29.38	746.2	29.65	753.2	35.8	2.1	69	S	31	14	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	28.92	734.6	29.58	751.3	35.4	1.9	80	NW	9	4	.....	.....	9ks;n	.....	.....	.....	.....	.....	Physical Cabinet.
Krotkowo*	29.32	744.6	29.80	756.9	35.6	2.0	80	S	40	18	.....	.....	10	.....	.....	.....	.....	.....	Cand. Faijanow.
Lugan	29.28	743.7	29.48	748.7	57.9	14.4	84	SW	31	14	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Moscow	28.88	732.2	29.39	746.5	33.1	0.6	92	SE	7.8	3.5	.....	.....	10s	.....	.....	Snowing	.....	.....	Meteorological Obs.
Nertchinsk	28.06	713.1	30.12	765.1	12.9	—10.6	87	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	29.63	752.5	29.70	754.3	41.9	5.5	77	NW	22	10	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	29.76	755.9	30.00	761.9	50.4	10.2	38	NNE	2	1	.....	.....	1ks	.....	.....	.....	.....	.....	.....
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	30.16	766.1	30.30	769.7	37.4	3.0	93	Calm	0	0	.....	.....	9n	.....	.....	Raining	.....	.....	Physical Observatory.
St. Petersburg	29.63	752.7	29.65	753.1	24.1	— 4.4	73	NNW	13	6	.....	.....	10n	.....	.....	Light snow	.....	.....	Central Physical Obs.
Tashkend	28.47	723.1	30.05	763.2	54.3	12.4	64	.....	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.54	724.9	29.94	760.5	59.5	15.3	70	Calm	0	0	.....	.....	1cs	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	29.89	748.5	29.82	757.5	38.1	3.4	82	NNW	13	6	.....	.....	9ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.82	744.8	29.76	755.9	30.0	— 1.1	60	NNW	7	3	.....	.....	10	.....	.....	Heavy clouds	.....	.....	Astronomical Obs.
Yenisiesk	30.18	766.6	30.49	774.5	18.3	7.6	71	WNW	4	2	.....	.....	0	.....	.....	.....	.....	.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

SPANISH SERIES.

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

Barcelona, Met. Obs'y	30.17	766.3	30.28	769.0	55.8	13.2	66	W	2.3	1.03	.....	.....	0	.....	.....	0.035	2.14	Clear	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.32	770.0	30.37	771.5	55.6	13.1	64	NW	1.0	0.44	.....	0	0	.....	.....	0	0	Clear	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.29	693.1	.....	.....	47.1	8.4	55	NE	9.3	4.14	.....	0	4	.....	.....	0	0	Light clouds	Domingo Martin y Perez.
Madrid, Royal Observatory.	28.02	711.6	30.28	769 0	54.1	12.3	87	NE	6.0	2.67	.....	0	10	.....	.....	0.024	0.6	Covered	The Staff.
Murcia, Met. Obs'y	30.10	764.5	30.25	768.4	61.7	16.5	85	ENE	2.7	1.19	.....	5	5	W	.....	0.116	4.22	Raining	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.26	743.1	30.15	765.7	57.4	14.1	54	E	8.1	3.6	.....	3	4	.....	.....	0	0	Cloudy	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.05	763.2	30.12	764.9	76.1	24.5	61	NNE	9.6	4.3	.....	0	2k	.....	NE	0	0	Fair	Benito Vines, S. J.
Manilla, Phillippine Islands	29.68	753.9	29.73	755.2	75.9	24.0	.....	N	1.1	0.5	.....	10	.....	.....	W	2.567	65.2	Raining	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.04	762.9	30.14	765.4	66.4	19.1	70	ESE	14.5	6.5	.....	2	4	SE	SE	0.079	2.0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.91	759.6	30.00	761.9	81.0	27.2	78	SE	3.0	1.34	.....	2k	2k	SE	SE	0.128	3.26	Clear	Enrique Gadea, Chief Eng'r

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

SWEDISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.80	756.9	29.84	757.9	15.8	— 9.0	.....	NW	...	.....	2	.....	0	.....	.....	0	0	.....	
Umea	29.89	759.2	29.94	760.5	21.2	— 6.0	95	N	.....	.....	2	.....	0	.....	.....	0	0	.....	
Hernosand	29.86	758.4	29.91	759.7	31.6	— 0.2	78	Calm	.....	.....	0	.....	1	.....	.....	0.012	0.3	.....	
Stockholm	29.83	757.7	30.01	762.2	33.4	0.8	68	N	.....	.....	2	.....	1	.....	.....	0	0	.....	
Wisby	29.88	757.7	29.89	759.2	38.1	3.4	56	NNE	.....	.....	7	.....	5	.....	.....	0.057	2.2	.....	
Sub-Series.																			
Upsala	29.86	758.5	29.95	760.7	33.8	1.0	68	NNW	5.1	2.3	.....	.....	2	N	.....	0.016	0.40	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

SWISS SERIES.

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

Geneva	28.97	735.8	30.43	773.0	41.7	5.4	51	N	.....	.....	3	.....	0	.....	.....	0	0	Clear	The Observatory.
Zurich	28.76	730.6	30.47	773.8	36.3	2.4	77	W	.....	.....	2	.....	2	.....	.....	0	0	Clear	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +9.6 mm.; Thermometer, —3.5 Cent.; Relative Humidity, —24 per cent.

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

TURKISH SERIES.

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

Constantinople	.....	.....	29.70	754.3	51.3	10.7	93	N	14	6.5	.....	.....	10	.....	N	0.118	3.0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.85	758.2	52.7	11.5	.....	NW	.....	.....	3	.....	5	.....	.....	0.31	8.	Cloudy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obsy	29.91	759.7	30.03	762.7	74.8	23.8	54	NW	.....	.....	1	3c	.....	.....	.....	0	0	D. clouds	Prof. C. V. A. van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. A. Blair.
Charlottetown, P. E. Island	29.69	754.1	29.73	755.1	33.1	0.6	95	NE	10	4.5	.....	.....	10n	.....	.....	0.41	10.4	Light snow	H. J. Cundall, C. E.
Cornwall, Ontario	30.01	762.2	30.22	767.6	9	—12.8	86	NW	.....	.....	1	0	0	.....	.....	0.25	6.3	Clear	James Smith, M. A.
Dalhousie, N. B	29.78	756.4	29.95	760.7	24	— 4.4	.....	W	.....	.....	1	.....	10s	.....	.....	0	0	Overcast	H. A. Johnson.
Father Point, Quebec	29.94	760.5	29.96	761.0	25.4	— 3.7	75	NW	20	8.9	.....	0	5s	.....	.....	0	0	Fair	J. McWilliams.
Fredericton, N. B	29.67	758 7	29.94	760.5	25.3	— 3.7	84	NW	10	4.5	.....	.....	10n	.....	.....	0.01	0.3	Snowing	Prof. Harrison.
Fort Garry, Manitoba	29.36	745.7	30.27	768.8	9.0	—12.8	78	S	12	5.4	.....	0	0	.....	.....	0	0	Clear	James Stewart.
Granton, Ontario	29.12	739.6	30.31	769.9	17	— 8.3	.....	SE	.....	.....	1	5cs	0	SW	.....	0	0	Fair	James Grant.
Halifax, N. S	29.59	751.6	29.72	754.9	32.4	0.2	84	W	3	1.3	.....	0	2ks	.....	.....	0.67	17.0	Fair	A. Allison, M. A.
Hamilton, Ontario	29.95	760.7	30.36	771.1	15.8	— 9.3	95	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.91	759.7	30.28	769.1	14.4	— 9.8	82	W	9	4.0	.....	0	0	.....	.....	0.07	1.8	Clear	S. Woods, M. A.
Little Glace Bay, N. S	29.70	754.4	29.74	755.4	35.2	1.8	90	SE	6	2.7	.....	.....	10n	.....	.....	1.16	29.5	Raining	C. H. Rigby.
Montreal, Quebec	29.98	761.6	30.19	766.8	22.0	— 5.6	86	NW	7	3.1	.....	0	Sm'e	.....	.....	0	0	Fine	C. H. McLeod, C. E.
Moose Factory, Ontario	30.30	769.6	30.34	770.6	15.2	— 9.3	84	NW	.....	.....	2	.....	10	.....	.....	0	0	Cloudy.	J. R. Nason.
Norwood	29.64	760.3	30.29	769.4	56	13.3	97	N	.....	.....	1	8ck	0	N	.....	0	0	Fair	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. R. Mosley.
Peterboro, Ontario	29 53	750.0	30.34	770.6	16.0	— 8.5	75	NE	.....	.....	1	.....	10n	.....	.....	0	0	Overcast	J. F. Jeffers, B. A.
Port Dover, Ontario	29.58	751.3	30.34	770.6	17.1	— 8.3	83	N	2	0 9	.....	10k	0	NW	.....	0	0	Fair	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.62	752.3	30.32	770.1	15.0	— 9.4	85	W	10	4.5	.....	.....	8ks	.....	.....	0.06	1.5	Cloudy	M. Payne.
Quebec, Quebec	29.77	756.1	30.11	764.8	19.5	— 6.9	77	N	.....	.....	1	0	Haze	.....	.....	0	0	Clear	Capt. Ashe, R. N.
Rockliffe, Ontario	29.80	756.9	30.29	769.4	20.6	— 6.3	78	NW	2	0.9	.....	0	5s	.....	NW	Inap.	Inap.	Fair	W. H. McIntyre.
St. Andrews, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Gove.
St. John, N. B	29.69	754.1	29.86	758.4	28	— 3.3	100	N	22	9.8	.....	.....	10n	.....	.....	0.291	7.40	Light snow	G. Murdock, C. E.
Saugeen, Ontario	29.60	751.8	30.37	771.4	22.0	— 5.6	90	NE	8	3.6	.....	.....	9n	.....	.....	0.16	4.1	Cloudy	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.92	734.6	30.32	770.1	13.1	—10.5	96	Calm	0	0	.....	.....	10s	.....	.....	0.20	5.1	Cloudy	C. J. MacGregor, M. A.
Sydney, C. B	29.72	754.9	29.76	755.9	34.0	1.1	90	SE	1	0.4	.....	.....	10n	.....	.....	1.05	26.7	Snowing	T. C. Hill, C. E.
Toronto, Ontario	29.94	760.5	30.35	770.9	19.0	— 6.9	87	NW	3	1.3	.....	.....	10ks	.....	.....	0.02	0.5	Cloudy	Magnetic Observatory.
Windsor, N. S	29.61	752.1	29.71	754.6	32.5	0.3	95	E	0	0	.....	6k	0	.....	.....	0.44	11.2	Fair	Prof. John E. Oram.
Woodstock, Ontario	30.17	766.3	30.34	770.6	14.5	— 9.7	98	NW	3	1.3	.....	0	9ks	.....	NW	0	0	Cloudy	Prof. J. Montgomery.
Yarmouth, N. S	29.68	752.6	29.70	754.4	37.1	2.8	86	NW	.....	.....	3	0	5ks	.....	.....	0.17	4.3	Snowing	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.65	753.1	29.90	759.4	47.0	8.3	85	SW	.....	.....	.....	5k	5s	.....	.....	1.62	41.1	Fair	John Delany.
St. Pierre, N. F	.....	.....	29.72	754.8	43.9	6.6	.....	SW	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	l'Hopital Maritime.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

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

UNITED STATES SERIES.

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

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.96	761.0	30.21	767.3	26	— 3.3	75	N	7	3.1	.....	.....	10s	.....	NW	0.11	2.8	Cloudy	
Alpena, Michigan	29.64	752.8	30.35	770.9	18	— 7.8	84	NW	8	3.6	.....	0	2s	.....	Calm	0.02	0.5	Clear	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	29.17	740.9	30.40	772.1	31	— 0.6	68	W	6	2.7	.....	.....	Sm'e	.....	Calm	0	0	Clear	
Atlantic City, New Jersey	30.21	767.3	30.23	767.8	27	— 2.8	76	NW	12	5.4	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Augusta, Georgia	30.23	767.8	30.45	773.4	36	2.2	45	NE	4	1.8	.....	0	Haze	.....	Calm	0	0	Clear	
Baltimore, Maryland	30.27	768.8	30.32	770.1	31	— 0.6	69	NW	9	4.0	.....	Haze	0	Calm	.....	0	0	Clear	
Barnegat, New Jersey	30.17	766.3	30.20	767.1	29	— 1.7	56	NW	20	8.9	.....	2k	0	W	.....	0	0	Clear	
Bismarck, Dakota	28.10	713.7	29.95	760.7	18	— 7.8	84	E	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Boerne, Texas	28.81	731.8	30.16	766.1	48	8.9	100	E	3	1.3	.....	5k	0	S	.....	0	0	Cloudy	
Boise City, Idaho	27.28	692.9	30.24	768.1	33.5	0.8	66	SE	3	1.3	.....	5cs	0	W	.....	0	0	Fair	
Boston, Massachusetts	29.93	760.2	30.10	764.5	27	— 2.8	76	W	6	2.7	.....	0	0	.....	.....	0.41	10.4	Clear	
Brackettville, Texas	28.96	735.6	30.02	762.5	56	13.3	87	SE	9	4.0	.....	0	8s	.....	Calm	0	0	Fair	
Breckenridge, Minnesota	29.10	739.1	30.15	765.8	24	— 4.4	100	SE	18	8.0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Brownsville, Texas	30.13	765.3	30.18	766.6	67	19.4	95	Calm	0	0	.....	0	8s	.....	Calm	0	0	Fair	
Buffalo, New York	29.56	750.8	30.31	769.9	23	— 5.0	73	NW	6	2.7	.....	.....	10s	.....	NW	0.01	0.3	Cloudy	
Burkes, Arizona	.....	.....	.....	.....	50	10.0	58	NE	.....	.....	1	0	2s	.....	Calm	0	0	Clear	
Burlington, Vermont	29.89	759.2	30.20	767.1	23	— 5.0	73	N	7	3.1	.....	0	5ks	.....	N	0	0	Fair	
Cairo, Illinois	30.03	762.7	30.45	773.4	31	— 0.6	69	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Campo, California	27.51	698.7	30.08	764.0	31	— 0.6	79	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.28	769.1	30.29	769.4	39	3.9	64	N	28	12.5	.....	0	1ks	.....	NW	0	0	Clear	
Cape Henry, Virginia	30.30	769.6	30.32	770.1	36	2.2	53	NW	28	12.5	.....	2k	0	SW	.....	0	0	Clear	
Cape Lookout, N. Carolina	30.28	769.1	30.30	769.6	37	2.8	53	N	29	13.0	.....	0	0	.....	.....	0	0	Clear	
Cape May, New Jersey	30.22	767.6	30.26	768.6	33	0.6	61	NW	32	14.3	.....	8k	0	NW	.....	0	0	Fair	
Castroville, Texas	29.40	746.7	30.12	765.0	52	11.1	86	NW	2	0.9	.....	8ck	0	Calm	.....	0	0	Cloudy	
Charleston, South Carolina	30.27	768.8	30.33	770.4	38	3.3	54	NE	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Charlotte, North Carolina	29.50	749.3	30.37	771.4	30	— 1.1	57	N	4	1.8	.....	0	Sm6'	.....	Calm	0	0	Clear	
Chattanooga, Tennessee	29.56	750.8	30.44	773.2	27	— 2.8	88	Calm	0	0	.....	0	Sm'e	.....	Calm	0	0	Clear	
Cheyenne, Wyoming	23.99	609.3	29.93	760.2	47	8.3	.....	W	16	7.2	.....	.....	10s	.....	W	0	0	Cloudy	
Chicago, Illinois	29.66	753.4	30.42	772.7	18	— 7.8	84	NW	1	0.4	.....	.....	Fog	.....	.....	0	0	Foggy	
Cincinnati, Ohio	29.76	755.9	30.47	773.9	23	— 5.0	86	SE	1	0.4	.....	0	Sm'e;fg	.....	Calm	0	0	Clear	
Cleveland, Ohio	29.57	751.1	30.34	770.6	30	— 1.1	68	W	12	5.4	.....	.....	10ks	.....	W	0.19	4.8	Cloudy	
Coleman City, Texas	28.33	719.6	30.03	762.7	46	7.8	62	S	4	1.8	.....	0	5s	.....	Calm	0	0	Fair	
Columbus, Ohio	29.51	749.5	30.41	772.4	27	— 2.8	64	NW	3	1.3	.....	.....	Fog	.....	Calm	0	0	Foggy	
Concho, Texas	28.23	717.0	29.92	760.0	52	11.1	86	NW	4	1.8	.....	.....	10ks	.....	S	0	0	Cloudy	
Corsicana, Texas	29.77	756.1	30.25	768.3	47	8.3	70	SE	4	1.8	.....	5cs	0	Calm	.....	0	0	Fair	
Davenport, Iowa	29.68	753.9	30.37	771.4	26	— 3.3	75	NE	2	0.9	.....	.....	10s	.....	NW	0	0	Cloudy	
Deadwood, Dakota	25.26	641.6	.....	.....	31	— 0.6	58	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas	28.99	736.3	30.16	766.1	59	15.0	59	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Denison, Texas	29.42	747.3	30.24	768.1	43	6.1	75	SE	6	2.7	.....	1cs	0	Calm	.....	0	0	Clear	
Denver, Colorado	24.75	628.6	29.97	761.2	41	5.0	19	SE	7	3.1	.....	.....	10s	.....	W	0	0	Cloudy	
Des Moines, Iowa	29.32	744.7	30.26	768.6	25	— 3.9	75	SE	4	1.8	.....	0	Haze	.....	Calm	0	0	Clear	
Detroit, Michigan	29.65	753.1	30.37	771.4	19	— 7.2	85	NW	2	0.9	.....	0	Fog	.....	Calm	0.01	0.3	Clear	
Dodge City, Kansas	27.45	697.2	29.78	756.4	40	4.4	65	S	13	5.8	.....	8k	2s	SE	E	0	0	Cloudy	
Dubuque, Iowa	29.63	752.6	30.40	772.1	16	— 8.9	66	Calm	0	0	.....	0	5ks	.....	N	0	0	Fair	
Duluth, Minnesota	29.61	752.1	30.36	771.1	14	—10.0	64	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Eagle Pass, Texas	29.40	746.7	30.12	765.0	62	16.7	83	E	4	1.8	.....	.....	10s	.....	E	0	0	Cloudy	
Eastport, Maine	29.81	757.2	29.88	758.9	26	— 3.3	88	NW	21	9.4	.....	.....	10n	.....	N	0.52	13.2	Light snow	
Edinburg, Texas	.....	.....	.....	.....	71	21.7	71	SE	.....	.....	1	5cs	2s	Calm	Calm	0	0	Cloudy	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.56	750.8	30.32	770.1	29	— 1.7	89	S	2	0.9	.....	.....	10n	.....	S	0.09	2.3	Heavy rain	
Escanaba, Michigan	29.67	753.6	30.39	771.9	13	—10.6	62	NW	5	2.2	.....	2cs	0	SW	.....	0	0	Fair	
Florence, Arizona	28.51	724.1	30.11	764.8	57	13.9	63	E	1	0.4	.....	.....	10ks	.....	S	0	0	Cloudy	
Fort Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Custer, Montana	27.78	705.6	29.67	753.6	26	— 3.3	76	SE	2	0.9	.....	10cs	0	W	.....	0	0	Cloudy	
Fort Davis, Texas	26.77	680.0	.....	.....	47	8.3	34	W	4	1.8	.....	0	2s	.....	W	0	0	Fair	
Fort Gibson, Indian Ter	25.26	641.6	30.22	767.6	48	8.9	78	Calm	0	0	.....	5ck	0	Calm	.....	0	0	Fair	
Fort Grant, Arizona	29.65	753.1	30.22	767.6	36	2.2	53	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	25.25	641.3	30.05	763.3	59	15.0	44	NW	6	2.7	.....	10k	0	Calm	.....	0	0	Cloudy	
Fort Keogh, Montana	28.86	733.0	30.16	766.1	45	7.2	84	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	27.34	694.4	.....	.....	32	0.0	79	S	2	0.9	.....	2k	0	W	.....	0	0	Fair	
Fort St. Michael, Alaska	27.86	707.6	29.80	756.9	52	11.1	79	S	4	1.8	.....	.....	10s	.....	S	0	0	Cloudy	
Fort Shaw, Montana	.....	.....	.....	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Stevenson, Dakota	28.90	734.0	30.04	763.0	45	7.2	61	S	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fort Verde, Arizona	28.06	712.7	.....	.....	19	— 7.2	84	S	10	4.5	.....	5c	0	S	.....	0	0	Fair	
Fort Yates, Dakota	.....	.....	.....	.....	39	3.9	55	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fredericksburg, Texas	28.28	718.3	29.86	758.4	50	10.0	86	Calm	0	0	.....	5cs	0	Calm	.....	0	0	Fair	
Galveston, Texas	30.21	767.3	30.26	768.6	63	17.2	67	E	8	3.6	.....	Haze	0	Calm	.....	0	0	Clear	
Graham, Texas	29.05	737.9	30.02	762.5	48	8.9	78	Calm	0	0	.....	5ck	0	W	.....	0	0	Fair	
Grand Haven, Michigan	29.64	752.8	30.34	770.6	26	— 3.3	88	E	10	4.5	.....	.....	10s	.....	Calm	0.09	2.3	Cloudy	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.17	740.9	30.13	765.3	48	8.9	70	SE	10	4.5	.....	0	8s	.....	W	0	0	Cloudy	
Indianapolis, Indiana	29.58	751.3	30.43	772.9	20	— 6.7	85	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Indianola, Texas	30.21	767.3	30.24	768.1	62	16.7	88	E	1	0.4	.....	0	1s	.....	SE	0	0	Clear	
Jacksboro, Texas	29.02	737.1	30.14	765.5	64	17.8	43	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.27	768.8	30.29	769.4	46	7.8	54	N	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Keokuk, Iowa	29.64	752.8	30.31	769.9	24	— 4.4	74	SE	5	2.2	.....	5cs	0	W	.....	0	0	Fair	
Key West, Florida	30.8	764.0	30.12	765.0	73	22.8	76	N	18	8.0	.....	1k	0	NE	.....	0	0	Clear	
Kittyhawk, North Carolina	30.31	769.9	30.33	770.4	35	1.7	53	N	32	14.3	.....	0	0	.....	.....	0	0	Clear	
Knoxville, Tennessee	29.38	746.2	30.48	774.2	20.5	— 6.4	86	NE	1	0.4	.....	0	Fog	.....	Calm	0	0	Clear	
La Crosse, Wisconsin	29.59	751.6	30.41	772.4	10	—12.2	79	Calm	0	0	.....	.....	Fog	.....	.....	0	0	Foggy	
La Mesilla, New Mexico	26.14	663.9	30.29	769.4	43	6.1	67	Calm	0	0	.....	.....	10s	.....	W	0	0	Cloudy	
Laredo, Texas	29.74	755.4	30.08	764.0	65	18.3	68	SE	6	2.7	.....	5k	0	W	.....	0	0	Fair	
Leavenworth, Kansas	29.28	743.7	30.17	766.3	31	— 0.6	58	SE	8	3.6	.....	1cs	0	Calm	.....	0	0	Clear	
Little Rock, Arkansas	30.03	762.7	30.41	772.4	33	0.6	89	NE	1	0.4	.....	5c	Sm'e	Calm	Calm	0	0	Fair	
Los Angeles, California	29.75	755.6	30.10	764.5	45.5	7.5	88	N	3	1.3	.....	0	Fog	.....	Calm	0	0	Clear	
Louisville, Kentucky	29.84	757.9	30.44	773.2	24	— 4.4	61	Calm	0	0	.....	0	2s;sm	.....	Calm	0	0	Smoky	
Lynchburg, Virginia	29.67	753.6	30.40	772.1	31	— 0.6	68	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Madison, Wisconsin	29.32	744.7	30.40	772.1	17	— 8.3	83	N	1	0.4	.....	.....	Fog	.....	.....	0	0	Light fog	
Marquette, Michigan	29.57	751.1	30.33	770.4	17	— 8.3	67	W	10	4.5	.....	0	0	.....	.....	0.57	14.5	Clear	
Mason, Texas	28.52	724.4	30.32	770.1	50	10.0	86	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	30.07	763.8	30.43	773.9	30	— 1.1	59	E	1	0.4	.....	1c	Sm'e	Calm	Calm	0	0	Clear	
Milwaukee, Wisconsin	29.60	751.8	30.41	772.4	10	—12.2	79	W	6	2.7	.....	0	1s	.....	Calm	0	0	Clear	
Mobile, Alabama	30.32	770.1	30.37	771.4	41.5	5.3	82	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Montgomery, Alabama	30.16	766.1	30.41	772.4	36	2.2	62	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Morgantown, West Virginia	29.33	745.0	30.40	772.1	24	— 4.4	87	Calm	0	0	.....	5ck	0	NW	.....	0.07	1.8	Fair..	
Mt. Washington, N. H.	23.45	595.6	29.81	757.2	4	—15.6	74	NW	42	18.8	.....	.....	10s	.....	NW	1.01	25.7	Cloudy.....	
Nashville, Tennessee	29.88	758.9	30.46	773.7	26	— 3.3	88	Calm	0	0	.....	0	Sm'e	....	Calm	0	0	Dense smoke	
New Haven, Connecticut	30.02	762.5	30.14	765.5	33	0.6	74	N	7	3.1	.....	0	2s	.....	Calm	Inap	Inap.	Clear..... ..	
New London, Connecticut	30.07	763.8	30.12	765.0	35	1.7	70	NW	5	2.2	.....	.....	10s	.....	N	0	0	Cloudy.....	
New Orleans, Louisiana	30.28	769.1	30.35	770.9	50	10.0	58	NE	10	4.5	.....	0	Haze	.....	Calm	0	0	Clear	
Newport, Rhode Island	30.04	763.0	30.10	764.5	34	1.1	79	NW	9	4.0	.....	1ck	0	NW	....	0.44	11.2	Clear	
New York, New York	30.00	762.0	30.19	766.8	30	—1.1	68	NW	7	3.1	.....	2ck	2s	Calm	Calm	0	0	Fair.....	
Norfolk, Virginia	30.30	769.6	30.36	771 1	33	0.6	51	NW	14	6.3	.....	0	0	.....	.....	0	0	Clear.....	
North Platte, Nebraska	26.97	685.0	29.79	756.7	17	— 8.3	83	W	11	4.9	.....	0	Haze	.....	Calm	0	6	Clear.....	
Olympia, Washington Ter.	30.05	763.3	30.09	764.3	42.0	5.6	100	S	4	1.8	.....	10ck	0	W	.....	0.29	7.4	Cloudy.	
Omaha, Nebraska	28.93	734.8	30.08	764.0	30	— 1.1	78	SE	10	4.5	.....	0	Haze	.....	Calm	0	0	Clear.....	
Oswego, New York	29.94	760.5	30.28	769.1	30	— 1.1	78	N	8	3.6	.....	.....	10s	.....	Calm	0.38	9.7	Threatening	
Pembina, Dakota	30.24	768.1	30.13	765.3	15	— 9.4	82	SE	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Pensacola, Florida	30.36	771.1	30.39	771.9	45	7.2	53	NE	.....	.....	2	1c	0	Calm	....	0	0	Clear.....	
Philadelphia, Pennsylvania	30.19	766.8	30.24	768.1	30	— 1.1	78	NW	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Phœnix, Arizona	28.85	732.8	30.66	778.7	58	14.4	53	SE	1	0.4	.....	.....	8ks	.....	W	0	0	Cloudy	
Pike's Peak, Colorado	17.77	451.4	29.98	761.5	19	— 7.2	25	SW	5	2.2	.....	0	1s	....	Calm	0	0	Clear.....	
Pilot Point, Texas	29.52	749.8	30.37	771.4	50	10.0	78	SE	11	4.9	.....	8k	2s	S	SE	0	0	Cloudy.....	
Pioche, Nevada	24.06	611.1	29.83	757.7	37	2.8	31	SW	4	1.8	.....	0	0	....	.....	0	0	Clear.....	
Pittsburg, Pennsylvania	29.49	749.0	30.36	771.1	25	— 3.9	75	W	5	2.2	.....	5ck	0	NW	.....	0.10	2.5	Fair.....	
Port Huron, Michigan	29.62	752.3	30 35	770.9	14	—10.0	82	W	9	4.0	.....	0	0	.....	.....	0	0	Clear.	
Portland, Maine	29.98	761.5	30.04	763.0	32	0.0	62	N	4	1.8	.....	0	0	.....	.....	0.25	6.3	Clear.....	
Portland, Oregon	30.11	764.8	30.18	766.6	42.5	5.8	94	NE	2	0.9	.....	.....	10s;fg	.....	SW; Calm	0.08	2.0	Cloudy.....	
Portsmouth, N. Hampshire	.....	.....	.....	.....	37	2.8	77	N	40	17.9	.....	0	0	....	.....	0	0	Clear.....	
Prescott, Arizona	24.84	630.9	30.20	767.1	37	2.8	63	S	.....	.....	1	0	0	.....	.....	0	0	Clear.....	
Punta Rassa, Florida	30.14	765.5	30.16	766.1	63	17.2	78	NE	11	4.9	.....	0	0	.....	.....	0	0	Clear.....	
Red Bluff, California	29.79	756.7	30.16	766.1	50	10.0	79	NW	4	1.8	.....	5k	Sm'e	S	Calm	0	0	Fair	
Rio Grande City, Texas	29.98	761.5	30.20	767.1	65	18.3	84	E	5	2.2	.....	.....	10s	.....	S	0	0	Cloudy.....	
Rochester, New York	29.63	752.6	30.29	769.4	24	— 4.4	87	W	8	3.6	.....	.....	10n	.....	Calm	0.33	8.4	Light snow.	
Roseburg, Oregon	29.61	752.1	30.19	766.8	46.5	8.1	96	N	2	0.9	.....	....	10s	.....	Calm	0.11	2.8	Cloudy.....	
Sacramento, California	30.07	763.8	30.15	765.8	48.5	9.2	97	S	2	0.9	.....	.....	Fog	.....	.....	0	0	Foggy	
St. Louis, Missouri	29.78	756.4	30.40	772.1	27	— 2.8	76	SE	8	3.6	.....	6ck,cs	0	W	....	0	0	Fair.....	
St. Paul, Minnesota	29.40	746.7	30.30	769.6	16	— 8.9	83	E	8	3.6	.....	10ck	0	W	.....	0	0	Cloudy.....	
Salt Lake City, Utah	25.72	653.3	30.05	763.3	39	3.9	46	Calm	0	0	.....	10cs	0	W	.. ..	0	0	Cloudy.....	
San Antonio, Texas	29.51	749.5	30.10	764.5	52	11 1	86	W	2	0.9	.....	5cs	0	S	.....	0	0	Fair.....	
San Diego, California	30.05	763.3	30.12	765.0	55	12.8	93	N	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Sandusky, Ohio	29.66	753.4	30.38	771.6	26	— 3.3	75	SW	12	5.4	.....	.....	10ks	.....	W	Inap.	Inap.	Cloudy.....	
Sandy Hook, New Jersey	30.15	765.8	30.18	766.6	33	0.6	70	NW	23	10.3	.....	0	0	.....	.....	0	0	Clear	
San Francisco, California	30.13	765.3	30.19	766.8	54	12.2	93	W	6	2.7	.....	.....	Fog	.....	Calm	0	0	Foggy	
Santa Fé, New Mexico	23.35	593.1	29.85	759.2	41	5.0	65	NE	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Savannah, Georgia	30.26	768.6	30.36	771.1	39	3.9	46	N	11	4.9	.....	0	0	....	.....	0	0	Clear.	
Shreveport, Louisiana	30.09	764.3	30.32	770.1	44	6.7	60	SE	2	0.9	.....	0	5s	.....	Calm	0	0	Fair	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.33	770.4	30.37	771.4	34	1.1	43	N	12	5.4	.....	0	0	.....	.....	0	0	Clear.....	
Socorro, New Mexico	25.49	647.4	29.56	750.8	47	8.3	48	S	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Springfield, Illinois	29.68	753.9	30.40	772.1	26	— 3.3	68	S	5	2.2	.....	0	5s	.....	NW	0	0	Fair	
Springfield, Massachusetts	30.00	762.0	30.14	765.5	31	— 0.6	79	N	4	1.8	.....	0	5ks	.....	N	0.02	0.5	Fair	
Stockton, Texas	27.18	690.4	30.18	766.6	56	13.3	9	NE	12	5.4	.....	0	0	....	.....	0	0	Clear.....	
Thatcher's Island, Mass	30.10	762.0	30.06	763.5	30	— 1.1	82	W	14	6.3	.....	0	0	.....	.....	0.35	8.9	Clear.....	
Toledo, Ohio	29.64	752.8	30.38	771.6	23	— 5.0	73	W	4	1.8	.....	0	2s	.....	W	0	0	Clear.....	
Tucson, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon	29.88	758.9	30.39	771.9	34.0	1.1	90	SE	6	2.7	.....	....	10s	....	NW	0	0	Cloudy.....	
Uvalde, Texas	29.23	742.4	30.05	763.3	61	16.1	77	S	4	1.8	.....	.....	10s	.....	S	0	0	Cloudy.	
Vicksburg, Mississippi	30.12	765.0	30.40	772.1	36	2.2	61	SE	12	5.4	.....	2c	0	Calm	.....	0	0	Clear..	
Virginia City, Montana	24.30	617.2	29.78	756.4	33	0.6	61	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Visalia, California	29.78	756.1	30.11	764.8	45	7.2	80	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear..	
Washington, D. C.	30.22	767.6	30.35	770.9	28	— 2.2	77	NW	13	5.8	.....	0	0	....	.....	0	0	Clear.....	
Wickenburg, Arizona	.....	.....	.....	.....	49	9.4	57	W	.....	.....	1	0	0	.....	.....	0	0	Clear..	
Wilmington, North Carolina	30.27	768.8	30.35	770.9	33	0.6	41	N	10	4.5	.....	0	0	.....	.....	0	0	Clear.....	
Winnemucca, Nevada	25.74	653.8	30.10	764.5	35	1.7	53	NE	7	3.1	.....	0	0	.....	.....	0	0	Clear.....	
Wood's Holl, Massachusetts	30.05	763.3	30.09	764.3	35	1.7	70	NW	6	2.7	.....	0	2ks	.....	.....	0.14	3.6	Clear..... ..	
Yankton, Dakota	28.75	730.2	30.12	765.0	24	— 4.4	61	SE	11	4.9	... ...	0	0	.....	.....	0	0	Clear	
Yuma, Arizona	29.85	758.2	30.01	762.2	55	12.8	50	N	3	1.2	.....	0	0	.....	.....	0	0	Clear.....	
SUB-SERIES.																			
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	30.01	762.2	30.06	763.5	77	25.0	61	N	3.6	1.6	.....	0	4ks	.....	N	0	0	Fair.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.15	765.8	30.16	766.1	77	25.0	87	Calm	0	0	.....	8cs	2cs	Calm	.....	0	0	Fair.....	James Gall.
Medellin, Colombia, S. A.*	25.26	641.6	.....	.....	67.5	19.7	78	Calm	.....	.....	0	2cs;k	2ks	.....	.....	0.01	0.3	.. ..	Thomas Herran.
Navassa, W. I.	29.91	759.7	29.99	761.7	80	26.7	.....	NE	0	0	.....	8k	2s	NE	NE	0.2	5.	Cloudy.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.98	761.5	29.98	761.5	83	28.3	79	E	... ...	.....	2	5ck	0	Calm	.....	0	0	Fair	C. J. Hering.
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	30.20	767.1	30.26	768.6	14.0	—10.0	91	W	9	4.0	.....	0	3s	.....	SW	0	0	Fair.....	J. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Medellin, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,395.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.53 in., or 115.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 m., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm. *The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

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

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

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er. 0—10.	Clouds. Amount. Lo'er. 0—10.	Clouds. Direction. Up'er. From—	Clouds. Direction. Lo'er. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.39‡	771.9‡	.....	.....	50	10.0	86	NE	9	4.0	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Navy Yard, Portsmouth, N.H	29.89‡	759.2‡	.....	.....	23	—5.0	89	NW	1	0.4	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Naval Hospital, Yokohama, Japan.....	30.07‡	763.8‡	.....	.....	52.5	11.4	54	NE	.....	.....	2	ck	2k	.....	W	0	0	.....	.....	Fair	
Adams, Mare I'd., Navy Yard, Cal.	30.19‡	766.8‡	.....	.....	57	13.9	100	W	.....	.....	2	.....	10	.....	W	.....	.....	.....	.....	Cloudy.....	
Alaska, Callao, Peru.....*.	29.97‡	761.2‡	.....	.....	60	15.6	94	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....	Misty.....	
Alliance, N. 24° 30′, W. 20° 43′.....	30.06‡	763.5‡	.....	.....	73	22.8	72	WNW	.....	.....	1	.....	8	.....	SW	.....	.....	Smooth	N	D. clouds.....	
Colorado, New York, N. Y.....	30.14‡	765.5‡	.....	.....	32	0.0	74	NW	7	3.1	.....	.....	5	.....	.....	0	0	.....	.....	Misty.....	
Constitution, Navy Yard, Norfolk, Va.	30.50‡	774.7‡	.....	.....	35	1.7	67	NNW	9	4.0	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Enterprise, N. 38° 00′, E. 15° 35′.....	29.85‡	758.2‡	.....	.....	70	21.1	66	NW	.....	.....	6	.....	6	.....	N	.....	.....	Mod'ate	.....	Cloudy.....	
Franklin, Off Navy Yard, Norfolk, Va.	30.34‡	770.6‡	.....	.....	35	1.7	60	NNW	18	8.0	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Hartford, N. 23° 10′, W. 61° 38′.....	30.07‡	763.8‡	.....	.....	82	27.8	79	SE	.....	.....	3	.....	5?	.....	SE	0	0	.....	.....	Clear?.....	
Independence, Mare I'd, Navy Yard, Cal.	30.18‡	766.6‡	.....	.....	63	17.2	67	NW	3.6	1.6	.....	.....	5	.....	Calm	0	0	.....	.....	Foggy	
Kearsage, Norfolk, Va	30.35‡	770.9‡	.....	.....	38	3.3	60	Calm.	.....	.....	0	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Lackawana, N. 10° 43′ E. 179° 18′...†.	9.86‡	758.4‡	.....	.....	81	27.2	87	ENE	.....	.....	2–3	.....	8	.....	ENE	.....	.....	Mod'ate	ENE	Fair	
Marion, Off Norfolk, Va.	30.35‡	770 9‡	.....	.....	36	2.2	60	NNW	.....	.....	4	.....	1	.....	N	.....	.....	Smooth	.....	Clear.....	
Michigan, Erie, Pa.....	30.26‡	768.6‡	.....	.....	30	—1.1	100	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....	Heavy snow	
Monocacy, Shanghai, China..	30.34‡	770.6‡	.....	.....	55	12.8	80	NNE	.....	.....	1	.....	2	.....	NNE	.....	.....	.....	.....	Fair	
New Hampshire, Port Royal, S. C.....	30.32‡	770.1‡	.....	.....	42	5.6	61	N	29	13.0	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Onward, Callao, Peru ....†.	29.95‡	760.7‡	.....	.....	61	16.1	88	NW	.....	.....	1	.....	10	.....	.....	.....	.....	Long	W	Misty.....	
Palos, Shanghai, China.....	30.33‡	770.4‡	.....	.....	53	11.7	86	ENE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Overcast?...	
Passaic, Washington, D. C.....	30.29‡	769.4‡	.....	.....	32	0.0	90	W	.....	.....	3	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Pensacola, Callao, Peru.....	29.96‡	761.0‡	.....	.....	59	15.0	94	NW	.....	.....	1	.....	10	.....	.....	.....	.....	Smooth	.....	Overcast.....	
Portsmouth, Hampton Roads, Va....	30.35‡	770.9‡	.....	.....	33	0.6	90	NW	.....	.....	4	.....	2	.....	.....	0	0	Mod'ate	NW	Clear.....	
Powhatan, Norfolk, Va.....	30.32‡	770.1‡	.....	.....	36	2.2	60	NNW	.....	.....	3	.....	0	.....	.....	0	0	.....	.....	Clear.	
Quinnebaug, Leghorn, Italy.....	30.14‡	765.5‡	.....	.....	57	13.9	47	NE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Ranger, Yokohama, Japan.....	29.91‡	759.7‡	.....	.....	58	14.4	82	NNW	.....	.....	2	.....	5	.....	Calm	.....	.....	Smooth	.....	Fair.....	
Richmond, Shanghai, China.....	30.33‡	770.4‡	.....	.....	56	13.3	81	NE	.....	.....	1	.....	2	.....	NE	0	0	Smooth	.....	Pleasant.....	
Rio Bravo, Brownsville, Texas...†.	30.31‡	769.9‡	.....	.....	65	18.3	100	ESE	2	0.9	.....	.....	8	.....	SSW	0	0	.....	.....	Cloudy.....	
Santee, Annapolis, Md	30.33‡	770.4‡	.....	.....	31	—0.6	82	WNW	.....	.....	2	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Shenandoah, N. 18° 40′, W. 34° —′.. ..	30.02‡	762.5‡	.....	.....	76	24.4	91	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	Smooth	.....	Fair.....	
St. Louis, League Island, Pa.....	30.21‡	767.3‡	.....	.....	30	—1.1	82	NNW	10	4.5	.....	.....	2	.....	.....	0	0	.....	.....	Clear.....	
Trenton, Villafranca, France.....	30.19‡	766.8‡	.....	.....	63	17.2	42	SSW	.....	.....	1	.....	0	.....	.....	0	0	Smooth	.....	Clear	
Tuscarora, N. 15° 58′, W. 97° 42′.....	29.91‡	759.7‡	.....	.....	77	25.0	91	NW	.....	.....	1	.....	2	.....	Calm	0	0	Long	S	Fair.....	
Vandalia, Vera Cruz, Mexico.....	30.20‡	767.1‡	.....	.....	75	23.9	95	NNW	.....	.....	3	.....	8	.....	NW	.....	.....	.....	.....	Cloudy	
Wabash, Boston, Mass.....	30.02‡	762.5‡	.....	.....	26	—4.4	81	W	8	3.6	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Wachusett, N. 18° —′, W 36° —′.....	30.10‡	764.5‡	.....	.....	78	25.6	91	E	.....	.....	2	.....	8	.....	E	.....	.....	Smooth	E	Fair.....	
Wyoming, N. 40° 35′, E. 5° 35′.....	30.22‡	767.6‡	.....	.....	54	12.2	67	NNW	.....	.....	5	.....	2	.....	NW	.....	.....	Mod'ate	NW	Fair.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

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

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S. S. Samaria																			Capt. T. Roberts.
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitebury.
S. S. Costa Rica																			W. House & R. Lawless.
S. S. Dakota, Capt. H. G. Morse																			Capt. Connolly.
S. S. Georgia																			F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin																			Capt. A. Fuller.
S. S. Wilmington																			R. C. Ghest, 1st Officer.
S. S. Zealandia, N. 21° 18′, W. 157° 55′		30.12‡	765.0‡				NE			3				NE		Smooth	NE	Clear	
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer N. 31° 12′, W. 169° 52′..†		30.16‡	766.1‡	71	21.7	95	W			2		2		W		Mod'ate	WNW	D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson N. 42° 01′, E. 156° 36′..§†		29.70‡	754.4‡	50	10.0	....	NW			6		ks		NW	Slight	Rough Cross	NW	Raining	J. A. Thompson, C. O. J. G. Cameron.
S. S. Oceanic, Capt. J. Metcalf																			

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

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

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

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES

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

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undutsch.
S. S. Leipzig, Capt. F. Pfeiffer																			S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 42° 46′, W. 56° 37′		29.92‡	760.0‡				W			3		2		W		7	SE;SW	Fair	Capt. G. Meyer.

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

UNITED STATES MARINE SERIES—Continued.

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

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0–10.	Up'er 0–10.	Lo'er 0–10.	Upper. From—	Lower. From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Liverpool, Eng		30.59‡	777.0‡	56	13.3	87	NW			3		6		NW	Light			Fair	Capt. R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.

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

RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents.																			
Belgenland, N. 46° 51′, W. 44° 59′		29.92‡	760.0‡	57	13.9		SSE	30	13.4			10			½ h'rs	Mod'ate	SE	Misty	Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

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

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

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

MARINE SERIES—Miscellaneous.																			
Furnished by the co-operation of the Observers named.																			
Schooner Addie Fuller, N. 32° 00′, W. 77° 46′		30.16‡	766.1‡	68	20.0	65	N	18	8.0			8k		N	0	Rough	N	Cloudy	Capt. James Jorgensen.
Haytian																			
§ Iron Cross																			Capt. W. Randall.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax," N. 35° 15′, W. 70° 25′ †		30.05‡	763.3‡	60	15.6		NW			4		8		WNW	0	Rough	WNW	Squally	N. B. Foss.
Schooner Harry and Fred																			Capt. George Gardner.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

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

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

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

Albert J. Myer

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

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

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

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

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

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

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

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

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 5, 1879.

7:35 A. M. WASHINGTON Mean Time.

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

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

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

ALGERIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.21	767.3	65.5	18.6	87	W	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	
Nemours	.....	.....	30.35	770.9	69.1	20.6	78	N	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	Kesxuche.
Algiers	.....	.....	30.37	771.5	65.1	18.4	63	NE	.....	.....	3	.....	0	.....	.....	0	0	Clear	Tourillere.
La Calle	.....	.....	30.39	771.8	64.6	18.1	68	NE	.....	.....	5	.....	2	.....	.....	0	0	Fair	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.45	773.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Herbin.
Tebessa	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Watrin.
Geriville	.....	.....	30.37	771.4	58.1	14.5	65	SSE	.....	.....	1	.....	2	.....	.....	0	0	Fair	Brugniaux.
Laghouat	.....	.....	.....	.....	61.2	16.2	71	SW	.....	.....	3	.....	5	.....	.....	0	0	Cloudy	Bertrand.
Biskra	.....	.....	30.30	769.5	59.1	15.4	86	N	.....	.....	3	.....	0	.....	.....	0	0	Clear	Chanvaux.
.....	.....	.....	30.32	770.0	66.6	19.2	64	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

AUSTRO-HUNGARIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Cracow, I. R. Observatory	29.78	756.4	30.34	770.7	48.0	8.9	58	S	.....	.....	3	.....	0	.....	.....	0	0	.....	Prof. Ivan Stozir.
Eperies	29.50	749.3	30.30	769.5	40.6	4.8	84	WNW	4.9	2 2	.....	.....	10	.....	.....	0.008	0.2	.....	Prof. Dr. Karlinski, Dir.
Gratz	29.32	744.6	30.23	767.7	41.7	5 4	89	Calm	.....	.....	0	.....	10ke	.....	SE	0	0	.....	Julius Mikolik.
Hermannstadt	29.05	737.8	30.34	770.6	45.3	7.4	78	SSW	.....	.....	2	.....	0	.....	.....	0	0	.....	Andreas Rospini.
Kremsmünster	28.73	729.8	30.23	767.8	36.1	2.3	79	N	.....	.....	3	.....	6	.....	.....	0.024	0.60	Raining	Prof. A. Gottschling.
Lemberg	29.60	736.6	30.39	771.9	41.7	5.4	87	WNW	.....	.....	3	.....	8	.....	.....	0.224	5.7	.....	Prof. C. Wagner.
Pola	29.15	740.3	30.17	766.3	39 7	4.3	79	W	.....	.....	2	.....	4	.....	.....	0.047	1.2	.....	Dr. T. Stanecki.
Szathmar	30.26	768.6	30.37	771.5	53.6	12.1	64	WSW	.....	.....	1	.....	0	.....	.....	0	0	.....	I.R. Hydrographic Office.
Szegedin	29.71	754.7	30.19	766.9	41.4	5.2	60	NW	.....	.....	3	.....	6	.....	.....	0.020	0.5	.....	Pet. Panesics.
Trieste	30.00	762.0	30.29	769.3	45.0	7.2	82	.....	.....	.....	.....	.....	4	.....	.....	0	0	.....	Karl Stancel.
Vienna	30.28	769.1	30.38	771.7	52.0	11.1	68	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	P. Busin.
.....	29.59	751.5	30.33	770.4	46.6	8.1	74	W	.....	.....	2	.....	9	.....	.....	0.280	7.1	.....	I.R. Central Met. Ob'sy.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2:20, instead of 2:8 p. m., local time.

BELGIAN SERIES.

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

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

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

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

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

BRITISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.14	765.5	30.24	768.1	48.2	9.0	.....	W	22	9.8	.....	.....	5	.....	.....	0	0	Blue sky	W. Boswell.
Ardrossan	30.38	771.6	30.40	772.1	50	10.0	.....	WNW	.....	.....	4	.....	6	.....	.....	.....	.....	D. clouds	Wm.McNeil &G.Carrick
Armagh, (Observatory)	30.27	768.8	30.51	774.9	49.3	9.6	.....	W	7	3.1	.....	.....	5	.....	.....	.....	.....	D. clouds	S. Call.
Bidston (Liverpool Obs)	.....	.....	30.49	774.4	49.8	9.9	.....	WNW	26	11.6	.....	.....	2	.....	.....	.....	.....	Blue sky	John Hartnup.
Bolton (Sharples)	29.92	760.0	30.45	773.4	47.6	8.6	.....	W	18	8.0	.....	.....	6	.....	.....	.....	.....	D. clouds	Thomas Mackereth.
Bradford, Yorkshire	30.00	762.0	30.40	772.1	49.9	9.9	.....	NE	.....	.....	4	.....	2	.....	.....	0	0	D. clouds	J McLandsborough.
Bridgetown, Barbadoes	29.93	760 2	29.96	761.0	82	27.8	.....	NE	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	30.39	771.9	30.49	774.4	51.2	10.7	.....	NW	.....	.....	1	.....	1	.....	.....	.....	.....	D. clouds	H. Todd.
Cardington	.....	.....	30.47	773.9	50.0	10.0	.....	NW	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds	John McLaren.
Chatham (School M. E.)	30.36	771.1	30.50	774.7	50.1	10.1	.....	NW	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds	J. Carmell, Sapper, R.E.
Donaghadee	30.47	773.9	30.51	774.9	51	10.6	.....	NW	.....	.....	3	.....	2	.....	.....	.....	.....	D. clouds	J. Mac Gowan.
Dover	30.48	774.2	30 50	774.7	46	7.8	.....	WNW	.....	.....	3	.....	5	.....	.....	.....	.....	½ clouded	J. Costello.
Falmouth (Observatory)	30.40	772.1	30.64	778.2	50.7	10.4	.....	NW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	The Staff.
Fort Napier, Natal	27.47	697.7	29.70	754.4	86.5	30.3	.....	E	.....	.....	3	.....	0	.....	.....	.....	.....	Blue sky	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone§	29.70	754.4	29.93	760.2	86	30.0	.....	E	.....	.....	0	.....	3	.....	.....	.....	.....	D. clouds	
Galway (Queen's College)	.....	.....	30.57	776.5	48	8.9	.....	NW	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds	Prof. A. H. Curtis.
Gibraltar, Mediterranean‖	30.19	766.8	30.24	768.1	63.2	17.3	.....	E	.....	.....	5	.....	10	.....	.....	.....	.....	D. clouds	Sergt.Wm. Allen, A. H.
Glasgow, (Observatory)	30.18	766.6	30.39	771.9	49.1	9.5	.....	W	.....	.....	5	.....	3k	.....	.....	.....	.....	D. clouds	D. G. Maclean, [C.
Great Yarmouth	30.39	771.9	30.40	772.1	51	10.6	.....	WNW	.....	.....	3	.....	4	.....	.....	.....	.....	Misty	G. T. Watson.
Greenwich (Royal Obs'y)	30.32	770.1	30.50	774.7	50.0	10.0	.....	WNW	.....	.....	1	.....	6	.....	.....	.....	.....	D. clouds	The Staff, for G.B.Airy.
Guernsey	30.36	771.1	30.59	777.0	50	10.0	.....	WNW	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds	Dr. S.E Hoskins, F.R.S.
Helston	30.69	779.5	30.81	782.6	49	9.4	.....	NE	.....	.....	1	.....	8k	.....	.....	0	0	Cloudy	M. P. Moyle.
Holyhead	30.50	774.7	30.54	775.7	51	10.6	.....	WNW	.....	.....	5	.....	1	.....	.....	.....	.....	Blue sky	John Tilston.
Jersey	30.33	770.4	30.63	778.0	49.3	9.6	.....	N	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	J. Fisher.
Kew (Observatory)	30.48	774.2	30.52	775.2	50.1	10.1	.....	WNW	9	4.0	.....	.....	10	.....	.....	.....	.....	Misty	The Met'g'l Office.
Leicester (Museum)	30.21	767.3	30.47	773.9	50.9	10.5	.....	NW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	30.21	767.3	30.29	769.4	62.4	16.9	.....	NW	.....	.....	2	.....	4k	.....	.....	.....	.....	D. clouds	A. King.
Nairn	30.15	765.8	30.24	768.1	48	8.9	.....	W	.....	.....	2	.....	5	.....	.....	.....	.....	½ clouded	W. D. Penny.
Nassau, Bahamas	.....	.....	30.19	766.8	76.0	24.4	.....	NE	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham (Observatory)	30.28	769.1	30.47	773.9	50.5	10.3	.....	WNW	.....	.....	3	1ck	.....	NW	.....	0.02	0.5	Blue sky	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.95	760.7	30.49	774.4	49.8	9.9	.....	NW	.....	.....	4	.....	9	.....	.....	.....	.....	D. clouds	Rev. Stephen J.Whitty.
Oxford (Radcliffe Obs'y)	.....	.....	30.53	775.4	51	10.6	.....	W	.....	.....	2	.....	7	.....	.....	.....	.....	Showery	H. E. Bellamy.
Plymouth	30.52	775.2	30.60	777.2	50.8	10.4	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Misty	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	30.58	776.7	30.68	779.3	52	11.1	.....	NNW	.....	.....	3	.....	8	.....	.....	.....	.....	¾ clouded	Wm. Kennedy.
St. Ann's Head	30.44	773.2	30.61	777.5	51	10.6	.....	WNW	.....	.....	2	.....	2	.....	.....	.....	.....	Blue sky	John C. Walker.
Scutari Cemetery, Turkey	.....	.....	30.10	764.5	45.8	7.7	.....	W	44	19.7	.....	.....	5	.....	.....	.....	.....	Showery	Rev. C.Clouston, L.L.D.
Sheffield	29.90	759.4	29.96	761.0	45.0	7.2	.....	NNE	.....	.....	3	.....	10	.....	.....	.....	.....	Raining	Serg't W. H. Lyne.
Silloth Rectory	30.27	768.8	30.56	776.2	51.1	10.6	.....	NNW	.....	.....	2	.....	1	.....	.....	0	0	Blue sky	W. F. Cooper.
Stonyhurst (Observatory)	30.40	772.1	30.43	772.9	51.5	10.8	82	W	.....	.....	3	.....	0	.....	.....	0	0	Blue sky	Francis Redford, A. M.
Stratfield, Turgiss	.....	.....	30.44	773.2	48.9	9.4	.....	W	26	11.6	.....	.....	8	.....	.....	.....	.....	D. clouds	Rev. S. J. Perry.
Truro (Royal Institution)	30.32	770.1	30.55	776.0	49.3	9.6	.....	NW	.....	.....	2	.....	8	.....	.....	.....	.....	D. clouds	Rev.C.H.Griffith, F.M.S.
Valencia Observatory)	30.56	776.2	30.61	777.5	52	11.1	.....	NE	.....	.....	2	.....	10	.....	.....	.....	.....	Gloomy	W. Newcombe.
SUB-SERIES.	30.65	778.5	30.68	779.3	53.0	11.7	.....	NNE	9	4.0	.....	.....	6	.....	.....	.....	.....	D. clouds	The Met'g'l Office.
Cape Town (C. G. H. Obs'y)	29.73	755.1	29.74	755.4	86.6	30.	50	W	3.8	1.7	.....	3ck	3cs	.....	.....	.....	.....	.....	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.48	647.2	.....	.....	89	31.7	.....	.....	.....	.....	.....	0	0	.....	.....	.....	.....	.....	Robert Burnet.
Hobart Town, Tasmania	.....	.....	29.94	760.5	56.0	13.3	77	N	.....	.....	1	.....	10n	.....	.....	0	0	Cloudy	Francis Abbott, F.R.A.S.
Leith, (Restalrig Perk)	.....	.....	30.39	771.9	49.0	9.4	.....	W	.....	.....	3	.....	5k	.....	.....	0	0	Fine	Andrew Gibb.
Mauritius (Observatory)	29.87	758.7	30.06	763.5	77.3	25.2	71	W	6.0	2.7	.....	.....	10	.....	.....	0	0	Cloudy	C. Meldrum.
Melbourne (Observatory)	29.92	759.9	30.01	762.2	51.4	10.8	77	SSE	3	1.3	.....	.....	2	.....	.....	0	0	Very fine	R. L. J. Ellery.
Monach Lt-house, Hebrides	.....	.....	30.36	771.1	50	10.0	.....	NW	.....	.....	7	5	5	NW	.....	0.1	3.	.....	J. Youngclause.
North Unst, Shetland Is	.....	.....	29.89	759.2	.....	.....	.....	NW	.....	.....	7	3	7	NW	.....	0	0	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing, but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft., or 670 m.; Colesberg Bridge, unknown. §Observations taken 55 minutes early. ‖Observations taken 47 minutes late. Both of these errors have apparently existed for a long time.

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. 0—10.	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. Alert, Puerto Bueno, Patagonia	.....	.....	29.77‡	756.1‡	43.2	6.2	WNW	.....	.....	1	9	.....	.....	Overcast	Capt. J.P. Maclear, R.N
H. M. Sloop Gannet, Callao, Peru	.....	.....	30.01‡	762.2‡	62	16.7	N	.....	.....	1	10	.....	.....	Drizzling	Commander E. Bourke, R. N.
H. M. S. Magpie, Shanghai, China	.....	.....	30.41‡	772.4‡	58.5	14.7	NE	.....	.....	2	4	.....	.....	D. clouds	Capt. R. H. Napier, R.N.
Brig Alliance; N. 23° 20′, W. 56° 45′	.....	.....	30.16‡	766.1‡	82.8	28.2	ESE	.....	.....	4	1	.....	.....	Blue sky	Capt. W. Scott.
Barque Commewyne N. 19° 30′, W. 38° 35′	.....	.....	30.01‡	762.2‡	78.5	25.8	N	.....	.....	4	1	.....	.....	Blue sky	Capt. Jas. Buchan.
Brig Endymion, N. 50° 35′, W. 12° 25′	.....	.....	30.65	778.5	58	14.4	NE	.....	.....	1	7	2	ESE	D. clouds	Capt. Balkwill.
S. S. German, Algoa Bay, Cape Colony	.....	.....	29.76‡	755.9‡	67	19.4	E	.....	.....	2	2	.....	.....	Blue sky	Capt. O. D. Coxwell.
Barque Queen of Cambria, N. 8° 05′, E. 76° 45′	.....	.....	29.90‡	759.4‡	81.8	27.7	Calm	.....	.....	0	9	.....	.....	Overcast	Capt. M. Parry.
S. S. Strathleven, Sydney, N. S. W.	.....	.....	29.99‡	761.7‡	68	20.0	NW	.....	.....	3	0	.....	.....	Blue sky	Capt. C. W. Pearson.
Schooner Traveller, N. 49° 50′, W. 26° 45′	.....	.....	30.64	778.2	55	12.8	SE	.....	.....	3	9	3	ESE	Showery	.....
S. S. Gordon Castle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
German Brig "W. von Freeden"	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. V. Freeden.
Theophane	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Greig.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
S. S. Peruvian	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. H. Smith.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.25	666.7	29.97	761.2	67.1	19.5	90	NE	.....	.....	2	1c	8d	.....	E	Inap.	Inap.	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

DANISH SERIES.

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

Copenhagen	29.83	757.7	29.88	758.9	45.3	7.4	85	NW	.....	.....	2	.....	10	.....	.....	.....	.....	Raining	
Fanöe	29.98	761.6	30.00	762.1	48.0	8.9	77	WNW	.....	.....	6	.....	8	.....	.....	.....	.....	Raining	
Godthaab (Greenland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Stykkisholin (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Thorshavn (Faröe)	29.91	759.7	29.95	760.6	41.7	5.4	92	NW	.....	.....	5	.....	7	.....	.....	.....	.....	.....	
Vestervig	29.78	756.5	29.89	759.3	45.5	7.5	82	W	.....	.....	6	.....	9	.....	.....	.....	.....	Raining	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

FRENCH SERIES.

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

Alençon, Normal School	30.04	762.9	30.59	776.9	47.3	8.5	65	NE	.....	.....	1	.....	10n	.....	NE	0	0	Covered	Collignon, Director.
Amiens, Normal School	30.37	771.4	30.48	774.3	47.8	8 8	84	NW	.....	.....	1	.....	8	.....	E	0	0	Very cloudy	Vaillant, Director.
Arras, Engin'r school	30.25	768.3	30.51	775.0	45.1	7.3	69	NW	.....	.....	3	.....	k;n	.....	NW	0	0	.....	Klein, Commandant.
Avignon, Normal School	30.32	770.2	30.40	772.2	52.5	11.4	48	N	.....	.....	3	.....	0	.....	.....	0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.97	761.2	30.55	775.9	45.9	7.7	64	NE	.....	.....	1	.....	10	.....	.....	0	0	Covered	C. Saillard, Director
Beauvais, Normal School	30.27	768.9	30.55	776.0	46.9	8.3	81	W	.....	.....	1	.....	10	.....	WNW	0	0	Covered	Frere Eugene Marie
Besançon, Normal School	29.60	751.8	30.48	774.2	46.6	8.1	64	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Carré, Director.
Bourg-en-Bresse, N. School	29.65	753.2	30.63	778.0	35.6	2	93	N	.....	.....	1	.....	10	.....	.....	0	0	Foggy	Marlot, Director.
Bourges, Normal School	29.95	760.8	30.52	775.2	47.1	8.4	89	NNE	.....	.....	1	.....	5ks	.....	NNE	0	0	Cloudy	M. Gence, Director.
Brest, Naval Observatory	30.38	771.7	30.62	777.8	52.2	11.2	77	ENE	.....	.....	1	.....	10	.....	NE	0	0	.....	Ch. de Rermaree, Dir.
Caen, Normal School	30.58	776.7	.....	.....	48.9	9.4	84	NW	.....	.....	.....	.....	10	.....	NW	0.031	0.8	Covered	M. Bietrin, Director.
Carcassonne, N. School	29.99	761.7	30.41	772.4	53.6	12	65	SW	.....	.....	1	.....	5	SW	SW	0	0	Cloudy	September, Director.
Châlons-sur-Marne, N. Sch'l	30.24	768.0	30.57	776.5	45.1	7.8	83	SW	.....	.....	2	.....	10	.....	.....	.....	.....	Covered	Vergier, Director.
Chartres, Normal School	29.96	761.0	30.55	776.0	46.9	8.3	84	E	.....	.....	1	.....	10	.....	W	0	0	Covered	Jadot, Director.
Clermont-Fd, Puy de D. Obs	29.10	739.2	30.50	774.8	46.8	8.2	65	N	.....	.....	1	.....	2	.....	.....	0	0	.....	Alluard, Director.
Commercy, Normal School	29.63	752.5	30.52	775 2	43.2	6.2	76	WNW	.....	.....	3	.....	10n	WNW	WNW	0	0	Covered	Dr. Coullet, Director.
Commune de Gréasque*	29.30	744.1	30.43	773.1	57.0	13.9	55	SW	.....	.....	2	.....	2	.....	S	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.73	755.2	30.54	775.6	42.1	5.6	61	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.33	770.4	30.55	776.0	50.5	10.3	60	NNE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Mouillot, Director.
Le Mans, Normal School	30.26	768.5	30.56	776.6	49.1	9.5	64	NNE	.....	.....	1	.....	8	.....	NNE	0	0	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.63	752.6	30.58	776.6	41.2	5.1	84	W	.....	.....	1	2c	.....	NW	NW	0	0	Fair	A. Baudry, Director
Lorient, Naval Observatory	30.50	774.7	30.61	777.5	52.5	11.4	69	NNE	.....	.....	1	.....	.....	.....	NE	0	0	.....	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.89	759.2	30.54	775.6	48.0	8.1	77	ENE	.....	.....	1	.....	.....	.....	NNE	0	0	.....	Ch. André, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	Galxin, Director.
Marseilles, Observatory	30.06	763.5	30.83	770.4	59.5	15 3	58	WSW	.....	.....	1	.....	4	.....	WSW	0	0	.....	E. Stephan, Director.
Mirecourt, Normal School	29.45	748.0	30.53	775.5	46.3	7.4	69	NW	.....	.....	1	.....	k	NW	NW	0	0	.....	Barbier, Director.
Mont-Louis	25.13	638.2	30.44	773.2	54.6	12.0	29	SE	22.4	10.0	.....	.....	0	.....	.....	0	0	.....	M. Cave.
Nice	30.35	771.0	30.39	771.9	59.9	15.5	74	SE	.....	.....	2	.....	1	E	SE	0	0	Clear	M. Boissiers, Director.
Nismes, Normal School	30.18	766.5	30.39	771.8	54.0	12.2	52	NE	.....	.....	3	.....	2	.....	NE	0	0	Slightly cl'dy	M. Boyer, Director.
Paris, Montsouris Obs'y	30.26	768.7	.....	.....	45.9	7.7	78	SW	.....	.....	1	.....	10	.....	.....	0	0	.....	Marie Davy, Director.
Perpignan	30.30	769.7	30.41	772.3	53.2	11.8	76	S	3.8	1.7	.....	.....	5	.....	NW	0	0	.....	Dr. Flues.
Pic du Midi (Plantade) H. P.	22.80	579.2	.....	.....	43.0	6.1	.....	W	.....	.....	1	.....	1	.....	SW	0	0	Clear	Gen'l de Nansouty.
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Privas, Normal School	29.35	745.5	30.45	773.3	49.1	9.5	69	N	.....	.....	1	.....	1	N	N	0	0	Clear	Cantier, Director.
Puy de Dome (Summit) Obs	25.47	646.9	.....	.....	39.0	3.9	66	E	.....	.....	2	.....	2	.....	.....	0	0	Rain at distance	Alluard, Director.
Rochefort, Naval Obs'y	30.47	774.0	30.50	774.8	51.4	10.8	68	NE	.....	.....	4	.....	2	NE	NE	0	0	¼ covered	Lt E. Decante, Director
Rouen, Normal School	30.45	773.5	30.54	775.7	47.3	8.5	82	W	.....	.....	1	.....	10	.....	.....	0	0	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.55	776.0	30.58	776.8	49.8	9.9	79	WSW	.....	.....	1	.....	10	SW	SW	.....	.....	Sprinkling	Lt. Hercouet, Director.
Saint Maur (near Paris)	30.39	771.8	30.55	776.0	46.2	7.9	76	SW	.....	.....	1	.....	.....	.....	NNW	0	0	.....	E. Renou, Director.
Tarbes, Normal School	29.35	745.5	30.43	772.9	38.3	3.5	83	W	.....	.....	1	.....	1	SW	NE	0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.73	755.1	30.46	773.7	47.8	8.8	76	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. Julier Mercadier.
Tours	30.35	770.8	30.54	775.8	48.2	9.0	60	NE	.....	.....	1	.....	1	.....	NE	0	0	Almost clear	Cousin-Marquet.
Versailles, Observatory	30.05	763.2	30.54	775.7	45.0	7.2	74	NW	.....	.....	1	.....	.....	.....	.....	0	0	.....	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.78	756.5	30.52	775.1	50.0	10	80	ENE	.....	.....	1	.....	2	.....	NE	0	0	Slightly cl'dy	Nico:, Director.
SUB-SERIES.																			
Fort de France, Martinique	30.00	762.1	30.03	762.8	80.6	27	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.63	16;	.....	L'Abbé Marchési
Zi-Ka-Wei (near Shanghai)	30.39	771.9	30.41	772.5	53.1	11.7	80	N	6.0	2.7	.....	10ck	.....	W	.....	0	0	Covered	Marc Dechevrens.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,360 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centrigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.50	749.3	30.35	771.0	43.9	6.6	83	SW	.....	.....	4	.....	7k	SW	.....	0.236	6.0	Raining	Prof. Dr. Hoh.
Berlin	29.98	761.6	30.16	766.1	46.4	8.0	86	W	.....	.....	5	.....	10	.....	.....	0.031	0.8	.....	Prof. Dr. Arndt.
Breslau	29.68	753.8	30.21	767.4	44.6	7.0	84	W	.....	.....	3	.....	10	.....	.....	0.001	0.02	Foggy	Royal University Obs'y.
Carlsruhe	30.01	762.3	30.46	773.6	47.5	8.6	74	SW	.....	.....	2	.....	10	NW	.....	0.012	0.3	.....	Albert Senz.
Cassel	29.75	755.6	30.40	772.2	44.6	7.0	73	WNW	.....	.....	2	.....	10	W	.....	0.102	2.60	.....	Dr. H. Möhl.
Emden	.....	.....	30.19	766.8	47.8	8.8	83	W	.....	.....	3	.....	5	.....	.....	0.004	0.1	.....	Prof. Dr. Prestel.
Frankfort on the Main	30.07	763.8	30.43	772.8	46.9	8.3	73	W	.....	.....	3	.....	10	.....	.....	0.035	0.9	.....	Physical Society.
Friedrichshafen	29.00	736.7	30.49	774.5	44.2	6.8	75	SW	.....	.....	3	.....	0	.....	.....	0	0	.....	Chief Telegrapher Wilhelm.
Hamburg	30.08	764.0	30.15	765.8	45.0	7.2	87	WSW	.....	.....	5	.....	10n	.....	.....	0.055	1.3	Rainy	Captain F. Hegemann.
Kiel	30.04	762.9	30.05	763.3	46.2	7.9	89	W	.....	.....	4	.....	8	.....	.....	0.015	0.38	.....	Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.93	760.1	30.01	762.3	41.9	5.5	73	W	.....	.....	5	.....	4	.....	.....	0.122	3.1	Snowing.....	Prof. E. Luther.
Köslin	.....	.....	29.98	761.5	43.3	6.3	.....	W	.....	.....	4	.....	4	.....	.....	0.008	0.2	.....	H. Müller.
Leipsic Observatory	29.87	758.7	30.30	769.7	45.5	7.5	80	WSW	.....	.....	3	.....	9	WSW	.....	0.122	3.1	.....	Prof. Dr. Bruhns, Privy Counselor.
Magdeburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Assmann.
Memel	29.86	758.4	29.91	759.6	44.4	6.9	80	SW	.....	.....	5	.....	10kn	.....	.....	.....	.....	.....	Reinbrecht & Ishermann
Munich (München)	28.57	725.6	30.46	773 6	43.3	6.3	62	W	.....	.....	1	.....	9	SW	.....	0.008	0.2	Raining	Dr. C. Lang.
Neufahrwasser	29.96	760.9	29.97	761.3	45.5	7 5	80	SSW	.....	.....	3	.....	10	.....	.....	0.083	2.1	.....	A. Lothes.
Neustadt (Palatinate)	29.91	759.7	30.44	773.3	46.0	7.8	78	NW	.....	.....	2	.....	10	.....	.....	0.055	1.4	.....	Reallehrer Dicknether.
Posen	29.82	757.5	30.04	763.0	44.8	7.1	88	W	.....	.....	4	.....	10	.....	.....	0.055	1.4	Raining	Prof. Dr. Hagener.
Strassburg (in Alsace)	29.95	760.7	30.52	775.1	47.7	8 7	76	SW	.....	.....	1	.....	10	WSW	.....	0.004	0.10	.....	Imp. University Observatory.
Stuttgart	29.47	748.4	30.43	773.0	46.4	8.0	57	W	.....	.....	2	.....	10 ·	.....	.....	0	0	.....	Prof. Dr. Schoder.
Weissenburg (Bavaria)	28.88	733.6	30.46	773.8	42.6	5.9	78	W	5	2	.....	.....	10	.....	W	0.039	1 0	.....	Reallehrer J. Hopfner.
Wustrow	30.05	763.3	30.08	763.9	45.9	7.7	86	WSW	.....	.....	5	.....	10s	.....	.....	0	0	.....	E. Schütz, Director.
German Naval Series.																			
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NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

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

Athens	29.73	755.2	30.13	765.3	50.0	10.0	.....	NE	.....	.....	2.0	.....	5	.....	.....	.....	.....	½ clear.....	Dr. J. F. J. Schmidt.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

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

Kurrachee	29.67	758.8	29.92	760.0	80.3	26.8	61	W	9	4.0	.....	.....	0	.....	.....	0	0	Blue sky.....	
Deesa	29.47	748.5	29.95	760.6	79.2	26.2	36	SSW	7.8	3.5	.....	.....	0	.....	.....	0	0	Blue sky.....	
Bombay	29.86	758.4	29.90	759 6	78.3	25 7	87	NW	10	4.5	.....	.....	0	.....	.....	0	0	Blue sky.....	
Poona (Yerrowda)	28.03	711.9	29.88	758.9	80.0	26.7	27	SSE	4	1.8	.....	.....	1	.....	.....	0	0	D. clouds.....	
Belgaum	27.36	695.0	29.91	759.7	74.6	23.7	75	Calm	0	0	.....	.....	7	E	E	0.03	0.7	D. clouds ...	
Lahore	29.13	739.9	29.89	759.2	70.7	21.5	45	Calm	0.5	0.2	.....	.....	0	.....	.....	0	0	Blue sky	
Roorkee	28.97	735.9	29.89	759.3	69.2	20.7	38	N	1.9	0.9	.....	.....	.....	.....	.....	0	0	.....	
Agra	29.36	745 6	29.93	760.3	73.7	23.2	47	Calm	2.9	1.3	.....	.....	.....	.....	.....	0	0	.....	
Nagpur	28.87	733.3	29.92	760.0	75.7	24.3	29	Calm	3	1.3	.....	.....	.....	.....	.....	0	0	.....	
Jubbulpore	28.63	727.2	30.03	762.8	70.2	21.2	41	Calm	1.4	0.6	.....	.....	.....	.....	.....	0	0	Blue sky.....	
Lucknow	29.52	749.7	29.90	759.6	70.2	21.2	66	N	0.8	0.4	.....	.....	.....	.....	.....	0	0	Blue sky.....	
Allahabad	29.60	751.8	29.92	760.0	66.0	18.9	63	Calm	1.7	0.8	.....	.....	.....	.....	.....	0	0	Blue sky.....	
Patna	29.69	754.1	29.87	758.8	77.7	25 4	49	Calm	0	0	.....	.....	0	.....	.....	0	0	Blue sky.....	
Hazaribagh	27.86	707.6	29.92	759.8	66.6	19.2	47	WNW	6.0	2.7	.....	.....	0	.....	.....	0	0	Blue sky.....	
Cuttack	29.88	759.0	29.87	758.7	69.9	21.2	70	NE	0.5	0.2	.....	.....	0	.....	.....	0	0	Blue sky.....	
Calcutta (Alipore)	29.85	758.2	29.87	758.7	69.0	20.6	75	WNW	1.0	0 4	.....	.....	0	.....	.....	0	0	Blue sky.....	
Goalpara	29.43	747.6	29.82	757.5	77.7	25.4	67	Calm	1.2	0.5	.....	.....	0	.....	.....	0	0	Blue sky.....	
Chittagong	29.78	756.3	29.87	758.6	74.6	23.7	74	Calm	1.6	0.7	.....	.....	3	.....	.....	0	0	Misty.....	
Sibsagar	29.50	749.2	29.84	757.8	74.1	25.4	82	ENE	1.6	0.7	.....	.....	2	.....	.....	0	0	Blue sky.....	
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NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

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

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

STATIONS	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	29.96	761.0	30.38	771.7	50.0	10.0	54	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.83	757.7	30.36	771.2	50.0	10.0	51	S	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	30.28	769.0	30.39	771.8	49.8	9.9	58	SE	0.7	0.3	.....	.....	0	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.44	747.7	30.37	771 3	48.0	8.9	54	N	0.7	0.3	.....	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	30.19	766.7	30.38	771.6	60.8	16.0	66	SE	8.1	3.6	.....	.....	4	S	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.41	721.5	30.35	770.9	50.2	10.1	46	NE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.32	770.1	30.37	771.3	52.3	11.3	57	NE	6.3	2.8	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	30.14	765.6	30.41	772.3	53.6	12.0	58	N	.....	.....	2	.....	2	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	30.32	770.0	30.40	772.3	56.8	13.8	63	NE	2.5	1.1	.....	.....	2	.....	.....	0	0	.....	Prof. P. Monte.
Rome	30.21	767.4	30.39	771.9	58.3	14.6	40	ENE	0.7	0.3	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. C. De Giorgi.
Cosenza	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. D. Conti.
Cagliari	29.41	747.1	30.31	769.8	54.3	12.4	70	NNE	4.9	2.2	.....	.....	3	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	30.21	767.3	30.40	772.2	63.0	17.2	48	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. G. Ciacciatore.
Syracuse	30.10	764.5	30.35	771.0	59.0	15.0	46	NE	4.9	2.2	.....	.....	7	.....	.....	0.028	0.7	.....	Prof. V.G. Guliano.
	30.23	767.7	30.30	769.6	61.2	16.2	51	NE	12.5	5.6	.....	.....	6	E	.....	0	0	.....	
SUB-SERIES.																			
Naples, S. R.	29.83	757.7	30.37	771.4	57.2	14.0	48	NW	1.8	0.8	.....	.....	3	.....	.....	0	0	.....	Prof. F. Brioschi.

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

JAPANESE SERIES.

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

Hiroshima, I. M. Obs'y	30.27	768.8	30.29	769.3	49.8	9.9	74	NE	3.0	1.4	.....	.....	0	.....	.....	0	0	Clear.	K. Sasaki.
Nagasaki, I. M. Obs'y	30.11	764.8	30.32	770.1	52.5	11.4	81	N	1.1	0.5	.....	.....	0	.....	.....	0	0	Clear	S. Takehayashi.
Tokei, (Yeddo) Observatory	30.07	763.8	30.14	765.5	49.9	9.9	85	E	4.4	2.0	.....	3ck	0	.....	.....	0	0	Fair	The Staff.
Wakayama	30.17	766.3	30.22	767.6	47.2	8.4	91	ENE	3.8	1.7	.....	.....	2ks;8	.....	.....	0	0	Fair	

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

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

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

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	25.13	638.2	30.26	768.5	48.6	9.2	65	SW	.....	.....	1	.....	1	.....	.....	0	0	Clear	Prof. L. Perez.
Leon	24.51	622.6	30.27	768.8	55.0	12.8	81	NW	.....	.....	1	0	0	.....	.....	0	0	Fine	Prof. M. Leal.
Mazatlan	29.76	755.8	30.02	762.4	74.1	23.4	85	SE	.....	.....	1	1c	0	.....	.....	0	0	Foggy	I. Guerrero, C. E.
Mexico, Central Observatory	23.15	588.0	30.28	769.1	48.2	9.0	78	Calm	0	0	.....	0	0	.....	.....	0	0	Very fine	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	50.5	10.3	85	Calm	.....	.....	0	1cs	0	.....	.....	0	0	Clear	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.47	596.0	30.37	771.3	45.5	7.5	41	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.28	616.6	30.33	770.3	53.1	11.7	60	NE	.....	....	1	.....	10	.....	SE	0	0	Covered	G. Barroeta, M. D.
Tlacotalpam	30.09	764.3	30.10	764.6	72.0	22 2	92	SW	.....	.....	2	3	2	S	SW	0.06	1.5	Fair	Prof. M. M. Châzaro.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell.
Zacatecas	22.63	574.8	30.30	769.5	53.4	11.9	70	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	A. Nuñez.

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

NETHERLANDS SERIES.

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

Flushing	30.44	773.3	30.44	773.3	49.1	9.5	.....	WNW	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Groningen	30.19	766.8	30.24	768.2	47.3	8.5	.....	WNW	.....	.....	.....	.....	.....	.....	.....	0.020	0.5	.....	
Helder	30.28	769.2	30.28	769.2	48.9	9 4	.....	W	.....	.....	5	.....	.....	.....	.....	0.016	0.4	.....	
Hellevoetsluis	30.39	771.9	30.39	771.9	48 0	8.9	82	WNW	.....	.....	4	.....	.....	.....	.....	0 039	1.0	.....	
Utrecht	30.32	770.2	30.37	771.4	46.8	8.2	86	WSW	.....	.....	3	.....	10	.....	.....	0.043	1.1	Dull	H. v. d. Brink.

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

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.71	754.6	29.76	756.0	40.6	4.8	87	NW	6.5	2.9	.....	.....	8	.....	.....	0.315	8.0	.....	
Brönö	29.28	743.6	29.32	744.6	42 4	5.8	64	SW	18	8	.....	.....	8	.....	.....	0.197	5.0	.....	
Christiana	29.41	747.0	29.56	750.8	39.7	4 3	84	E	0	0	.....	.....	10	.....	.....	0	0	Foggy	
Tromsö	29.18	741.1	29.22	742.2	30.0	— 1.1	65	SW	11	5	.....	.....	10	.....	.....	0.252	6.4	.....	

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

PORTUGUESE SERIES.

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

Angra (Azores)	29.98	761.4	30.17	766 3	62.2	16.8	83	ENE	15.0	6 7	.....	.....	5	.....	.....	0.315	8.0	.....	Dr. J. A. Sampaio.
Campo Major	29.28	743.6	30.30	769.5	64.0	17.8	66	ENE	5.6	2.5	.....	.....	6	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	29.97	761.1	30.05	763.3	71.2	21.8	65	SW	4.9	2.2	.....	.....	7	.....	.....	0 031	0.8	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.89	759.2	30.24	768.2	65.8	18.8	77	SE	9.8	4.4	.....	.....	7	SSW	.....	0.043	1.1	.....	The Staff.
Ponta Delgada (Azores)	30.01	762.2	30.08	764.0	64.0	17.8	82	NE	19.9	8.9	.....	.....	3	.....	.....	0.768	19.5	.....	

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

PORTUGUESE NAVAL SERIES. VESSELS.																Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa, Fogo, Cape Verd Islands.	.....	.....	.....	.....	79.9	26 6	.....	NE	.....	.....	2	.....	3	.....	NE	2	.....	D. clouds....	A. A. A. Loureiro.
Sâ da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Com'd't.
Sado, Capt. J. A de Brito Capello, St. Paul de Loando	.....	.....	29.96	761.0	81.5	27.5	.....	WNW	.....	.....	2	.....	6	.....	NW	.....	.....	D. clouds, 2 hr's rain-fall.	H. Mecudoneo, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	.....	.....	30.12	765.1	75.9	24.4	.....	NE	.....	.....	4	.....	1	.....	NE	3	NE	Blue sky.....	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

RUSSIAN SERIES.

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

Archangel	29.50	749.2	29.52	749.7	25.9	— 3.4	93	NW	4	2	.....	.....	8ks	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Astrakhan	29.69	754.2	29.61	752.1	53.1	11.7	93	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Foggy	Capt. Wisganow.
Barnaul	30.13	765.3	30.08	779.2	17.1	— 8.3	85	NE	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	29.66	753.4	29.92	759.9	26.8	— 2.9	64	SSW	4	2	.....	.....	7kn	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	28.73	729.6	29.72	754.8	29.7	— 1.3	50	SSE	31	14	.....	3c	.....	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	29.13	739.8	29.40	746.8	25.6	— 1.9	95	SW	2	1	.....	.....	10	.....	.....	.....	.....	Snowing....	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.33	745.0	30.00	762.1	28.0	— 2.2	96	NW	7	3	.....	.....	9ks;n	.....	.....	.....	.....	.....	Physical Cabinet.
Krotkowo*	29.02	737.0	29.50	749.3	32.7	0.4	89	W	0	0	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	29.55	750.6	29.76	755.9	36.7	2.6	72	W	4	2	.....	.....	10	.....	.....	Blank	Blank	.....	Meteorological Obs.
Moscow	29.13	740.0	29.71	754.7	20.8	— 6 2	79	N	7.8	3.5	.....	.....	10s	.....	.....	.....	.....	Snowing....	Meteorological Obs.
Nertchinsk	28.10	713.7	30.60	777.1	12.4	—10.9	89	Calm	0	0	.....	.....	8	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Nikolaiev	29.97	761.1	30.04	762.9	34.3	1.3	63	NW	45	20	.....	.....	8ks	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	29.60	751.8	29.83	757.7	57.6	14.2	51	Calm	0	0	.....	.....	1s	.....	.....	.....	.....	.....	.....
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	30.36	771.1	30.50	774.7	42.1	5.6	85	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	29.80	756.8	29.81	757.2	24.8	— 4.0	73	NW	13	6	.....	.....	0	.....	.....	.....	.....	.....	Central Physical Obs.
Tashkend	28.35	720.0	29.89	759.2	62.6	17	42	.....	.....	.....	.....	.....	10	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.34	719.9	29.74	755.3	59.2	15.1	62	N	4	2	.....	.....	8cs	.....	.....	.....	.....	Light clouds	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	29.69	754.2	30.13	765.3	40.1	4.5	68	WSW	7	3	.....	10ck	.....	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.62	752.3	30.06	763.4	34.2	1.2	55	WSW	4	2	.....	.....	8	.....	.....	.....	.....	.....	Astronomical Obs.
Yenisiesk	30.27	768.9	30.58	776.8	21.7	- 5.7	75	S	16	7	.....	.....	10	.....	.....	.....	.....	.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

SPANISH SERIES.

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

Barcelona, Met. Obs'y	30.27	768.9	30.38	771.6	58.3	14.6	60	SSE	0.9	0.42	.....	.....	0	.....	.....	0	0	Clear...	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.36	771.2	30.42	772.6	61.9	16.6	65	NW	1.4	0.64	.....	0	0	.....	.....	0	0	Clear.....	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.39	695.6	.....	.....	57.6	14.2	59	NE	0.7	0.31	.....	0	5	.....	.....	0	0	Cloudy.....	Domingo Martin y Perez.
Madrid, Royal Observatory.	28.15	715.1	30.42	772.6	56.5	13.6	74	E	3.0	1.33	.....	0	9	.....	.....	0	0	Almost cov'd	The Staff.
Murcia, Met. Obs'y	30.25	768.3	30.40	772.1	64.4	18.0	64	ENE	3.1	1.39	.....	2	5	NNE	.....	0	0	Cloudy.....	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.36	745.8	30.25	768.4	64.6	18.1	59	SE	14.3	6.4	.....	.....	7	.....	.....	0	0	Cloudy.....	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.11	764.7	30.17	766.4	72.9	22.7	75	E	3.1	1.4	.....	c	1k	WSW	ENE	0.319	8.1	Clear.....	Benito Vines, S. J.
Manilla, Phillippine Islands	29.70	754.3	29.75	755.6	79.7	26.7	.....	SSW	0	0	.....	.....	2s	.....	S	3.177	80.7	Clear.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.16	766.1	30.26	768.6	67.5	19.7	61	ESE	23.4	10.5	.....	3	0	SW	.....	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.95	760.8	30.04	763.1	78.8	26.0	86	NE	0	0	.....	2k	2k	SE	SE	0	0	Clear.....	Enrique Gadea, Chief Eng'r

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8.19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.57	751.1	29.61	752.1	27.7	— 2.4	.....	S	.....	.....	2	.....	10	.....	.....	0	0	.....	
Umea	29.47	748.5	29.52	749.8	32.7	0.4	85	SW	.....	.....	6	.....	10	.....	.....	0.453	11.5	.....	
Hernosand	29.45	747.9	29.50	749.2	33.4	0.8	85	Calm	.....	.....	0	.....	10	.....	.....	0.047	1.2	.....	
Stockholm	29.46	748.2	29.63	752.7	37.4	3.0	87	SSW	.....	.....	2	.....	10	.....	.....	0	0	.....	
Wisby	29.64	752.9	29.70	754.4	42.4	5.8	85	W	.....	.....	6	.....	7	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.48	748.7	29.56	750.9	36.0	2.2	94	SSW	8.9	4.0	.....	.....	10	.....	.....	0.019	0.47	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

SWISS SERIES.

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

Geneva	29.04	737.6	30.50	774.8	41.9	5.5	67	NNE	.....	.....	2	.....	0	.....	.....	0	0	Clear	The Observatory.
Zurich	28.81	731.8	30.50	774.6	40 8	4.9	67	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	The Observatory.
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +11.4 mm.; Thermometer, —3.3 Cent.; Relative Humidity, —8 per cent.

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

TURKISH SERIES.

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

Constantinople	.....	.....	29.95	760.7	43.5	6.4	94	N	27	12.0	.....	.....	10	.....	N	1.083	27.5	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Sub-series.																			
Beirut, (Syria) Lee Obsy	29.79	756.7	29.91	759.6	77.0	25.0	59	SW	.....	.....	4	2c	.....	.....	.....	0	0	D. clouds	Prof. C. V. A. van Dyck.
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. A. Blair.
Charlottetown, P. E. Island	30.10	764.5	30.14	765.5	24.8	— 4.0	77	W	6	2.7	.....	0	0	.....	.....	0.25	6.3	Clear	H. J. Cundall, C. E.
Cornwall, Ontario	30.23	767.8	30.43	772.9	20.4	— 6.4	88	W	.....	.....	1	.....	10s	.....	.....	0	0	Cloudy	James Smith, M. A.
Dalhousie, N. B	30.12	765.0	30.30	769.6	23.2	— 4.9	.....	W	.....	.....	1	0	10ks	.....	.....	0	0	Overcast	H. A. Johnson.
Father Point, Quebec	30.24	768.1	30.26	768.6	26.4	— 3.1	75	NW	25	11.2	.....	.....	10s	.....	.....	Inap.	Inap.	Cloudy	J. McWilliams.
Fredericton, N. B	30.24	768.1	30.31	769.6	22.0	— 5.6	73	NW	8	3.6	.....	2c	0	.....	.....	0	0	Clear	Prof. Harrison.
Fort Garry, Manitoba	28.93	734.8	29.79	756.7	26.5	— 3.1	94	NW	10	4.5	.....	5k	5n	NW	.....	0.03	0 8	Cloudy	James Stewart.
Granton, Ontario	29.23	742.4	30.43	772.9	16	— 8.9	.....	Calm	.....	.....	0	2cs	0	W	.....	0	0	Fair	James Grant.
Halifax, N. S	30.10	764.5	30.24	768.1	28.0	— 2.2	90	W	8	3.6	.....	0	0	.....	.....	0	0	Clear	A. Allison, M. A.
Hamilton, Ontario	30.06	763.5	30.47	773.9	18.5	— 7.5	89	SW	.....	.....	1	.....	10cs	.....	SW	0	0	Cloudy	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	30.12	765.0	30.48	774.2	21.6	— 5.8	93	NW	3	1.3	.....	0	2s	.....	.....	0	0	Fine	S. Woods, M. A.
Little Glace Bay, N. S	30.01	762.2	30.05	763.3	34.2	1.2	69	W	7	3.1	.....	2k	0	W	.....	0	0	Fair	C. H. Rigby.
Montreal, Quebec	30.22	767.6	30.44	773.2	23.6	— 4.7	79	SW	8	3.6	.....	.....	10s	.....	.....	0	0	Overcast	C. H. McLeod, C. E.
Moose Factory, Ontario	30.30	769.6	30.34	770.6	16.5	— 8.6	84	S	.....	.....	4	.....	10	.....	.....	0	0	Cloudy	J. R. Nason.
Norwood	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. R. Mosley.
Peterboro, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. Jeffers, B. A.
Port Dover, Ontario	29.69	754.1	30.50	774.7	17.5	— 8.1	92	Calm	.....	.....	0	.....	10n	.....	.....	0	0	Hazy	H. Morgan.
Port Hastings, N. S	29.68	753.9	30.43	772.9	21.1	— 6.1	85	W	4	1.8	.....	10k	0	W	.....	0.18	4.6	Fair	Peter Grant.
Port Stanley, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Payne.
Quebec, Quebec	29.73	755.1	30.44	773.2	9.4	—12.6	98	N	4	1.8	.....	.....	8ks	.....	W	0	0	Cloudy	Capt. Ashe, R. N.
Rockliffe, Ontario	30.07	763.8	30.42	772.7	20	— 6.7	70	N	..	.....	1	0	2s	.....	.....	0	0	Clear	W. H. McIntyre.
St. Andrews, N. B	29.94	760.5	30.45	773.4	22.0	— 5.6	72	Calm	0	0	.....	.....	10s	.....	NW	0	0	Cloudy	Dr. Gove.
St. John, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. Murdock, C. E.
Saugeen, Ontario	30.12	765.0	30.30	769.6	23	— 5.0	80	NW	11	4.9	.....	1c	0	.....	.....	0	0	Fine	K. Stewart.
Stayner, Ontario	29.52	749.8	30.29	769.4	22.5	— 5 3	88	SE	7	3.1	.....	.....	10s	.....	.....	0.17	4.3	Overcast	R. J. Cole.
Stratford, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. MacGregor, M. A.
Sydney, C. B	29.03	737.3	30.43	772.9	12.1	—11.1	94	Calm	0	0	.....	3ck	2s	NW	.....	0	0	Fair	T. C. Hill, C. E.
Toronto, Ontario	30.03	762.7	30.07	763.8	33.4	0.8	83	W	7	3.1	.....	0	7ks	.....	.....	0.26	6.6	Fair	Magnetic Observatory.
Windsor, N. S	30.05	763.3	30.46	773.7	27.9	— 2.3	85	S	6	2.7	.....	5ck	5ks	W	.....	Inap.	Inap.	Cloudy	Prof. John E. Oram.
Woodstock, Ontario	30.12	765.0	30.22	767.6	25.5	— 3.6	94	NW	8	3.6	.....	2k	0	.....	.....	0	0	Fine	Prof. J. Montgomery.
Yarmouth, N. S	29.18	741.1	30.36	771.1	7.7	—13.5	100	SE	2	0.9	.....	5k	1s	NW	.....	0.32	8.1	Fair	Lt. F. E. Wilmot, R. N.
Sub-Series.	30.21	767.3	30.28	769.1	31.5	— 0.3	90	N	.....	.....	2	0	8kc	.....	.....	0.03	0.8	Snowing	
St. Johns, Newfoundland	29.68	753.9	29.94	760.5	41.0	5.0	82	NW	.....	.....	.....	5k	5s	.....	.....	0	0	Fair	John Delany.
St. Pierre, N. F	.....	.....	29.80	757.0	37.4	3	.....	NW	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	l'Hopital Maritime.
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10, except Yarmouth and St. Johns on scale 0 to 20. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

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

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	30.26	768.6	30.51	774.9	24	— 4.4	80	Calm	0	0	.....	0	8s	.....	NW	0	0	Fair	
Alpena, Michigan	29.63	752.6	30.32	770.1	22	— 5.6	86	SW	4	1.8	.....	5ck	.....	W	.....	0	0	Fair	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	29.23	742.4	30.44	773.2	38	3.3	54	SE	8	3.6	.....	.....	10s	....	Calm	0	0	Cloudy	
Atlantic City, New Jersey	30.55	776.0	30.56	776.2	25	— 3.9	87	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Augusta, Georgia	30.33	770.4	30.54	775.7	35	1.7	90	NW	2	0.9	.....	.....	10s	....	SW	0	0	Cloudy	
Baltimore, Maryland	30.52	775.2	30.57	776.5	29	— 1.7	69	NW	2	0.9	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Barnegat, New Jersey	30.50	774.7	30.52	775.2	27	— 2.8	76	N	18	8.0	.....	0	0	.....	.....	0	0	Clear	
Bismarck, Dakota	28.14	714.7	30.00	762.0	30	— 1.1	80	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Boerne, Texas	28.61	726.7	29.90	759.4	65	18.3	94	SW	6	2.7	.....	.....	10s	.....	S	0	0	Cloudy	
Boise City, Idaho	27.17	690.1	30.13	765 3	52	11.1	47	SE	4	1.8	.....	.....	10s	....	Calm	0	0	Cloudy	
Boston, Massachusetts	30.29	769.4	30.46	773.7	20	— 6.7	70	NW	10	4.5	.....	1k	0	Calm	.....	0	0	Clear	
Brackettville, Texas	28.89	733.8	29.92	760.0	66	18.9	84	E	3	1.3	.....	0	8s	.....	E	Inap	Inap.	Fair	
Breckenridge, Minnesota	28.91	734.3	29.96	761.0	20	— 6.7	100	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Brownsville, Texas	30.02	762.5	30.06	763.5	69	20.6	95	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Buffalo, New York	29.18	753.9	30.43	772.9	27	— 2.8	76	E	4	1.8	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Burkes, Arizona	.....	.....	.....	.....	42	5.6	42	W	.....	.....	1	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	30.17	766.3	30.48	774.2	23	— 5.0	73	SE	7	3.1	.....	2ck	5ks	W	N	0	0	Fair	
Cairo, Illinois	29.87	758.7	30.27	768.8	46	7.8	47	S	5	2.2	.....	.....	10s	.....	S	0	0	Cloudy	
Campo, California	27.55	699.8	30.12	765.0	25	— 3.9	75	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.51	774.9	30.52	775.2	42	5.6	74	NE	14	6.3	.....	Haze	1ks	.....	Calm	0	0	Hazy	
Cape Henry, Virginia	30.53	775.4	30.55	776.0	37	2.8	53	N	12	5.4	.....	1k	0	NW	.....	0	0	Clear	
Cape Lookout, N. Carolina	30.50	774.7	30.52	775.2	39	3.9	72	N	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Cape May, New Jersey	30.51	774.9	30.54	775.7	33	0.6	61	N	9	4.0	.....	0	Haze	.....	.....	0.01	0.3	Clear	
Castroville, Texas	29.27	743 4	29.97	761.2	67	19.4	95	E	2	0.9	.....	.....	10s	.....	S	0	0	Threatening	
Charleston, South Carolina	30.43	772.9	30.49	774.4	43	6.1	75	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Charlotte, North Carolina	29.62	752.3	30.50	774.7	31	— 0.6	48	NE	1	0.4	.....	5c	Sm'e	Calm	Calm	0	0	Fair	
Chattanooga, Tennessee	29.40	751.8	30.46	773.7	32	0.0	79	NE	3	1.3	.....	5cs	Sm'e	NW	Calm	0	0	Dense smoke	
Cheyenne, Wyoming	24.05	610.9	29.99	761.7	41	5.0	25	SW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.42	747.3	30.13	765.3	36	2.2	61	S	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy	
Cincinnati, Ohio	29.70	754.4	30.38	771.6	35	1.7	57	SE	5	2.2	.....	.....	10s	.....	W	0	0	Cloudy	
Cleveland, Ohio	29.65	753.1	30.43	772.9	24	— 4.4	74	SE	7	3.1	.....	8ck	0	W	.....	0	0	Fair	
Coleman City, Texas	28.19	716.0	29.82	757.4	61	16.1	77	S	4	1.8	.....	.....	10s	.....	SE	0	0	Cloudy	
Columbus, Ohio	29.52	749.8	30.42	772.7	29	— 1.7	67	E	4	1.8	.....	10k	Haze	SE	Calm	0	0	Cloudy	
Concho, Texas	28.15	715.0	29.83	757.7	54	12.2	74	SW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.60	751.8	30.06	763.5	68	20.0	95	S	6	2.7	.....	.....	10ks	.....	Calm	0.06	1.5	Cloudy	
Davenport, Iowa	29.38	746.2	30.04	763.0	40	4.4	48	SE	5	2.2	.....	.....	10s	....	Calm	0	0	Cloudy	
Deadwood, Dakota	25.36	644.1	.....	.....	28	— 2.2	66	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas	28.85	732 8	29.99	761.7	66	18.9	74	SE	12	5.4	.....	2c	5s	SW	SE	0	0	Cloudy	
Denison, Texas	29.24	742.7	30.03	762.7	61	16.1	82	SE	3	1.3	.....	.....	10s	.....	SE	0	0	Cloudy	
Denver, Colorado	24.82	630.4	30.04	763.0	41	5.0	33	S	2	0.9	.....	5ck	2s	Calm	Calm	0	0	Fair	
Des Moines, Iowa	29.12	739.6	30.04	763.0	30	— 1.1	68	Calm	0	0	.....	2cs	Sm'e	NW	Calm	0	0	Smoky	
Detroit, Michigan	29.65	753.1	30.36	771.1	30	— 1.1	68	SE	5	2.2	.....	10cs	0	Calm	.....	0	0	Cloudy	
Dodge City, Kansas	27.52	699.0	29.93	760.2	28	— 2.2	66	NW	8	3.6	.....	5c	0	W	.....	0	0	Fair	
Dubuque, Iowa	29.34	745.0	30.06	763.5	35	1.7	70	SE	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Duluth, Minnesota	29.30	744.2	30.01	762.2	27	— 2.8	76	SW	2	0.9	.....	.....	10s	....	SW	0	0	Cloudy	
Eagle Pass, Texas	29.30	744.2	30.02	762.5	65	18.3	84	Calm	0	0	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
Eastport, Maine	30.25	768.3	30.32	770.1	27	— 2.8	64	NW	11	4.9	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Edinburg, Texas	.....	.....	.....	.....	70	21.1	64	Calm	.....	.....	0	.....	Fog	.....	.....	0	0	Foggy	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.56	750.8	30.42	772.7	29	— 1.7	78	S	6	2.7	.....	....	10s	.....	Calm	1.08	27.4	Cloudy	
Escanaba, Michigan	29.49	749.0	30.18	766.6	27	— 2.8	76	NE	8	3.6	.....	.....	10n	.....	N	0.03	0.8	Light snow	
Florence, Arizona	28.62	726.9	30.22	767.6	52	11.1	54	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.86	707.6	29.77	756.1	26	— 3.3	88	SW	3	1.3	.....	8c	0	NW	.....	0	0	Cloudy	
Fort Custer, Montana	26.76	679.7	.....	.....	34	1.1	71	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.30	642.6	30.26	768.6	51	10.6	79	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.54	750.3	30.08	764.0	53	11.7	86	SE	12	5.4	.....	.....	10n	.....	S	Inap	Inap	Light rain	
Fort Grant, Arizona	25.35	643.9	30.15	765.8	45	7.2	33	E	2	0.9	.....	0	0	....	0	0	Clear		
Fort Griffin, Texas	28.70	729.0	29.95	760.7	60	15.6	88	S	2	0.9	.....	0	2s	.....	Calm	0	0	Fair	
Fort Keogh, Montana	27.35	694.7	.....	.....	27	— 2.8	77	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	27.78	705.6	29.63	752.6	60	15.6	88	SW	10	4 5	.....	0	8ks	.....	S	0	0	Cloudy	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Stevenson, Dakota	28.77	730.7	29.86	758.4	63	17.2	52	SE	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Verde, Arizona	28.08	713.2	.....	.....	24	— 4.4	87	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort Yates, Dakota	.....	.....	.....	.....	35	1.7	80	W	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fredericksburg, Texas	28.29	718.6	29.87	758.7	48	8.9	63	S	7	3.1	.....	0	5ks	....	Calm	0	0	Fair	
Galveston, Texas	30.07	763.8	30.12	765.0	70	21.1	85	SE	7	3.1	.....	.....	10s	....	SE	0	0	Threatening	
Graham, Texas	28.89	733.8	29.92	760.0	62	16.7	82	S	4	1.8	.....	0	5s	.....	SW	0	0	Cloudy	
Grand Haven, Michigan	29.56	750.8	30.25	768.3	30	— 1.1	89	E	10	4.5	.....	.....	10s	.....	Calm	Inap.	Inap	Cloudy	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.02	737.1	29.95	760.7	59	15.0	88	SW	6	2.7	.....	0	8s	.....	SW	0	0	Cloudy	
Indianapolis, Indiana	29.43	747.5	30.24	768.1	37	2.8	53	SE	6	2.7	.....	.....	10n	.....	SE	0.02	0.5	Hailing	
Indianola, Texas	30.06	763.5	30.09	764.3	70	21.1	95	SE	8	3.6	.....	.....	10s	.....	SE	0	0	Cloudy	
Jacksboro, Texas	28.89	733.8	29.99	761.7	66	18.9	50	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.38	771.6	30.41	772.4	47	8.3	77	NW	5	2.2	.....	2cs	0	....	0	0	Clear		
Keokuk, Iowa	29.31	745.2	29.96	761.0	47	8.3	41	S	8	3.6	.....	0	8s	.....	W	0	0	Fair	
Key West, Florida	30.18	766.6	30.21	767.3	71	21.7	71	NE	17	7.6	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Kittyhawk, North Carolina	30.50	774.7	30.52	775.2	36	2.2	61	NW	27	12.1	.....	0	Haze	....	Calm	0	0	Clear	
Knoxville, Tennessee	29.40	746.7	30.49	774.4	27.5	— 2.5	71	SW	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
La Crosse, Wisconsin	29.30	744.2	30.06	763.5	34	1.1	70	S	1	0.4	.....	5k	0	W	.....	0	0	Fair	
La Mesilla, New Mexico	26.22	666.0	30.37	771.4	37	2.8	63	Calm	0	0	.....	0	0	....	0	0	Clear		
Laredo, Texas	29.72	754.9	30.06	763.5	60	15.6	71	SW	4	1.8	.....	2c	0	Calm	.....	0	0	Clear	
Leavenworth, Kansas	29.14	740.1	29.99	761.7	47	8.3	70	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Little Rock, Arkansas	29.88	758.9	30.25	768.3	49	9.4	71	SE	1	0.4	.....	.....	10n	.....	Calm	Inap.	Inap.	Light rain	
Los Angeles, California	29.79	756.7	30.14	765.5	44.0	6.7	84	NE	3	1.3	.....	0	0	....	0	0	Clear		
Louisville, Kentucky	29.74	755.4	30.33	770.4	40	4.4	56	SE	4	1.8	.....	.....	10s	....	Calm	Inap.	Inap.	Cloudy	
Lynchburg, Virginia	29.85	758 2	30.60	777.2	24	— 4.4	87	NE	1	0.4	.....	0	Sm'e	.....	Calm	0	0	Clear	
Madison, Wisconsin	29.06	738.1	30.08	764.0	34	1.1	70	SE	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Marquette, Michigan	29.42	747.3	30.16	766.1	27	— 2.8	76	SW	4	1.8	.....	.....	10s	....	SW	0.12	3 0	Cloudy	
Mason, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	.....	.....	.....	.....	
Memphis, Tennessee	29.94	760.5	30.29	769.4	46	7.8	40	SE	4	1.8	.....	.....	10s	.....	NW	0	0	Cloudy	
Milwaukee, Wisconsin	29.35	745.5	30.10	764.5	37	2.8	71	S	13	5.8	.....	.....	10s	....	Calm	0	0	Cloudy	
Mobile, Alabama	30.30	769.6	30.35	770.9	48	8.9	63	E	4	1.8	.....	8c	0	W	.....	0	0	Fair	
Montgomery, Alabama	30.18	766.6	30.43	772.9	42	5.6	65	E	7	3.1	.....	5ck;cs	2c	W	W	0	0	Fair	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Morgantown, West Virginia	29.42	747.3	30.49	774.4	24	— 4.4	87	Calm	0	0	.....	5ck	2s	NW	Calm	0	0	Cloudy	
Mt. Washington, N. H.	23.68	601.5	30.04	763.0	0	—17.8	69	NW	48	21.5	.....	.....	Fog	.....	NW	0	0	Foggy	
Nashville, Tennessee	29.83	757.7	30.40	772.1	40	4.4	56	SE	2	0.9	.....	.....	10ks	.....	SW	0	0	Cloudy.....	
New Haven, Connecticut	30.38	771.6	30.50	774.7	37	2.8	81	N	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
New London, Connecticut	30.42	772.7	30.47	773.9	26	— 3.3	75	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
New Orleans, Louisiana	30.22	767.6	30.28	769.1	53	11.7	81	NE	10	4.5	.....	2c	2s	Calm	Calm	0	0	Fair	
Newport, Rhode Island	30.43	772.9	30.48	774.2	28.5	— 1.9	72	N	10	4.5	.....	0	0	.....	.....	0	0	Clear	
New York, New York	30.36	771.1	30.55	776.0	28	— 2.2	67	NW	3	1.3	.....	0	Sm'e	.....	Calm	0	0	Smoky	
Norfolk, Virginia	30.49	774.4	30.56	776.2	35	1.7	53	N	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
North Platte, Nebraska	27.17	690.1	29.88	758.9	25	— 3.9	75	NW	5	2.2	.....	8c	0	NW	.....	0	0	Fair.....	
Olympia, Washington Ter.	29.62	752.3	29.66	753.4	51.5	10.8	93	S	8	3.6	.....	.....	10n	.....	S	Inap	Inap.	Light rain...	
Omaha, Nebraska	28.89	733.8	30.03	762.7	32	0.0	69	N	3	1.3	.....	2c	0	NW	.....	0	0	Clear.	
Oswego, New York	30.14	765.5	30.48	774.2	30	— 1.1	78	N	8	3.6	.....	0	8ks	.....	N	0	0	Fair.....	
Pembina, Dakota	28.92	734.6	29.78	756.4	27	— 2.8	88	W	5	2.2	.....	.....	8s	.....	W	0	0	Cloudy	
Pensacola, Florida	30.36	771.1	30.38	771.6	48	8.9	70	NE	.....	.....	2	1cs	2ks	NW	NE	0	0	Fair	
Philadelphia, Pennsylvania	30.48	774.2	30.54	775.7	27	— 2.8	64	NW	10	4.5	.....	0	Fog	.....	Calm	0	0	Clear.	
Phœnix, Arizona	28.95	735.3	30.80	782.3	49	9.4	57	E	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Pike's Peak, Colorado	17.84	453.1	30.05	763.3	16	—8.9	53	SW	28	12.5	.....	0	8s	.....	SW	0	0	Cloudy.....	
Pilot Point, Texas	29.29	744.0	30.10	764.5	65	18.3	42	SW	10	4.5	.....	8k	2s	S	SE	0.01	0.3	Cloudy.....	
Pioche, Nevada	.....	.....	.....	.....	40	4.4	31	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.63	752.6	30.52	775.2	22	— 5.6	86	E	4	1.8	.....	0	Fog	.....	Calm	0	0	Clear.....	
Port Huron, Michigan	29.66	753.4	30.38	771.6	22	— 5.6	86	S	4	1.8	.....	2c	0	Calm	.....	0	0	Clear	
Portland, Maine	30.38	771.6	30.44	773.2	25	— 3.9	62	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear..	
Portland, Oregon	29.73	755.1	29.80	756.9	53.7	12.1	91	S	12	5.4	.....	.....	10n	.....	S	0.61	15.5	Light rain...	
Portsmouth, N. Hampshire	.....	.....	.....	.....	42	5.6	50	NE	18	8.0	.....	0	0	.....	.....	0	0	Clear.....	
Prescott, Arizona	24.92	633.0	30.28	769.1	34	1.1	43	S	.....	.....	1	0	0	.....	.....	0	0	Clear.....	
Punta Rassa, Florida	30.26	768.3	30.27	768.8	60	15.6	77	NE	12	5.4	.....	0	0	.....	.....	0	0	Clear.....	
Red Bluff, California	29.81	757.2	30.18	766.6	50	10.0	79	S	1	0.4	.....	8k	Sm'e	W	Calm	0	0	Cloudy.	
Rio Grande City, Texas	29.86	758.4	30.08	764.0	67	19.4	95	SE	4	1.8	.....	2cs	0	Calm	.....	0	0	Clear.....	
Rochester, New York	29.81	757.2	30.48	774.2	23	— 5.0	73	SW	2	0.9	.....	5k	2s	SW	SW	0.03	0.8	Cloudy.....	
Roseburg, Oregon	29.37	746.0	29.93	760.2	54.5	12.5	87	S	4	1.8	.....	.....	10n	.....	Calm	0.44	11.2	Light rain...	
Sacramento, California	30.09	764.3	30.18	766.6	47.5	8.6	89	SE	4	1.8	.....	5ck	0	W	.....	0	0	Fair.....	
St. Louis, Missouri	29.52	749.8	30.10	764.5	45	7.2	46	S	9	4.0	.....	.....	10ks	.....	W	0	0	Cloudy.....	
St. Paul, Minnesota	29.14	740.1	30.00	762.0	26	— 3.3	75	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Salt Lake City, Utah	25.76	654.3	30.09	764.3	47	8.3	28	Calm	0	0	.....	10k	0	W	.....	0	0	Cloudy.....	
San Antonio, Texas	29.38	746.2	29.96	761.0	67	19.4	89	N	2	0.9	.....	.....	10s	.....	SE	Inap.	Inap.	Threatening	
San Diego, California	30.08	764.0	30.16	766.1	51	10.6	100	NE	4	1.8	.....	.....	Fog	.....	Calm	0	0	Foggy.....	
Sandusky, Ohio	29.68	753.9	30.40	772.1	33	0.6	79	S	9	4.0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Sandy Hook, New Jersey	30.48	774.2	30.52	775.2	29	— 1.7	78	N	6	2.7	.....	2k	0	N	.....	0	0	Fair.....	
San Francisco, California	30.14	765.5	30.21	767.3	55	12.8	96	SE	4	1.8	.....	.....	10n	.....	Calm	0.01	0.3	Light rain ..	
Santa Fé, New Mexico	23.42	594.9	29.96	761.0	34	1.1	61	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Savannah, Georgia	30.38	771.6	30.48	774.2	40	4.4	65	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Shreveport, Louisiana	29.94	760.5	30.16	766.1	54	12.2	100	SE	7	3.1	.....	.....	10n	.....	Calm	0.24	6.1	Light rain...	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.50	774.7	30.54	775.7	36	2.2	53	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Socorro, New Mexico	25.47	646.9	29.53	750.0	41	5.0	33	N	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Springfield, Illinois	29.42	747.3	30.10	764.5	43	6.1	43	S	12	5.4	.....	.....	10s	.....	W	0.01	0.3	Cloudy	
Springfield, Massachusetts	30.37	771.4	30.52	775.2	19	— 7.2	69	N	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Stockton, Texas	27.11	688.6	30.11	764.8	56	13.3	9	N	8	3.6	.....	0	0	.....	.....	Inap.	Inap.	Clear.	
Thatcher's Island, Mass	30.42	772.7	30.48	774.2	28	— 2.2	81	NW	15	6.7	.....	0	0	.....	.....	0	0	Clear.....	
Toledo, Ohio	29.62	752.3	30.35	770.9	31	— 0.6	89	SE	7	3.1	.....	.....	10s	.....	W	0	0	Cloudy	
Tucson, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon	29.54	750.3	30.03	762.7	44.5	6.9	92	E	5	2.2	.....	.....	10n	.....	Calm	Inap.	Inap.	Light rain...	
Uvalde, Texas	29.13	739.9	29.93	760.2	66	18.9	85	E	1	0.4	.....	.....	10s	.....	E	0	0	Cloudy	
Vicksburg, Mississippi	30.02	762.5	30.28	769.1	48	8.9	63	SE	8	3.6	.....	.....	10s	.....	SE	0	0	Cloudy.....	
Virginia City, Montana	24.21	614.9	29.69	754.1	37	2.8	53	NW	8	3.6	.....	10cs	0	NW	.....	0	0	Cloudy.....	
Visalia, California	29.79	756.7	30.17	766.3	45	7.2	84	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	30.45	773.4	30.58	776.7	22	— 5.6	86	NW	1	0.4	.....	0	Fog	.....	Calm	0	0	Clear.....	
Wickenburg, Arizona	.....	.....	.....	.....	38	3.3	54	NW	.....	.....	1	0	0	.....	.....	0	0	Clear.....	
Wilmington, North Carolina	30.44	773.2	30.52	775.2	35	1.7	54	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Winnemucca, Nevada	25.71	653.0	30.07	763.8	47	8.3	34	SW	11	4.9	.....	4c	0	W	.....	0	0	Fair.....	
Wood's Holl, Massachusetts	30.41	772.4	30.45	773.4	28	— 2.2	77	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Yankton, Dakota	28.77	730.7	30.12	765.0	29	— 1.7	55	W	11	4.9	.....	0	0	.....	.....	0	0	Clear.....	
Yuma, Arizona	29.93	760.2	30.10	764.5	52	11.1	66	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	30.08	764.0	30.13	765.3	76	24.4	69	SE	2.4	1.1	.....	0	4ks	.....	SE	0.22	5.6	Fair.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.18	766.6	30.19	766.8	76	24.4	87	Calm	0	0	.....	8c	2s	Calm	.....	0.14	3.6	Fair.....	James Gall.
Medellin, Colombia, S. A.*	25.24	641.1	.....	.....	67.0	19.4	85	Calm	.....	.....	0	3k	2ks	.....	.....	Inap.	Inap.	.....	Thomas Herran.
Navassa, W. I.	29.94	760.5	30.02	762.5	81	27.2	.....	NE	6	2.7	.....	.....	10	.....	.....	0	0	Threatening	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.98	761.5	29.98	761.5	84	28.9	71	E	.....	.....	2	0	5k	.....	.....	0	0	Fair.....	C. J. Hering.
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	30.17	766.3	30.23	767.8	22.0	— 5.6	93	SW	5	2.2	.....	2c	6s	W	W	0	0	Cloudy.....	J. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Medellin, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,717 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3.488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 m., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm. *The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

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

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

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.34‡	770.6‡	.....	.....	58	14 4	87	NE	13	5.8	.....	.....	2	.....	SE	0	0	.....	.....	Fair	
Navy Yard, Portsmouth, N.H.	30.24‡	768.1‡	.....	.....	22	—5.6	81	WNW	1	0.4	....	.....	0	.....	.....	0	0	.....	.....	Clear	
Naval Hospital, Yokohama, Japan	30.12‡	765.0‡	.....	.....	56	13.3	75	NE	.....	.....	1	.....	8ks	.....	W	0	0	.....	.....	Cloudy	
Adams, Mare I'd., Navy Yard, Cal.	30.18‡	766.6‡	.....	.....	54	12.2	93	W	.....	.....	1–2	.....	10	.....	W	.....	.....	.....	.....	Cloudy	
Alaska, S. 14° 04′, W. 76° 27′...*	30.00‡	762.0‡	.....	.....	61	16.1	88	SE	.....	....	2	.....	.....	.....	.....	.....	.....	Mod'ate	SE	Hazy	
Alliance, N. 24° 13′, W. 21° 32′	29.97‡	761.2‡	.....	.....	73	22.8	76	SSE	.....	.....	4	.....	8	.....	E	.....	.....	Long	N	D. clouds	
Colorado, New York,																					
Constitution, Navy Yard, Norfolk, Va.	30.46‡	773.7‡	.....	.....	30	—1.1	82	N	1	0.4	.....	.....	2	.....	NW	0	0	.....	.....	Misty	
Enterprise, N. 35° 09′, E. 14° 25′	30.66‡	778.7‡	.....	.....	37	2.8	67	NNW	6	2.7	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Franklin, Off Navy Yard, Norfolk, Va.	30.29‡	769.4‡	.....	.....	66	18.9	49	NNW	.....	.....	2	.....	2	.....	NNW	.....	.....	Mod'ate	.....	Clear	
Hartford, N. 23° 42′, W. 62° 20′	30.60‡	777.2‡	.....	.....	38	3.3	53	NNW	12	5.4	.....	.....	1	.....	NNW	0	0	.....	.....	Clear	
Independence, Mare I'd, Navy Yard, Cal.	30.11‡	764.8‡	.....	.....	83	28.3	75	NNE	.....	.....	2	.....	8?	.....	NE	0	0	Smooth long	ENE	Clear?	
Kearsage, Norfolk, Va	30.16‡	766.1‡	.....	.....	62	16.7	83	Calm	0	0	.....	.....	1	.....	Calm	0	0	.....	.....	Misty	
Lackawana, N. 12° 46′, E. 179° 28′...†	30.55‡	776.0‡	.....	.....	38	3.3	60	ENE	.....	.....	2	.....	5?	.....	E	0	0	.....	.....	Clear	
Marion, Off Norfolk, Va.	29.93‡	760.2‡	.....	.....	81	27.2	87	ENE	.....	.....	2–3	.....	10	.....	ENE	.....	.....	Mod'ate	ENE	Cloudy	
Michigan, Erie, Pa.	30.50‡	774.7‡	.....	.....	43	6.1	54	NNW	....	.....	2	.....	1	.....	N	.....	.....	Smooth	.....	Clear	
Monocacy, Shanghai, China..	30.37‡	771.4‡	.....	.....	31.5	—0.3	95	S	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....	Overcast	
New Hampshire, Port Royal, S. C.	30.41‡	772.4‡	.....	.....	55	12.8	93	NE	.....	.....	1	.....	5	.....	NE	.....	.....	.....	.....	Fair	
Onward, Callao, Peru ....†	30.46‡	773.7‡	.....	.....	48	8.9	63	NNE	20	8.9	.....	.....	1	.....	Calm	0	0	.....	.....	Clear	
Palos, Shanghai, China	29.99‡	761.7‡	.....	.....	62	16.7	88	NNE	.....	.....	2	.....	10	.....	.....	.....	.....	Long	W	Misty	
Passaic, Washington, D. C.	30.33‡	770.4‡	.....	.....	58	14.4	88	NNE	.....	.....	0-1	.....	10	.....	.....	.....	.....	.....	.....	Cloudy	
Pensacola, Callao, Peru	30.57‡	776.5‡	.....	.....	26	—3.3	66	NE	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Hazy	
Portsmouth, Hampton Roads, Va.	29.99‡	761.7‡	.....	.....	61	16.1	94	Calm	.....	....	0	.....	10	.....	.....	.....	.....	Smooth	.....	Foggy	
Powhatan, Norfolk, Va.	30.57‡	776.5‡	.....	.....	35	1 7	74	NW	.....	.....	4	.....	2	.....	.....	0	0	Smooth	.....	Clear	
Quinnebaug, Leghorn, Italy	30.53‡	775.4‡	.....	.....	38	3.3	67	NNE	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Clear	
Ranger, Yokohama, Japan	30 36‡	771.1‡	.....	.....	62	16.7	66	W	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Richmond, Shanghai, China	30.09‡	764.3‡	.....	.....	62	16.2	72	NE	.....	.....	2	.....	2	....	Calm	.....	.....	Smooth	.....	Clear	
Rio Bravo, Brownsville, Texas...†	30.40‡	772.1‡	.....	.....	56	13.3	87	NNE	.....	.....	1	.....	5	.....	NE	0	0	Smooth	.....	Pleasant	
Santee, Annapolis, Md	30.17‡	766.3‡	.....	.....	69	20.6	100	E	2	0.9	.....	.....	2	.....	Calm	0.01	0.3	.....	.....	Fair	
Shenandoah, N. 17° 30′, W. 33° —′	30 .56‡	776.2‡	.....	.....	31	—0.6	82	W	.....	.....	2	.....	2	.....	Calm	0	0	.....	.....	Clear	
St. Louis, League Island, Pa.	29.95‡	760.7‡	.....	.....	77	25.0	82	NNW	.....	.....	4	.....	2	.....	.....	.....	.....	Smooth	.....	Fair	
Trenton, Villafranca, France	30.46‡	773.7‡	.....	.....	26	—3 3	.....	Calm	0	0	.....	.....	2	.....	.....	0	0	.....	.....	Clear	
Tuscarora, N. 15° 58′, W. 97° 42′	30.37‡	771.4‡	.....	.....	68	20.0	65	ESE	.....	.....	1	.....	0	.....	.....	0	0	Smooth	.....	Clear	
Vandalia, N. 21° 35′, W. 93° 30′?	29.94‡	760.5‡	.....	.....	79	26.1	91	NW	.....	.....	2	.....	0	.....	.....	0	0	Long	SW	Clear	
Wabash, Boston, Mass.	30.12‡	765.0‡	.....	.....	77	25.0	91	E	.....	.....	3	.....	2	.....	SE	.....	.....	.....	.....	Clear	
Wachusett, N. 17° —′, W 35° —′	30.13‡	772.9‡	.....	.....	20	—6.7	90	NW	5	2.2	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Wyoming, N. 38° 20′, E. 4° 05′	30.04‡	763 0‡	.....	.....	79	26.1	78	NE	.....	.....	4	.....	2	.....	NE	.....	.....	Long	NE	Fair	
.....	30.46‡	772 1‡	.....	.....	63	17.2	62	ESE	.....	.....	2	.....	5	.....	SE	.....	.....	Smooth	SE	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

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

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

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

PACIFIC MAIL S. S. CO. MARINE SERIES.

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

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitebury.
S. S. Costa Rica																			W. House & R. Lawless.
S. S. Dakota, Capt. H. G. Morse																			Capt. Connolly.
S. S. Georgia																			F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin																			Capt. A. Fuller.
S. S. Wilmington																			R. C. Ghest, 1st Officer.
S. S. Zealandia, N. 17° 25′, W. 159° 25′		30.03‡	762.7‡				NE			4			NE			Smooth	NE	Clear	

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

WHITE STAR LINE MARINE SERIES.

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

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

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

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

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

S. S. Belgic, Capt. L. Meyer N. 31° 12′, W. 174° 08′..†		30.12‡	765.0‡	73	22.8	76	SW			4		2		SW		Mod'ate	SW	Showery	D. A. Joyce, 2nd Officer*
S. S. Gaelic, Capt. Davidson N. 48° 15′, E. 161° 48′..§†		29.76‡	755.6‡	46	7.8		NW			6		ks		NW		Rough Cross	NW	Hailing	J. A. Thompson, C. O. J. G. Cameron.
S. S. Oceanic, Capt. J. Metcalf																			

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

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES

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

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undutsch.
S. S. Leipzig, Capt. F. Pfeiffer																			S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 44° 12′, W. 51° 59′		29.94‡	760.6‡				WNW			1		5		W		3	W	Cloudy†	Capt. G. Meyer.

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

UNITED STATES MARINE SERIES—Continued.

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

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

AMERICAN S. S. CO. MARINE SERIES.

Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.

S. S. Indiana, Liverpool, Eng		30.62‡	777.7‡	53	11.7	93	NW			5		2		NW	0			Clear	Capt. R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.

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

RED STAR LINE MARINE SERIES.

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

Belgenland, N. 49° 01′, W. 38° 53′		29.97‡	761.2‡	64	17.8		S	40	17.9			10			6 h'rs	Heavy	S	Rain & mist.	Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

Note.—The originals give the barometer as read off; do not distinguish between upper and lower clouds; sea-swell in general terms, as published. ‡Corrections for temperature, instrumental error and elevation applied at this office.

ALLAN LINE MARINE SERIES.

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

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

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

MARINE SERIES—Miscellaneous.

Furnished by the co-operation of the Observers named.

Schooner Addie Fuller, N. 32° 23′, W. 79° 20′		30.41‡	772.4‡	59	15.0	59	NE	9	4.0			5k		NE	0	Swell	NE	D. clouds	Capt. James Jorgensen.
Haytian																			
§ Iron Cross																			
Schooner Charley Buck																			Capt. W. Randall.
Brigantine "George of Halifax," N. 33° 00′, W. 70° 25′	†	30.25‡	768.3‡	62	16.7		NNW			4		8		NNW	Blank	Mod'ate	NNW	Squally	W. H. Champlin.
Schooner Harry and Fred																			N. B. Foss.
Nordenskiold of Sundsvall, Sweden																			Capt. George Gardner.
Sch'r A. A. Rowe, Capt. Beckwith																			Capt. P. Sandelin.
																			L. Dunbar.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

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

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

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

Albert J. Myer

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

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

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

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

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

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

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

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

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 6, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

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

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

ALGERIAN SERIES.

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

STATIONS.	Barometer, corrected for instrum't'al error and temperature. Inches.	Barometer, corrected for instrum't'al error and temperature. Millimeters.	Barometer, reduced to sea-level. Inches.	Barometer, reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.27	768.8	68.7	20.4	81	SE			1		5			0.039	1.0	Cloudy	
Nemours			30.39	771.9	68.0	20.0	76	E			2		5			0	0	Cloudy	Kesxuche.
Algiers			30.39	771.8	65.1	18.4	74	NE			1		0			0	0	Clear	Touriliere.
La Calle			30.38	771.7	69.3	20.7	78	N			1		5			0	0	Cloudy	Foufrede.
Tunis																			Jacques.
Sfax																			Gau.
Saida			30.38	771.7															Herbin.
Tebessa																			
Geriville			30.34	770.6	62.2	16.8	41	NW			2		2			0	0	Fair	Watrin.
Laghouat					61.7	16.5	58	NW			1		0			0	0	Clear	Brugniaux.
Biskra			30.42	772.7	62.2	16.8	67	SW			4		5			0	0	Cloudy	Bertrand.
			30.31	769.8	66.6	19.2	61	NW			1		0			0	0	Clear	Chanvaux.

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

AUSTRO-HUNGARIAN SERIES.

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

STATIONS.	Barometer, corrected for instrum't'al error and temperature. Inches.	Barometer, corrected for instrum't'al error and temperature. Millimeters.	Barometer, reduced to sea-level. Inches.	Barometer, reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.65	753.1	30.21	767.2	51.4	10.8	45	S			4		3			0.024	0.6	Raining	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.09	738.9	29.88	758.9	38.5	3.6	93	WSW	18.6	8.3			10			0.339	8.6	Raining	Prof. Dr. Karlinski, Dir.
Eperies	29.00	736.5	29.80	756.1	46.2	7.9	88	NW			1		10s			0	0		Julius Mikolik.
Gratz	28.89	733.8	30.17	766.2	48.0	8.9	67	WNW			1		6			0.197	5.0		Andreas Rospini.
Hermannstadt	28.64	727.4	30.10	764.6	42.8	6.0	67	W			6		8			0	0		Prof. A. Gottschling.
Kremsmünster	28.84	732.6	30.23	767.9	41.9	5.5	70	WNW			4		10			0.079	2.0		Prof. C. Wagner.
Lemberg	28.84	732.4	29.84	757.9	41.0	5.0	86	NE			5		10			0.087	2.2		Dr. T. Stanecki.
Pola	30.11	764.9	30.23	767.8	55.2	12.9	72	W			1		10			0	0		I.R. Hydrographic Office.
Szathmar	29.53	750.1	30.01	762.2	45.3	7.4	69	W			4		8			0.134	3.4	Hail & rain	Pet. Panesies.
Szegedin	29.85	758.1	30.13	765.4	48.7	9.3	55	W			3		10			0	0		Karl Stancel.
Trieste	30.13	765.3	30.23	767.9	54.3	12.4	73	Calm			0		3			0	0		P. Busin.
Vienna	29.37	746.1	30.12	765.1	44.2	6.8	74	W			6		10			0.012	0.3		I.R. Central Met. Ob'sy.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 337 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2:20, instead of 2:8 p. m., local time.

BELGIAN SERIES.

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

STATIONS.	Barometer, corrected for instrum't'al error and temperature. Inches.	Barometer, corrected for instrum't'al error and temperature. Millimeters.	Barometer, reduced to sea-level. Inches.	Barometer, reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

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

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

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

BRITISH SERIES.

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

STATIONS	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.11	764.8	30.21	767.3	52.0	11.1	.....	WNW	30	13.4	.....	.....	7	.....	.....	0.005	0.13	Squally.....	W. Boswell.
Ardrossan	30.40	772.1	30.42	772.7	51	10.6	.....	WNW	.....	.....	5	.....	8	.....	.....	.....	.....	Overcast.....	Wm.McNeil &G.Carrick
Armagh, (Observatory)	30.32	770.1	30.56	776.2	50.1	10.1	.....	WNW	6	2.7	.....	.....	10	.....	.....	.....	.....	Gloomy.....	S. Call.
Bidston (Liverpool Obs)	.....	.....	30.50	774.7	49.7	9.8	.....	W	33	14.8	.....	.....	10	.....	.....	.....	.....	Overcast.....	John Hartnup.
Bolton (Sharples)	30.02	762.5	30.55	776.0	47 8	8 8	.....	WSW	36	16.1	.....	.....	10	.....	.....	.....	.....	Squally	Thomas Mackereth.
Bradford, Yorkshire	30.00	762.0	30.39	771.9	50 0	10.0	.....	NW	.....	.....	6	.....	5	.....	.....	0	0	D. clouds...	J McLandsborough.
Bridgetown, Barbadoes	29.91	759.7	29.94	760.5	80	26.7	.....	NE	.....	.....	1	.....	6	.....	.....	.....	.....	Gloomy.....	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	30.35	770.9	30.45	773.4	50.0	10.0	.....	W	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	H. Todd.
Cardington	.....	.....	30.46	773.7	49.0	9.4	.....	NW	.....	.....	1	.....	6	.....	.....	.....	.....	D. clouds.....	John McLaren.
Chatham (School M. E.)	30.35	770.9	30.49	774.4	49.1	9.5	.....	NW	.....	.....	1	.....	10	.....	.....	.....	.....	Misty.....	J. Carmell, Sapper, R.E.
Donaghadee	30.46	773.7	30.51	774.9	50	10.0	.....	WNW	.....	.....	5	.....	5	.....	.....	.....	.....	D. clouds.....	J. Mac Gowan.
Dover	30.43	772.9	30.46	773.7	50	10.0	.....	NW	.....	.....	2	.....	5	.....	.....	.....	.....	¼clouded...	J. Costello.
Falmouth (Observatory)	30.44	773.2	30.68	779.3	51.1	10.6	.....	WNW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	The Staff.
Fort Napier, Natal	27.21	691.1	29.44	747.8	96.8	36.0	.....	W	.....	.....	5	.....	0	.....	.....	.....	.....	Blue sky.....	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone§	29.76	755.9	29.99	761.7	84	28.9	.....	Calm	.....	.....	0	.....	4	.....	.....	.....	.....	D. clouds....	
Galway (Queen's College)	.....	.....	30.60	777.2	52	11.1	.....	W	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast..	Prof. A. H. Curtis.
Gibraltar, Mediterranean‖	30.26	768.6	30.30	769.6	63.3	17.4	.....	E	.....	.....	4	.....	8	.....	.....	.....	.....	D. clouds.....	Sergt.Wm. Allen, A. H.
Glasgow, (Observatory)	30.16	766.1	30.36	771.1	50.3	10.2	.....	W	.....	.....	6	.....	10	.....	.....	Blank	Blank	Gloomy.....	D. G. Maclean. [C.
Great Yarmouth	30.35	770.9	30.36	771.1	49	9.4	.....	W	.....	.....	3	.....	6	.....	.....	.....	.....	Misty.....	G. T. Watson.
Greenwich (Royal Obs'y)	30.32	770.1	30.50	774.7	48.5	9.2	.....	W	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	The Staff, for G.B.Airy.
Guernsey	30.28	771.6	30.60	777.2	51.5	10 8	.....	NW	.....	.....	2	.....	8	.....	.....	.....	.....	D. clouds .	Dr.S.E Hoskins, F.R.S.
Helston	30.76	781.3	30.88	784 3	52	11.1	.....	N	.....	.....	1	.....	10	.....	.....	0	0	Very gloomy	M. P. Moyle.
Holyhead	30.52	775.2	30.56	776.2	51	10.6	.....	WNW	.....	.....	5	.....	10	.....	.....	.....	.....	Overcast.....	John Tilston.
Jersey	30.35	770.9	30.66	778.7	51.8	11.0	.....	NW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	J. Fisher.
Kew (Observatory)	30.47	773.9	30.51	774.9	48.9	9.4	.....	W	10	4.5	.....	.....	10	.....	.....	.....	.....	Misty.....	The Met'g'l Office.
Leicester (Museum)	30.19	766.8	30.45	773.4	50.2	10.1	.....	NW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast..	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	30.22	767.6	30.29	769.4	63.2	17.3	.....	NE	.....	.....	2	1ck	.....	.....	.....	.....	.....	Blue sky.....	A. King.
Nairn	30.16	766.1	30.25	768.3	51	10.6	.....	W	.....	.....	4	.....	8	.....	.....	.....	.....	¾ clouded..	W. D. Penny.
Nassau, Bahamas	.....	.....	30.14	765.5	78.0	25.6	.....	NE	.....	.....	3	.....	4	.....	.....	.....	.....	D. clouds....	C. S. Duncombe.
Nottingham (Observatory)	30.27	768.8	30.46	773.7	51.8	11.0	.....	NW	.....	.....	5	ck	5k	.....	NW	0.006	0.15	D. clouds....	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.96	761.0	30.49	774.4	49.0	9.4	.....	NW	.....	.....	5	.....	10	.....	.....	.....	.....	Overcast.....	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)	.....	....	30.53	775.4	50	10.0	.....	W	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	H. E. Bellamy.
Plymouth	30.56	776.2	30.63	778.0	50.2	10.1	.....	NW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	30.62	777.7	30.72	780.3	50	10.0	.....	NW	.....	.....	2	.....	8	.....	.....	.....	.....	¾clouded...	Wm. Kennedy.
St. Ann's Head	30.47	773.9	30.64	778.2	50	10.0	.....	NW	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds....	John C. Walker.
Sandwick Manse, Orkneys	.....	.....	30.12	765.0	49.8	9.9	.....	W	39	17.4	.....	.....	10	.....	.....	.....	.....	Rain & hail.	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	30.13	765.3	30.20	767.1	46.0	7.8	.....	N	.....	.....	1	.....	8	.....	.....	.....	.....	Showery.....	Serg't W. H. Lyne.
Sheffield	30.18	766.6	30.47	773.9	51.2	10.7	.....	NNW	.....	.....	3	.....	10	.....	.....	0	0	Overcast.....	W. F. Cooper.
Silloth Rectory	30.40	772.1	30.43	772.9	49.3	9.6	86	W	.....	.....	4	.....	10	.....	.....	0	0	Overcast..	Francis Redford, A. M.
Stonyhurst (Observatory)	.....	.....	30.44	773.2	48.1	8.9	.....	W	23	10 3	.....	.....	9	.....	.....	.....	.....	Squally.....	Rev. S. J. Perry.
Stratfield, Turgiss	30.32	770.1	30.54	775.7	49.2	9.6	.....	N	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	30.60	777.2	30.66	778.7	53	11.7	.....	N	.....	.....	6	.....	10	.....	.....	.....	.....	Gloomy	W. Newcombe.
Valencia Observatory)	30.70	779.8	30.72	780.3	50.4	10.2	.....	N	14	6.3	.....	.....	7	.....	.....	Blank	Blank	D. clouds..	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	29.62	752.3	29.66	753.4	61.8	16.6	94	W	15.7	7.0	.....	9	9k;n	.....	.....	.....	.....	.....	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.18	639.6	.....	.....	84	28.9	.....	WNW	.....	.....	.....	1ck	3k;cs	.....	.....	.....	.....	.....	Robert Burnet.
Hobart Town, Tasmania	.....	.....	29.75	755.6	57.0	13.9	34	NW	.....	.....	1	.....	4k	.....	.....	0.07	1.8	.....	Francis Abbott, F.R.A.S.
Leith, (Restalrig Perk)	.....	.....	30.32	770.1	51.8	11.0	.....	W	.....	.....	4	.....	10k	.....	.....	0	0	Cloudy	Andrew Gibb.
Mauritius (Observatory)	29.90	759.4	30.09	764.4	78.8	26.0	57	SE	14.5	6.5	.....	0	2	.....	.....	0	0	Fine.....	C. Meldrum.
Melbourne (Observatory)	29.74	755.4	29.84	757.9	57.0	13.9	82	SE	5	2.2	.....	.....	2	.....	.....	0	0	Very fine ...	R. L. J. Ellery.
Monach Lt-house, Hebrides	.....	.....	30.40	772.1	51	10.6	.....	NW	.....	.....	6	5	10	NW	.....	0.2	5.	....	J. Youngclause.
North Unst, Shetland 18	.....	.....	30.00	762.0	.....	.....	.....	NW	.....	.....	6	.....	10	.....	.....	Blank	Blank	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing, but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft., or 670 m.; Colesberg Bridge, unknown. §Observations taken 55 minutes early. ‖Observations taken 47 minutes late. Both of these errors have apparently existed for a long time.

BRITISH MARINE SERIES. VESSELS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height, scale ...	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. Alert, Puerto Bueno, Patagonia	.....	.....	29.82‡	757.4‡	43	6.1	.....	NNW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast..	Capt.J.P. Maclear, R.N.
H. M. Sloop Gannet, Callao, Peru	.....	.....	29.93‡	760.2‡	62.5	16.9	.....	SSE	.....	.....	3	.....	9	.....	.....	.....	.....	Overcast.....	Commander E. Bourke, R. N.
H. M. S. Magpie, Shanghai, China	.....	.....	30.34‡	770.6‡	60	15.6	.....	ENE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	Capt. R. H. Napier, R.N.
Brig Alliance, N. 24° 10′, W. 56° 40′	.....	.....	30.16‡	766 1‡	80.5	26.9	.....	E	.....	.....	2	.....	8	.....	.....	.....	.....	Showery.....	Capt. W. Scott.
Barque Commewyne N. 18° 00′, W. 40° 27′	.....	.....	29.99‡	761.7‡	81.8	27.7	.....	NE	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds	Capt. Jas. Buchan.
Brig Endymion, N. 50° 35′, W. 11° 05′	.....	.....	30.69	779.5	53	11.7	.....	NNE	.....	.....	2	.....	10	.....	.....	4	WNW	Overcast....	Capt. Balkwill.
S. S. German, Algoa Bay, Cape Colony.	.....	.....	29.43‡	747.5‡	65	18.3	.....	WNW	.....	.....	6	.....	5	.....	.....	.....	.....	D. clouds.....	Capt. O. D. Coxwell.
Barque Queen of Cambria, N. 8° 05′, E. 76° 55′	.....	.....	29.87‡	758.7‡	82	27.8	.....	W	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds.....	Capt. M. Parry.
S. S. Strathleven, Sydney, N. S. W.	.....	.....	30 01‡	762.2‡	69	20.6	.....	W	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds.....	Capt. C. W. Pearson.
Schooner Traveller, N. 50° 15′, W. 24° 05′	.....	.....	30.49	774.4	56	13.3	.....	SSE	.....	.....	5	.....	10	.....	.....	5	ESE; SSE	Squally	.....
S. S. Gordon Castle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
German Brig "W. von Freeden"	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. V. Freeden.
Theophane	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Greig.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
S. S. Peruvian	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. H. Smith.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.23	666.2	29.95	760.7	66.6	19.2	90	S			2		7s;d			Inap.	Inap.		Federico Maison.

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

DANISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Copenhagen	29.71	754.5	29.75	755.7	41.5	5.3	46	NNW			4		1					Snowing	
Fanöe	29.89	759.1	29.91	759.6	39.7	4.3	97	NW			4		5					Rain & hail.	
Godthaab (Greenland)																			
Stykkisholm (Iceland)																			
Thorshavn (Faröe)	29.96	760.9	29.99	761.8	42.1	5.6	96	W			2		10					Rain & fog	
Vestervig	29.73	755.2	29.84	758.0	40.8	4.9	70	NW			6		2						

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

FRENCH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alençon, Normal School	30.06	763.4	30.61	777.4	51.8	11	63	E			1		2ns		E	0	0	Slightly cl'dy	Collignon, Director.
Amiens, Normal School	30.36	771.2	30.48	774.1	51.1	10.6	82	WNW			3		8		E	0	0	Very cloudy	Vaillant, Director.
Arras, Engin'r School	30.21	767.4	30.48	774.1	47.8	8.8	73	NW			3		n		NW	0	0		Klein, Commandant.
Avignon, Normal School	30.27	768.9	30.35	770.9	50.0	10	48	N			6		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.95	760.8	30.53	775.4	48.2	9.0	65	N			1		8ku		NW	0	0	Very cloudy	C. Saillard, Director
Beauvais, Normal School	30.25	768.4	30.53	775.4	50.0	10	74	WNW			1		10		NW	0	0	Covered	Frere Eugene Marie
Besançon, Normal School	29.65	753.0	30.58	776.6	45.9	7.7	70	N			1		8		NW	0	0	Very cloudy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.65	753.0	30.63	778.0	46.4	8	67	N			1		0			0	0	Clear	Marlot, Diretor.
Bourges, Normal School	29.99	761.8	30.57	776.4	47.8	8.8	78	N			1	2ck			N	0	0	Slightly cl'dy	M. Gence, Director.
Brest, Naval Observatory	30.44	773.2	30.69	779.4	54.7	12.6	72	N			1		8		NNE	0	0		Ch. de Rermaree, Dir.
Caen, Normal School	30.59	776.9			52.2	11.2	71	WNW			1		10		NW	0	0	Slightly cov.	M. Bietrin, Director.
Carcassonne, N. School	29.97	761.2	30.39	772.0	54.9	12.7	67	W			2		0			0	0	Clear	September, Director.
Châlons-sur-Marne, N. Sch	30.18	766.5	30.50	774.8	50.0	10.0	79	SW			2		10	SE	SE			Covered	Jadot, Director,
Chartres, Normal School	29.99	761.8	30.58	776.6	51.3	10.7	85	NW			1		5		SE	0	0		Vergier, Director.
Clermont-Fd, Puy de D. Obs	29.15	740.5	30.56	776.3	45.0	7.2	57	N			1		5		NNE	0	0		Alluard, Director.
Commercy, Normal School	29.53	751.4	30.48	774.1	43.9	6.6	86	W			1		10n	W	W	0	0	Covered	Dr. Coullet, Director.
Commune de Gréasque*	29.20	741.6	30.34	770.6	53.8	12.1	46	N			1		0			0	0		L. Kina, Director.
La Roche-sur-Yon, N. Sch'l	29.73	755.2	30.54	775.7	38.8	3.8	87	SSE			1					0	0	Foggy	Ablard, Director.
Le Mans, Normal School	30.44	773.1	30.66	778.7	52.9	11.6	73	N			1		0			0	0	Clear	Mouillot, Director.
Lons-Le-Saulnier, N. School	30.31	769.9	30.63	777.9	50.9	10.5	65	N			2		8		NNW	0	0	Very cloudy	Poirrier, Director.
Lorient, Naval Observatory	29.61	752.1	30.55	776.0	45.9	7.7	61	NE			1		5cn	E	NE	0	0	Cloudy	A. Baudry, Director
Lyons Obs'y (Park Station)	30.57	776.5	30.68	779.3	56.1	13.4	62	NNW			1				NW	0	0		Lt. T. Carré, Director.
Mâcon, Normal School	29.89	759.2	30.53	775.5	47.3	8.5	65	NNW			1				N	0	0		Ch. André, Director.
Marseilles, Observatory																			Galzin, Director.
Mirecourt, Normal School	29.98	761.6	30.26	768.5	56.1	13.4	66	NW			1-2		0			0	0	Clear	E. Stephan, Director.
Mont-Louis	29.43	747.3	30.51	774.9	45.3	7.4	72	NW			1		ku	NW	NW	0	0		Barbier, Director.
Nice	25.16	639.1	30.48	774.1	50.9	10.5	25	WNW	24.2	10.8			0			0	0		M. Cave.
Nismes, Normal School	30.26	768.5	30.29	769.4	60.8	16.0	63	SE			1		1	E	SE	0	0	Clear	M. Boissieré, Director.
Paris, Montsouris Obs'y	30.13	765.4	30.34	770.7	56.8	13.8	57	N			4		0			0	0	Clear	M. Boyer, Director.
Perpignan	30.26	768.6			51.1	10.6	68	WNW			2		10		NW	0	0		Marie Davy, Director.
Pic du Midi (Plantade) H. P.	30.29	769.3	30.39	771.9	59.2	15.1	42	N	18.6	8.3			0			0	0	Foggy	Dr. Fines.
Pic du Midi (Summit) H. P.	22.84	580.2			41.9	5.5		NE			1		1		W	0	0	Clear	Gen'l de Nansouty.
Privas, Normal School																			M. Baylac.
Puy de Dome (Summit) Obs	29.33	745.0	30.43	772.9	48.2	9	61	N			3		1	N	NE	0	0	Clear	Cantier, Director.
Rochefort, Naval Obs'y	25.52	648.2			33.8	1.0	93	E			1		0			0	0	Rain at distance	Alluard, Director.
Rouen, Normal School	30.59	777.0	30.62	777.8	52.2	11.2	69	NE			1		0			0	0	Clear	Lt E. Decante, Director
Saint Malo (Port) Obs'y	30.44	773.2	30.53	775.4	47.7	8.7	85	NNW			1		8		N	0	0	Very cloudy	Frere Lucard, Director.
Saint Maur (near Paris)	30.60	777.1	30.63	777.9	53.6	12.0	69	NNW			2		8	NW	NW	0	0	Very cloudy	Lt. Hercouet, Director.
Tarbes, Normal School	30.37	771.4	30.54	775.6	51.3	10.7	72	WNW			2			NW	NW	0	0	Foggy	E. Renou, Director.
Toulouse, Observatory	29.42	747.3	30.52	775.1	39.2	4	73	W			1		2	NW	SW	0	0	Slightlycl'dy	T. Huguet, Director.
Tours	29.82	757.4	30.56	776.1	48.9	9.4	76	NW			1		0			0	0	Clear	M. Julier Mercadier.
Versailles, Observatory	30.39	771.9	30.59	776.9	53.1	11.7	59	NNW			1		5		N	0	0	½ covered	Cousin-Marquet.
Villefranche-sur-Saone, N.S	30.04	763.0	30.53	775.5	49.6	9.8	66	NW			1					0	0		Dr. A. Berigny, Director
SUB-SERIES.	29.85	758.3	30.59	777.0	50.0	10	86	N			3		2		N	0	0	Slightlycl'dy	Nicot, Director.
Fort de France, Martinique	30.00	761.9	30.02	762.6	77.0	25										1.73	44		L'Abbé Marchési
Zi-Ka-Wei (near Shanghai	30.32	770.1	30.34	770.7	57.2	14.0	82	NE	4.7	2.1			10			0	0	Covered	Marc Dechevrens.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in gene al terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centrigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.28	743.8	30.13	765.3	42.8	6.0	78	NW			8		9n	W		0.059	1.5	Raining	Prof. Dr. Hoh.
Berlin	29.59	751.6	29.78	756 0	43.7	6.5	73	NW			10		8			0.098	2.5	Raining	Prof. Dr. Arndt.
Breslau	29.35	745.5	29 88	758.9	43.0	6.1	69	NW			5		4			0.089	2.26	Rainy	Royal University Obs'y.
Carlsruhe	29.92	760.0	30.37	771.3	44.6	7.0	78	SW			2		10	SW		0.067	1.7	Raining	Albert Senz.
Cassel	29.57	751.0	30.18	766.5	45.3	7.4	80	W			6		10	W		0.091	2.30		Dr. H. Möhl.
Emden			30.04	763.0	47.1	8.4	100	WNW			5		10			0.472	12.0		Prof. Dr. Prestel.
Frankfort on the Main	29.91	759.8	30.29	769.4	46.4	8.0	73	W			4		10			0.020	0.5		Physical Society.
Friedrichshafen	28.96	735.5	30.44	773.1	45.3	7.4	64	SW			6		10	SW		0.370	9.4		Chief Telegrapher Wilhelm.
Hamburg	29.86	758.4	29.93	760.2	43.0	6.1	96	WNW			3		10n			0.406	10.3	Raining	Captain F. Hegemann.
Kiel	29.87	758.7	29.89	759.1	39.7	4.3	87	WNW			3		6			0.109	2.77		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.41	746.9	29.49	749.0	37.8	3.2	87	W			3		8			0.756	19.2		Prof. E. Luther.
Köslin			29.70	754.4	41.9	5.5		NW			4		3			0.449	11.4		H. Müller.
Leipsic Observatory	29.63	752.6	30.06	763.5	43.0	6.1	90	WNW			3		10	WNW		0.024	0.6	Stormy	Prof. Dr. Bruhns, Privy Counselor.
Magdeburg	29.78	756.3	30.00	762.1	44.8	7.1	91	W			6		10ks			0.197	5.0	Raining	Dr. Assmann.
Memel	29.38	746.2	29.43	747.4	37.2	2.9	100	N			6		10n					Raining	Reinbrecht & Ishermann
Munich (München)	28.47	723.2	30.36	771.1	42.3	5.7	62	SW			6		10	SW		0	0		Dr. C. Lang.
Neufahrwasser	29.59	751.5	29.60	751.9	39.0	3.9	69	NW			6		7			0.232	5.9		A. Lothes.
Neustadt (Palatinate)	29.81	757.2	30.34	770.7	46.4	8.0	72	WNW			4		10			0.075	1.9		Reallehrer Dicknether.
Posen	29.48	748.8	29.78	756.3	42.6	5 9	52	NW			9		4			0	0		Prof. Dr. Hagener.
Strassburg (in Alsace)	29.91	759.6	30.47	774.0	47.3	8.5	65	W			3		10	W		0	0		Imp. University Observatory.
Stuttgart	29.40	746 8	30.37	771.5	43.7	6.5	67	NW			2		10			0.154	3.9	Raining	Prof. Dr. Schoder.
Weissenburg (Bavaria)	28.77	730.7	30.34	770.7	39.7	4.3	77	W	9	4			10	W		0	0	Foggy	Reallehrer J. Hopfner.
Wustrow	29.80	757.0	29.83	757.6	42.6	5.9	63	WNW			7		8k			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

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

Athens	29.89	759.1	30.28	769.2	52.7	11.5		NE			1.0		5					⅛ Clear	Dr. J. F. J. Schmidt.

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

INDIAN SERIES.

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

Kurrachee	29.87	758.7	29.92	760.0	80.7	27.1	59	WSW	12	5.4			0			0	0	Blue sky	
Deesa	29.49	748.9	29.96	761.0	79.6	26.4	26	SW	6.2	2.8			0			0	0	Blue sky	
Bombay	29.86	758.5	29.90	759.4	78.5	25.8	55	NW	13	5.8			0			0	0	Blue sky	
Poona (Yerrowda)	28.05	712.5	29.90	759.5	80.5	26.9	25	NNE	2	0.9			0			0	0	Blue sky	
Belgaum	27.38	695.4	29.93	760.2	74.3	23.5	56	NE	4	1.8			3	E		0	0	D. clouds	
Lahore	29.12	739.7	29.88	759.0	70.7	21.5	45	Calm	0.4	0.2			0			0	0	Blue sky	
Roorkee	28.98	736.1	29.90	759.5	69.2	20.7	42	N	0.9	0.4						0	0		
Agra	29.34	745.3	29.92	759.9	73.7	23 2	47	NW	2.8	1.2						0	0		
Nagpur	28.89	733.9	29.95	760.6	76.7	24.8	27	E	2.3	1.0						0	0	Blue sky	
Jubbulpore	28.58	726.3	29.97	761.3	70.0	21.1	54	S	2.1	0.9						0	0	Blue sky	
Lucknow	29.19	749.1	29.88	758.8	71.7	22.1	52	N	0.9	0.4						0	0	Blue sky	
Allahabad	29.62	752.2	29.94	760.4	66.7	19.3	54	Calm	1.2	0.5						0	0	Blue sky	
Patna	29.72	754.7	29.90	759.6	78.5	25.8	49	Calm	0.2	0.1			0			0	0	Blue sky	
Hazaribagh	27.88	708.1	29.93	760.2	69.3	20.7	55	NW	4.7	2.1			0			0	0	Blue sky	
Cuttack	29.84	758.0	29.93	760.1	71.8	22.1	76	NNW	0.8	0.4			0			0	0	Blue sky	
Calcutta (Alipore)	29.88	758.9	29.90	759.5	70.1	21.2	75	W	4.0	1.8			0			0	0	Blue sky	
Goalpara	29.47	748.7	29.87	758.6	75.9	24.4	64	Calm	1.3	0.6			0			0	0	Blue sky	
Chittagong	29.81	757.1	29.90	759.5	74.0	23.3	66	Calm	2.5	1.1			0			0	0	Blue sky	
Sibsagar	29.55	750.4	29.89	759.1	73.5	23.1	83	ESE	1.2	0.5			4			0	0	Misty	
																		Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

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

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

STATIONS	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	29.82	757.5	30.24	768.2	50.9	10.5	56	Calm	0	0	.....	.....	6	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.69	754.2	30.23	767.7	52.9	11.6	55	WSW	.....	.....	4	.....	3	W	.....	0	0	.....	Prof. Schiaparelli.
Padua	30.12	765.1	30.23	767.9	49.5	9.7	65	NW	0.7	0.3	.....	.....	10	N	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.30	744.3	30.23	767.8	51.3	10.7	56	ESE	2.5	1.1	.....	.....	2	NE	.....	0	0	.....	Prof. P. F. Denza.
Genoa	30.08	764.0	30.27	768.9	61.0	16.1	51	SW	3.1	1.4	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.30	718.7	30.24	768.1	53.2	11.8	50	ESE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.18	766.5	30.23	767.8	54.1	12.3	72	NE	9.4	4.2	.....	.....	1	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	30.02	762.6	30.29	769.3	57.2	14.0	67	N	.....	.....	2	.....	9	NW	.....	0	0	.....	Cav. F. Meucci.
Leghorn	30.13	765.2	30.21	767.4	62.4	16.9	66	S	1.8	0.8	.....	.....	4	.....	.....	0	0	.....	Prof. P. Monte.
Rome	30.11	764.7	30.28	769.2	59.0	15.0	59	N	0.7	0.3	.....	.....	5	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. C. De Giorgi.
Cosenza	29.41	747.1	30.30	769.7	56.7	13.7	70	NW	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	30.08	764.0	30.27	768.9	64.8	18.2	52	W	.....	.....	4	.....	7	W	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	30.09	764.3	30.34	770.7	61.3	16.3	49	NNE	1.8	0.8	.....	.....	3	.....	.....	0	0	.....	Prof. G. Ciacciatore.
Syracuse	30.24	768.2	30.32	770.0	61.5	16.4	57	NE	7.4	3.3	.....	.....	6	NE	.....	0	0	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.74	755.3	30.26	768.7	59.4	15.2	51	ENE	0.7	0.3	.....	.....	5	.....	.....	0	0	.....	Prof. F. Brioschi.

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

JAPANESE SERIES.

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

Hiroshima, I. M. Obs'y	30.45	773.4	30.46	773.7	46.6	8.1	76	NNE	3.7	1.6	.....	.....	0	.....	.....	0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	30.20	767.1	30.41	772.4	53.7	12.1	58	ENE	7.5	3.4	.....	.....	0	.....	.....	0	0	Clear	S. Takehayashi.
Tokei, (Yeddo) Observatory	30.22	767.6	30.29	769.3	45.1	7.3	70	NNW	7.3	3.3	.....	0	0	.....	.....	0	0	Clear	The Staff.
Wakayama	30.36	771.1	30.42	772.6	50.6	10.3	62	N	9.7	4.3	.....	.....	0	.....	.....	0	0	Clear	.....

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

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

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

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	25.12	638.1	30.24	768.1	48.4	9.8	68	Calm	.....	.....	0	.....	2	.....	.....	0	0	Clear	Prof. L. Perez.
Leon	24.52	622.8	30.28	769.2	54.5	12.5	83	SW	.....	.....	1	0	0	.....	.....	0	0	Blue sky	Prof. M. Leal.
Mazatlan	29.72	754.8	29.98	761.4	73.0	22.8	94	Calm	.....	.....	0	2c	1s	SW	.....	0	0	Clear	I. Guerrero, C. E.
Mexico, Central Observatory	23.14	587.7	30.26	768.7	48.2	9.0	78	W	1.1	0.5	.....	4c	0	W	.....	0	0	Foggy	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	55.8	13.2	74	NW	.....	.....	1	0	0	.....	.....	0	0	Very clear	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.45	595.6	30.30	769.6	46.6	8.1	57	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.28	616.6	30.32	770.0	53.8	12.1	58	E	.....	.....	1	0	0	.....	.....	0	0	Fine	G. Barroeta, M. D.
Tlacotalpam	30.05	763.3	30.06	763.6	70.0	21.1	95	E	.....	.....	1	0	0	.....	.....	0	0	Foggy	Prof. M. M. Chàzaro.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell.
Zacatecas	22.63	574.7	30.26	768.7	56.5	13.6	68	E	.....	.....	2	0	0	.....	.....	0	0	Fine	A. Nuñez.

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

NETHERLANDS SERIES.

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

Flushing	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Groningen	30.38	771.7	30.38	771.7	50.0	10.0	.....	WNW	.....	.....	4	.....	.....	.....	.....	0	0	.....	.....
Helder	30.08	763.9	30.13	765.3	47.5	8.6	.....	NW	.....	.....	.....	.....	.....	.....	.....	0.386	9.8	.....	.....
Hellevoetsluis	30.20	767.1	30.20	767.1	49.6	9.8	.....	W	.....	.....	5	.....	.....	.....	.....	0.039	1.0	.....	.....
Utrecht	30.32	770.0	30.32	770.0	49.6	9.8	85	WNW	.....	.....	5	.....	.....	.....	.....	0	0	.....	.....
	30.23	767.9	30.28	769.1	49.1	9.5	86	W	.....	.....	4	.....	10	.....	.....	0.055	1.4	Dull	H. v. d. Brink.

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

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.86	758.4	29.91	759.8	38.5	3.6	90	NW	13.9	6.2	.....	.....	10	.....	.....	0.197	5.0	.....	
Bröno	29.56	750.7	29.60	751.7	34.5	1.4	69	Calm	0	0	.....	.....	2	.....	.....	0	0	.....	
Christiana	29.47	748.4	29.61	752.2	41.2	5.1	60	WSW	0	0	.....	.....	3	.....	.....	0	0	.....	
Tromsö	29.56	750.8	29.60	751.9	28.0	— 2.2	71	N	9	4	.....	.....	8	.....	.....	0.157	4.0	.....	

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

PORTUGUESE SERIES.

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

Angra (Azores)	29.89	759.1	30.08	763.9	64.4	18.0	82	ENE	3.1	1.4	.....	.....	5	.....	.....	0.059	1.5	.....	Dr. J. A. Sampaio.
Campo Major	29.37	746.0	30.39	771.9	65.1	18.4	60	ENE	4.3	1.9	.....	.....	6	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	30.03	762.7	30.11	764.9	70.0	21.1	82	ENE	3.8	1.7	.....	.....	10	.....	.....	0.087	2.2	.....	Capt. D. A. de Cunha.
Lisbon Observatory	30.02	762.6	30.38	771.6	64.8	18.2	71	ENE	12.5	5.6	.....	.....	5	W	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	29.99	761.8	30.07	763.6	66.9	19.4	74	NE	4.3	1.9	.....	.....	3	.....	.....	0.157	4.0	.....	

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

PORTUGUESE NAVAL SERIES. VESSELS.																Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Duque da Terceira, Capt. C. C. da Fonseca Ferreira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Quanza, Capt. A. J. de Mattos	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. de C. C. e Athayde.
Rio Lima, Capt. S. C. da Silva Costa, Fogo, Cape Verd Islands	.....	.....	.....	.....	81.7	27.6	.....	SE	.....	.....	2	.....	5	.....	SE	2	SE	D. clouds	J. T. d'Oliveria, Com'd't.
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. A. A. Loureiro.
Sado, Capt. J. A de Brito Capello, St. Paul de Loando	.....	.....	29.94	760.4	79.7	26.5	.....	W	.....	.....	3	.....	3	.....	W	.....	.....	D. clouds	F. Teixeira da Silva, Com'd't.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	.....	.....	29.99	761.8	70.7	21.5	.....	N	.....	.....	4	.....	10	.....	N	3	N	Raining, 16 hr's rain-fall.	H. Mecudonco, 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

RUSSIAN SERIES.

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

Archangel	29.63	752.7	29.65	753.2	16.5	— 8.6	97	SSW	4	2	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Astrakhan	30.28	769.0	30.19	766.9	32.2	0.1	56	N	7	3	.....	.....	10ks	.....	.....	Blank	Blank	.....	Capt. Wisganow.
Barnaul	29.81	757.2	30.34	770.7	28.8	— 1.8	70	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	29.09	738.9	29.34	745.2	34.5	1.4	94	ESE	7	3	.....	.....	10n	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	28.35	720.2	29.34	745.3	27.1	— 2.7	96	SSE	9	4	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Snowing	
Kasan	29.45	748.1	29.74	755.3	20.5	— 6.4	78	W	4	2	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.19	741.5	29.85	758.3	29.5	— 1.4	100	SSW	18	8	.....	.....	10n	.....	.....	.....	.....	Snow-drift.	Physical Cabinet.
Krotkowo*	29.36	745.8	29.86	758.5	19.9	— 6.7	72	NW	9	4	.....	.....	9	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	29.92	760.0	30.13	765.4	30.6	— 0.8	51	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Moscow	29.30	744.1	29.88	758.9	22.5	— 5.3	88	S	7.8	3.5	.....	.....	10s	.....	.....	.....	.....	Snowing.....	Meteorological Obs.
Nertchinsk	28.04	712.1	30.48	774.3	21.7	— 5.7	85	Calm	0	0	.....	.....	7	.....	.....	Blank	Blank	.....	Meteorological Obs.
Nikolaiev	30.10	764.4	30.17	766.2	35.8	2.1	61	S	13	6	.....	10ck	.....	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	29.64	752.8	29.87	758.6	64.9	18.3	40	SSE	4	2	.....	.....	2ks	.....	.....	.....	.....	.....	
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Pekin (China)	30.32	770.1	30.46	773.7	43.2	6.2	97	Calm	0	0	.....	.....	10n	.....	.....	.....	.....	.....	
St. Petersburg	29.47	748.4	29.48	748.8	25.3	— 3.7	89	SE	16	7	.....	.....	10n	.....	.....	.....	.....	Raining.....	Physical Observatory.
Tashkend	28.41	721.7	29.97	761.1	61.2	16.2	55	.....	.....	.....	.....	.....	8	.....	.....	.....	.....	Light snow..	Central Physical Obs.
Tiflis	28.59	726.2	30.04	763.0	45.1	7.3	86	N	4	2	.....	.....	10	.....	.....	.....	.....	.....	Teich, A. M.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Physical Observatory.
Warsaw	29.22	742.2	29.66	753.3	34.3	1.3	96	WNW	18	8	.....	.....	10ks;n	.....	.....	.....	.....	.....	
Wilna	29.05	737.9	29.48	748.7	40.8	4.9	75	SW	4	2	.....	.....	4	.....	.....	.....	.....	Light rain...	Astronomical Obs.
Yenisiesk	30.37	771.4	30.68	779.3	21.7	— 5.7	56	W	2	1	.....	.....	0	.....	.....	.....	.....	.....	Astronomical Obs.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

SPANISH SERIES.

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

Barcelona, Met. Obs'y	30.28	769.2	30.39	772.0	58.3	14.6	68	SE	0.7	0.33	.....	.....	1	.....	.....	.....	.....	Clear	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.54	775.6	30.60	777.1	55.6	13.1	74	NW	1.9	0.83	.....	.....	10	.....	.....	0	0	Covered	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.50	698.6	.....	.....	43.7	6.5	66	NE	2.4	1.07	... ...	0	2	.....	.....	0	0	Light clouds	Domingo Martin y Perez.
Madrid, Royal Observatory	28.19	715.9	30.44	773.1	59.7	15.4	76	SW	2.2	1.00	.....	5	0	W	.....	0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	30.20	767.1	30.35	770.9	64.6	18.1	73	WSW	1.4	0.61	.....	5	4	NE	.....	0	0	Almost cov'd	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.52	749.9	30.42	772.6	63.5	17.5	65	E	6.3	2.8	.....	1	0	.....	.....	0	0	Almost clear	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I	30.07	763.7	30.13	765.4	73.1	22.8	82	Calm	0	0	.....	9ck	1k	SSE	E	0	0	Cloudy.....	Benito Vines, S. J.
Manilla, Phillippine Islands	29.78	756.3	29.83	757.6	80.7	27.1	.....	SE	0	0	.....	.....	10	.....	S	0.079	2.0	Raining.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.26	768.6	30.36	771.1	68.0	20.0	67	ESE	18.3	8.2	.....	2	8	E	E	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I	29.95	760.6	30.04	762.9	79.9	26.6	91	SE	0	0	.....	5ck	4k	SE	SE	0.453	11.50	Cloudy	Enrique Gadea, Chief Eng'r

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

SWEDISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.57	751.1	29.61	752.1	22.3	— 5.4	.....	W	.....	.....	4	.....	10	.....	.....	0.118	3.0	.....	
Umea	29.47	748.5	29.52	749.8	28.4	— 2.0	92	N	.....	.....	2	.....	10	.....	.....	0.047	1.2	.....	
Hernosand	29.41	747.1	29.47	748.4	31.6	— 0.2	78	NNE	.....	.....	2	.....	9	.....	.....	0.197	5.0	.....	
Stockholm	29.31	744.4	29.48	748.9	34.2	1.2	59	NW	.....	.....	2	.....	0	.....	.....	0.055	1.4	.....	
Wisby	29.42	747.3	29.48	748.8	37.8	3.2	66	NNW	.....	.....	7	.....	5	.....	.....	0.165	4.2	.....	
Sub-Series.																			
Upsala	29.37	746.0	29.46	748.2	34.3	1.3	62	NW	10.3	4.6	.....	.....	0	.....	.....	0.015	0.38	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

SWISS SERIES.

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

Geneva	28.04	737.5	30.49	774.5	43.7	6.5	61	N	.....	.....	2	.....	0	.....	.....	0	0	Clear	The Observatory.
Zurich	28.89	731.5	30.48	774.1	43.2	6.2	66	W	.....	.....	2	.....	4	.....	.....	0.055	1.4	Clear	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, +11.3 mm.; Thermometer, —2.1 Cent.; Relative Humidity, —14 per cent.
NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

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

Constantinople	.....	.....	30.24	768.2	44.8	7.1	67	N	12	5.5	.....	.....	9	.....	N	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.21	767.2	58.5	14.7	.....	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obsy	29.84	757.9	29.96	760.9	63.3	17.4	70	SW	.....	.....	3	.....	10n	.....	SW	0.39	9.9	Overcast	Prof. C. V. A. van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. A. Blair.
Charlottetown, P. E. Island	30.42	772.7	30.46	773.7	26.5	— 3.1	65	NW	6	2.7	.....	0	9s	.....	.....	0	0	Cloudy.	H. J. Cundall, C. E.
Cornwall, Ontario	30.13	765.3	30.34	770.6	15.0	— 9.4	93	E	.....	.....	1	0	1s	.....	.....	0	0	Clear	James Smith, M. A.
Dalhousie, N. B	30.24	768.1	30.42	772.7	22.5	— 5.3	.....	W	.....	.....	1	.....	10s	.....	.....	0	0	Overcast	H. A. Johnson.
Father Point, Quebec	30.40	772.1	30.42	772.7	26.9	— 2.8	76	NW	10	4.5	.....	.....	10s	.....	.....	Inap.	Inap.	Cloudy	J. McWilliams.
Fredericton, N. B	30.45	773.4	30.52	775.2	17.0	— 8.3	92	SE	3	1.3	.....	2ck	0	.....	.....	0	0	Clear	Prof. Harrison.
Fort Garry, Manitoba	28.82	732.0	29.67	753.6	28.5	— 1.9	83	S	7	3.1	.....	0	2s	.....	.....	0	0	Fair	James Stewart.
Granton, Ontario	29.01	736.8	30.17	766.3	29	— 1.7	.....	Calm	.....	.....	0	.....	10n	.....	.....	0	0	Cloudy	James Grant.
Halifax, N. S	30.36	771.1	30.50	774.7	27.6	— 2.8	93	N	4	1.8	.....	0	2ks	.....	.....	0	0	Fair	A. Allison, M. A.
Hamilton, Ontario	29.81	757.2	30.20	767.1	31.7	— 0.2	96	SW	.....	.....	1	.....	10cs	.....	NW	0.25	5.8	Cloudy	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.88	758.9	30.23	767.8	28.5	— 1.8	97	SE	7	3.1	.....	.....	10ks	.....	.....	0.04	1.0	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	30.38	771.6	30.41	772.4	32.7	0.4	79	NW	8	3.6	.....	8k	0	NW	.....	0	0	Cloudy	C. H. Rigby.
Montreal, Quebec	30.14	765.5	30.35	770.9	24.3	— 4.3	72	SE	8	3.6	.....	8k	Sm'e	S	.....	0	0	Cloudy	C. H. McLeod, C. E.
Moose Factory, Ontario	29.92	760.0	29.96	761.0	30.0	— 1.1	77	SW	.....	.....	4	.....	10	.....	.....	0	0	Cloudy	J. R. Nason.
Norwood	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. R. Mosley.
Peterboro, Ontario	29.42	747.3	30.21	767.3	27.7	— 2.4	82	E	.....	.....	1	.....	10n	.....	.....	0.20	5.1	Snowing	J. F. Jeffers, B. A.
Port Dover, Ontario	29.44	747.8	30.17	766.3	30.0	— 1.1	100	NW	5	2.2	.....	.....	Haze	.....	.....	0	0	Hazy	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.50	749.3	30.18	766.6	27.8	— 2.3	98	N	4	1.8	.....	.....	Fog	.....	.....	0.23	5.8	Foggy	M. Payne.
Quebec, Quebec	30.10	764.5	30.44	773.2	26	— 3.3	94	N	.....	.....	1	.....	10n	.....	.....	.....	.....	Light snow.	Capt. Ashe, R. N.
Rockliffe, Ontario	29.80	756.9	30.29	769.4	23.1	— 4.9	66	E	6	2.7	.....	0	5ks	.....	SW	0	0	Fair	W. H. McIntyre.
St. Andrews, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Gove.
St. John, N. B	30.32	770.1	30.50	774.7	19	— 7.2	92	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	G. Murdock, C. E.
Saugeen, Ontario	29.41	747.0	30.16	766.1	29.5	— 1.4	94	SE	9	4.0	.....	.....	10ks	.....	.....	0.12	3.0	Overcast	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.83	732.3	30.17	766.3	29.0	— 1.7	97	Calm	0	0	.....	.....	10s	.....	.....	0.30	7.6	Cloudy	C. J. MacGregor, M. A.
Sydney, C. B	30.39	771.9	30.44	773.2	33.7	0.9	60	SW	5	2.2	.....	8k	0	NW	.....	0.01	0.3	Fair	T. C. Hill, C. E.
Toronto, Ontario	29.79	756.7	30.20	767.1	29.9	— 1.2	86	N	6	2.7	.....	0	10ks	.....	.....	0.20	5.1	Cloudy	Magnetic Observatory.
Windsor, N. S	30.38	771.6	30.48	774.2	26.5	— 3.1	94	SW	1	0.4	.....	0	9ks	.....	.....	0	0	Cloudy	Prof. John E. Oram.
Woodstock, Ontario	29.05	737.9	30.17	766.3	30.6	— 0.8	92	NE	2	0.9	.....	.....	10s	.....	.....	0	0	Cloudy	Prof. J. Montgomery.
Yarmouth, N. S	30.42	772.7	30.48	774.2	27.9	— 2.3	78	NE	.....	.....	1	6k	4ks	.....	.....	0	0	Cloudy	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	30.12	765.0	30.39	771.9	29.0	— 1.7	83	NW	.....	.....	.....	0	2s	.....	.....	0	0	Fair	John Delany.
St. Pierre, N. F	.....	.....	30.24	768.0	32.0	0.0	.....	NW	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	l'Hopital Maritime.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10, except Yarmouth and St. Johns on scale 0 to 20. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

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

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	30.11	764.8	30.36	771.1	27	— 2.8	88	SE	3	1.3	.....	.....	10n	.....	Calm	0.08	2.0	Light snow..	
Alpena, Michigan	29.42	747.3	30.10	764.5	28	— 2.2	88	SW	2	0.9	.....	.....	10s	.....	SW	0.20	5.1	Cloudy.....	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	29.14	740.1	30.33	770.4	41	5.0	65	NE	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Atlantic City, New Jersey	30.31	769.9	30.32	770.1	44	6.7	92	SW	12	5.4	.....	.....	10s	.....	Calm	0.32	8.1	Threatening	
Augusta, Georgia	30.20	767.1	30.41	772.4	46	7.8	77	Calm	0	0	.....	5ck	5s	NW	NW	0	0	Cloudy	
Baltimore, Maryland	30.25	768.3	30.30	769.6	43	6.1	59	S	4	1.8	.....	.....	10s;fg	.....	Calm	0.01	0.3	Cloudy	
Barnegat, New Jersey	30.30	769.6	30.32	770.1	36	2.2	90	SW	6	2.7	.....	.....	10s	.....	W	0.27	6.9	Cloudy.....	
Bismarck, Dakota	27.90	708.6	29.75	755.6	37	2.8	62	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Boerne, Texas	28.61	726.7	29.94	760.5	51	10.6	65	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Boise City, Idaho	27.12	688.8	30.08	764.0	47	8.3	77	W	6	2.7	.....	.....	10n	.....	W	0.10	2.5	Light rain....	
Boston, Massachusetts	30.26	768.6	30.43	772.9	25	— 3.9	100	N	6	2.7	.....	.....	10n	.....	Calm	0.04	1.0	Light snow.	
Brackettville, Texas	28.88	733.5	29.93	760.2	58	14.4	53	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	28.71	729.2	29.73	755.1	27	— 2.8	76	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Brownsville, Texas	30.03	762.7	30.07	763.8	73	22.8	85	S	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Buffalo, New York	29.40	746.7	30.13	765.3	34	1.1	79	E	4	1.8	.....	.....	10s;fg	.....	Calm	0.18	4.6	Cloudy	
Burkes, Arizona	.....	.....	.....	.....	44	6.7	23	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Burlington, Vermont	30.06	763.5	30.37	771.4	24	— 4.4	74	SE	2	0.9	.....	5ck	0	NW	.....	0.01	0.3	Light snow..	
Cairo, Illinois	29.84	757.9	30.24	768.1	51	10.6	65	Calm	0	0	.....	.....	10s	.....	SW	0	0	Cloudy	
Campo, California	27.49	698.2	30.06	763.5	30	— 1.1	78	E	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	
Cape Hatteras, N. Carolina	30.40	772.1	30.41	772.4	45	7.2	84	N	3	1.3	.....	2ck	0	Calm	.....	0	0	Clear	
Cape Henry, Virginia	30.36	771.1	30.37	771.4	41	5.0	57	SW	8	3.6	.....	1cs	0	Calm	.....	0	0	Clear.....	
Cape Lookout, N. Carolina	30.38	771.6	30.4	772.1	44	6.7	84	NE	8	3.6	.....	5c	0	Calm	.....	0	0	Fair.....	
Cape May, New Jersey	30.27	768.8	30.30	769.6	50	10.0	51	SW	28	12.5	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Castroville, Texas	29.27	743.4	29.98	761.5	55	12.8	81	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Charleston, South Carolina	30.30	769.6	30.36	771.1	51	10.6	16	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Charlotte, North Carolina	29.49	749.0	30.34	770.6	41	5.0	65	SW	6	2.7	.....	5cs	5s	Calm	Calm	0	0	Cloudy.....	
Chattanooga, Tennessee	29.49	749.0	30.32	770.1	45	7.2	53	NE	4	1.8	.....	10ck	Sm'e	SW	Calm	0	0	Cloudy.....	
Cheyenne, Wyoming	24.00	609.6	29.94	760.5	46	7.8	26	SW	10	4.5	.....	0	0	.....	.....	0	0	Clear.....	
Chicago, Illinois	29.39	746.5	30.09	764.3	42	5.6	58	SW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Cincinnati, Ohio	29.54	750.3	30.20	767.1	50	10.0	55	SW	8	3.6	.....	.....	10s	.....	SW	0.10	2.5	Threatening	
Cleveland, Ohio	29.43	747.5	30.18	766.6	33	0.6	89	SE	6	2.7	.....	.....	10s;fg	.....	Calm	0.44	11.2	Cloudy	
Coleman City, Texas	28.29	718.6	30.00	762.0	44	6.7	76	SW	4	1.8	.....	.....	Fog	.....	.....	0	0	Foggy.....	
Columbus, Ohio	29.30	744.2	30.15	765.8	45	7.2	68	S	3	1.3	.....	.....	Fog	.....	Calm	0	0	Foggy	
Concho, Texas	28.17	715.5	29.90	759.4	40	4.4	91	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Corsicana, Texas	29.63	752.6	30.10	764.5	58	14.4	94	E	4	1.8	.....	.....	10n	.....	Calm	0.04	1.0	Light rain...	
Davenport, Iowa	29.41	747.0	30.06	763.5	40	4.4	65	Calm	0	0	.....	0	5s	.....	W	0	0	Fair	
Deadwood, Dakota	25.16	639.0	.....	.....	37	2.8	63	Calm	0	0	.....	2cs	0	Calm	.....	0	0	Fair	
Decatur, Texas	28.91	734.3	30.06	763.5	64	17.8	63	SE	7	3.1	.....	.....	Fog	.....	.....	0	0	Foggy	
Denison, Texas	29.29	744.0	30.08	764.0	55	12.8	87	E	3	1.3	.....	.....	Fog	.....	Calm	0	0	Foggy	
Denver, Colorado	24.75	628.6	29.97	761.2	40	4.4	39	S	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Des Moines, Iowa	29.06	738.1	29.95	760.7	41	5.0	65	Calm	0	0	.....	0	Sm'e	.....	Calm	0	0	Smoky.....	
Detroit, Michigan	29.46	748.3	30.16	766.1	30	— 1.1	89	Calm	0	0	.....	.....	Fog	.....	Calm	0.32	8.1	Foggy.....	
Dodge City, Kansas	27.38	695.4	29.71	754.6	40	4.4	39	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Dubuque, Iowa	29.34	745.2	30.05	763.3	39	3.9	64	S	6	2.7	.....	.....	10ks	.....	S	0	0	Cloudy.....	
Duluth, Minnesota	29.13	739.9	29.81	757.2	38	3.3	81	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Eagle Pass, Texas	29.30	744.2	30.04	763.0	52	11.1	73	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Eastport, Maine	30.40	772.1	30.48	774.2	28	— 2.2	71	NE	7	3.1	.....	8ck	0	SW	.....	0	0	Fair	
Edinburg, Texas	.....	.....	.....	.....	67	19.4	95	Calm	.....	.....	0	.....	Fog	.....	.....	0	0	Foggy	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.42	747.3	30.15	765.8	38	3.3	81	S	6	2.7	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy.....	
Escanaba, Michigan	29.29	744.0	29.97	761.2	32	0.0	69	SW	4	1.8	.....	.....	10s	.....	W	0.27	6.9	Cloudy.....	
Florence, Arizona	28.52	724.4	30.12	765.0	50	10.0	45	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Custer, Montana	27.63	701.8	29.46	748.3	37	2.8	80	S	4	1.8	.....	1c	0	W	.....	0	0	Clear	
Fort Davis, Texas	26.48	672.6	.....	.....	40	4.4	44	S	17	7.6	.....	5k	0	W	.....	0	0	Fair.....	
Fort Gibson, Indian Ter	25.30	642.6	30.26	768.6	53	11.7	70	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Fort Grant, Arizona	29.55	750.6	30.08	764.0	56	13.3	87	SE	6	2.7	.....	.....	10s	.....	S	Inap	Inap.	Cloudy.....	
Fort Griffin, Texas	25.28	642.1	30.08	764.0	52	11.1	19	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Fort Keogh, Montana	28.78	731.0	30.04	763.0	58	14.4	88	SE	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Fort McKavett, Texas	27.14	689.3	.....	.....	31	— 0.6	68	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Fort St. Michael, Alaska	27.81	706.4	29.79	756.7	40	4.4	73	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.84	732.5	29.95	760.7	58	14.4	100	S	12	5.4	.....	.....	10n	.....	Calm	Inap	Inap	Light rain...	
Fort Stevenson, Dakota	27.84	707.1	.....	.....	32	0.0	79	W	5	2.2	.....	2c	0	W	.....	0	0	Fair.....	
Fort Verde, Arizona	.....	.....	.....	.....	37	2.8	46	NW	.....	.....	1	c	0	.....	.....	0	0	Clear.....	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.23	717.0	29.77	756.1	58	14.4	58	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Galveston, Texas	30.06	763.5	30.10	764.5	68	20.0	95	S	2	0.9	.....	0	5ks;fg	.....	S;Calm	0.03	0.8	Fair.....	
Graham, Texas	28.95	735.3	29.99	761.7	61	16.1	94	S	2	0.9	.....	.....	10s	.....	Calm	0	0	Threatening	
Grand Haven, Michigan	29.44	747.8	30.12	765.0	31	— 0.6	82	E	5	2.2	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.10	739.1	30.02	762.5	61	16.1	82	SE	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Indianapolis, Indiana	29.33	745.0	30.13	765.3	46	7.8	77	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Indianola, Texas	30.08	764.0	30.11	764.8	67	19.4	95	Calm	0	0	.....	10cs	Fog	SW	Calm	0.01	0.3	Cloudy.....	
Jacksboro, Texas	28.96	735.6	29.85	758.2	60	15.6	55	SE	10	4.5	.....	.....	10s	.....	S	0	0	Cloudy.....	
Jacksonville, Florida	30.28	769.1	30.30	769.6	56	13.3	81	N	4	1.8	.....	0	5s	.....	Calm	0	0	Fair.....	
Keokuk, Iowa	29.36	745.7	29.98	761.5	43	6.1	67	S	5	2.2	.....	.....	10s	.....	S	0	0	Cloudy.....	
Key West, Florida	30.13	765.3	30.16	766.1	73	22.8	85	NE	12	5.4	.....	0	0	.....	.....	Inap.	Inap	Clear.....	
Kittyhawk, North Carolina	30.38	771.6	30.41	772.4	43	6.1	75	S	8	3.6	.....	2ck	Haze	W	Calm	0	0	Fair.....	
Knoxville, Tennessee	29.34	745.2	30.41	772.4	31	— 0.6	79	NE	5	2.2	.....	1k	8ks	W	W	0	0	Fair.....	
La Crosse, Wisconsin	29.19	741.4	29.13	760.2	42	5.6	66	S	4	1.8	.....	10k	0	W	.....	0	0	Cloudy.....	
La Mesilla, New Mexico	26.19	665.2	30.34	770.6	36	2.2	53	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Laredo, Texas	29.70	754.4	30.04	763.0	67	19.4	69	SW	7	3.1	.....	0	0	.....	.....	0	0	Clear.....	
Leavenworth, Kansas	29.16	740.7	30.00	762.0	52	11.1	93	S	12	5.4	.....	.....	10n	.....	.....	Inap.	Inap.	Light rain...	
Little Rock, Arkansas	29.83	757.7	30.19	766.8	52	11.1	93	E	2	0.9	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy.....	
Los Angeles, California	29.74	755.4	30.08	764.0	44.0	6.7	84	N	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Louisville, Kentucky	29.65	753.1	30.22	767.6	50	10.0	52	S	9	4.0	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy.....	
Lynchburg, Virginia	29.62	752.3	30.34	770.6	35	1.7	70	E	1	0.4	.....	1c	0	W	.....	0	0	Clear	
Madison, Wisconsin	29.00	736.6	30.00	762.0	40	4.4	73	SE	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Marquette, Michigan	29.20	741.7	29.92	760.0	35	1.7	70	SW	13	5.8	.....	.....	10s	.....	Calm	0.08	2.0	Cloudy.....	
Mason, Texas	28.44	722.4	30.24	768.1	47	8.3	85	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear.	
Memphis, Tennessee	29.56	758.4	30.20	767.1	55	12.8	59	SE	6	2.7	.....	.....	10s	.....	SE	Inap.	Inap.	Cloudy.....	
Milwaukee, Wisconsin	29.30	744.2	30.05	763.3	38	3.3	81	SW	5	2.2	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy.....	
Mobile, Alabama	30.14	765.5	30.18	766.6	56	13.3	97	NE	6	2.7	.....	.....	10n	.....	NE	1.25	31.7	Heavy rain.	
Montgomery, Alabama	30.05	763.3	30.29	769.4	52	11.1	75	E	6	2.7	.....	0	9s	.....	W	0	0	Cloudy.....	

UNITED STATES SERIES—CONTINUED.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Morgantown, West Virginia	29.19	741.4	30.20	767.1	48	8.9	56	SW	6	2.7	.....	.....	10s	.....	SW	0.20	5.1	Cloudy.....	
Mt. Washington, N. H.	28.74	603.0	30.10	764.5	10	—12.2	100	NW	10	4.5	.....	.....	Fog	.....	NW	0	0	Foggy	
Nashville, Tennessee	29.74	755.4	30.30	769.6	48	8.9	78	Calm	0	0	.....	0	5ks	.....	SE	0	0	Fair.....	
New Haven, Connecticut	30.24	768.1	30.37	771.4	28	— 2.2	94	NE	8	3.6	.....	.....	10n	.....	Calm	0.20	5.1	Light snow.	
New London, Connecticut	30.35	770.9	30.40	772.1	30	— 1.1	78	N	4	1.8	.....	.....	10n	.....	Calm	0.06	1.5	Light snow.	
New Orleans, Louisiana	30.10	764.5	30.16	766.1	63	17.2	94	SW	3	1.2	.....	.....	Fog	.....	Calm	1.81	46.0	Dense fog....	
Newport, Rhode Island	30.36	771.1	30.41	772.4	31	— 0.6	89	N	5	2.2	.....	.....	10s	.....	Calm	0.10	2.5	Cloudy.....	
New York, New York	30.16	766.1	30.34	770.6	35	1.7	90	E	4	1.8	.....	.....	10s	.....	Calm	0.22	5.6	Cloudy.....	
Norfolk, Virginia	30.30	769.6	30.36	771.1	41	5.0	65	S	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
North Platte, Nebraska	27.00	685.8	29.64	752.8	32	0.0	59	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear.....	
Olympia, Washington Ter.	29.95	760.7	29.99	761.7	44.5	6.9	80	SW	12	5.4	.....	2k	0	W	.....	Inap.	Inap.	Fair.....	
Omaha, Nebraska	28.77	730.7	29.88	758.9	42	5.6	58	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Oswego, New York	29.89	759.2	30.22	767.6	31	— 0.6	79	SE	13	5.8	.....	.....	10s	.....	S	0.18	4.6	Cloudy.	
Pembina, Dakota	28.73	729.7	29.58	751.3	26	— 3.3	100	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear..... ..	
Pensacola, Florida	30.18	766.6	30.21	767.3	60	15.6	88	E	.....	.....	2	0	8ks	.. ..	SE	Blank	Blank	Cloudy.....	
Philadelphia, Pennsylvania	30.26	768.6	30.31	769.9	37	2.8	81	SE	2	0.9	.....	.....	10s	.....	Calm	0.28	7.1	Cloudy	
Phœnix, Arizona	28.87	733.3	30.71	780.0	48	8.9	43	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.81	452.4	30.02	762.5	23	— 5.0	21	SW	32	14.3	.....	0	1s	.....	Calm	0	0	Clear.....	
Pilot Point, Texas	29.33	745.0	30.16	766.1	56	13.3	93	SE	3	1.3	.....	.....	10s	....	SE	0.01	0.3	Cloudy.....	
Pioche, Nevada	.....	.....	.....	.....	44	6.7	23	S	8	3.6	.....	0	0	.....	....	0	0	Clear.....	
Pittsburg, Pennsylvania	29.37	746.0	30.20	767.1	39	3.9	82	S	3	1.3	.....	.....	10s	...	Calm	0.49	12.4	Cloudy.....	
Port Huron, Michigan	29.46	748.3	30.16	766.1	29	— 1.7	89	SW	6	2.7	.....	5cs	Fog	W	.....	0.23	5.8	Fair	
Portland, Maine	30.39	771.9	30.44	773.2	32	0.0	69	N	8	3.6	.....	.....	10n	.....	Calm	Inap	Inap	Light snow.	
Portland, Oregon	30.04	763.0	30.12	765.0	46.5	8.1	80	S	5	2.2	.....	2k	5ks	W	W	0.30	7.6	Clearing.....	
Portsmouth, N. Hampshire	.....	.....	.....	.....	48	8.9	93	Calm	0	0	.....	5cs	0	Calm	.....	0	0	Fair.....	
Prescott, Arizona	24.84	630.9	30.20	767.1	35	1.7	36	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear.	
Punta Rassa, Florida	30.20	767.1	30.22	767.6	67	19.4	74	NE	8	3.6	.....	1ck	0	Calm	... .	0	0	Clear.....	
Red Bluff, California	29.83	757.7	30.19	766.8	50	10.0	75	NW	2	0.9	.....	0	0	.....	.....	0.19	4.8	Clear.....	
Rio Grande City, Texas	29.88	758.9	30.10	764.5	62	16.7	88	Calm	0	0	.....	.....	Fog	.....	....	0	0	Foggy	
Rochester, New York	29.53	750.0	30.18	766.6	31	— 0.6	89	S	3	1.3	.....	.....	10s	.....	Calm	0.17	4.3	Cloudy.....	
Roseburg, Oregon	29.68	753.9	30.26	768.6	45	7.2	84	S	4	1.8	.....	1k	0	W	.....	1.27	32.3	Clear.....	
Sacramento, California	30.09	764 3	30.17	766.3	58	14.4	94	S	3	1.3	.....	.....	10s	.....	SW	0.02	0.5	Cloudy.....	
St. Louis, Missouri	29.53	750.0	30.10	764.5	52	11.1	79	S	9	4.0	.....	2c	5s	Calm	SW	0	0	Fair..	
St. Paul, Minnesota	28.97	735.8	29.80	756.9	41	5.0	57	SE	8	3.6	.....	.....	10ks	.....	W	0	0	Cloudy	
Salt Lake City, Utah	25.52	648.2	29.85	758.2	52	11.1	23	E	4	1.8	... .	1c	0	W	.. ..	0	0	Clear.....	
San Antonio, Texas	29.37	746.0	29.95	760.7	61	16.1	82	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
San Diego, California	30.04	763.0	30.11	764.8	54	12.2	93	NE	4	1.8	.. ..	.....	10s	.....	Calm	0	0	Cloudy.....	
Sandusky, Ohio	29.48	748.8	30.17	766.3	39	3.9	73	SW	5	2.2	.....	... ...	10s	.....	Calm	0.32	8.1	Threatening	
Sandy Hook, New Jersey	30.30	769.6	30.33	770.4	37	2.8	90	S	5	2.2	.....	.....	10s	....	Calm	0.12	3.0	Cloudy.....	
San Francisco, California	30.13	765.3	30.19	766.8	56	13.3	75	W	8	3.6	.....	1c	0	W	.....	0.16	4.1	Clear	
Santa Fé, New Mexico	23.38	593.8	29.92	760.0	36	2.2	45	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.26	768.6	30.36	771.1	51	10.6	79	N	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Shreveport, Louisiana	29.91	759.7	30.13	765.3	57	13.9	87	Calm	0	0	.....	.....	10s	.....	Calm	1.65	41.9	Cloudy.	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.37	771.4	30.40	772.1	48	8.9	93	N	6	2.7	.....	8ck	2s	Calm	Calm	0	0	Cloudy.....	
Socorro, New Mexico	25.52	648.2	29.59	751.6	37	2.8	53	Calm	0	0	.....	0	0	.....	.....	0	0	Clear..	
Springfield, Illinois	29.41	747.0	30.09	764.3	44.5	6.9	80	SE	7	3.1	.....	5c	2s; sm	W	W; Calm	0	0	Smoky..... ..	
Springfield, Massachusetts	30.27	768.8	30.41	772.4	25	— 3.9	87	N	3	1.3	.....	.....	10n	.....	N	0.08	2.0	Light snow.	
Stockton, Texas	27.11	688.6	30.11	764.8	47	8.3	15	NE	8	3.6	.....	0	0	.....	... ..	0	0	Clear.....	
Thatcher's Island, Mass	30.35	770.9	30.41	772.4	32	0.0	100	NE	14	6.3	.....	.....	10n	.....	NE	0.03	0.8	Heavy snow	
Toledo, Ohio	29.45	748.0	30.16	766.1	36	2.2	90	SW	1	0.4	.....	.....	10s	.....	W	0.20	5.1	Cloudy.....	
Tucson, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon	29.59	751.6	30.08	764.0	50.0	10.0	72	SW	32	14.3	.....	0	5ks	....	W	0	0	Fair	
Uvalde, Texas	29.16	740.7	29.98	761.5	55	12.8	74	Calm	0	0	.....	0	0	... .	....	0	0	Clear.....	
Vicksburg, Mississippi	29.92	760.0	30.19	766.8	56	13.3	97	SE	9	4.0	.....	.....	10s	.....	Calm	0.52	13.2	Cloudy.	
Virginia City, Montana	23.95	608.3	29.43	747.5	48	8.9	36	SW	13	5.8	.....	.....	10s	.....	W	0	0	Cloudy.....	
Visalia, California	29.76	755.9	30.14	765.5	45	7.2	84	N	1	0.4	....	0	0	.....	.....	0	0	Clear.....	
Washington, D. C.	30.17	766.3	30.29	769.4	41	5.0	57	S	7	3.1	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy.....	
Wickenburg, Arizona	..	.....	.....	.....	39	3.9	46	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, North Carolina	30.30	769.6	30.38	771.6	45	7.2	68	NE	2	0.9	.....	5ck	0	W	.....	0	0	Fair	
Winnemucca, Nevada	25.67	652.0	30.03	762.7	43	6.1	51	SW	15	6.7	.....	0	1s	.....	SW	0	0	Clear.....	
Wood's Holl, Massachusetts	30.36	771.1	30.40	772.1	32	0.0	89	N	6	2.7	.....	.....	10ks	.....	NE	0	0	Threatening	
Yankton, Dakota	28.56	725.4	29.87	758.7	35	1.7	52	Calm	0	0	... .	0	0	.....	.....	0	0	Clear.....	
Yuma, Arizona	29.83	757.7	29.99	761.7	56	13.3	40	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
SUB-SERIES.																			
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	30.03	762.7	30.06	763.5	75	23.9	76	Calm	0	0	.....	8k	0	NE	.....	0	0	Fair...	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.18	766.6	30.19	766.8	77	25.0	87	Calm	0	0	.....	8c	2cs	Calm	.....	0	0	Fair.....	James Gall.
Medellin, Colombia, S. A.*	25.21	640.3	.....	.....	66.0	18.9	85	Calm	.....	.....	0	3cs	5ks	.....	.....	0	0	.....	Thomas Herran.
Navassa, W. I.	29.91	759.7	29.91	759.7	82	27.8	.....	E	9	4.0	.....	2k	2s	E	E	0	0	Fair	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.96	761.0	29.96	761.0	84	28.9	71	SE	....	.....	2	4c	4k	E	.....	0	0	Fair	C. J. Hering.
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	30.08	764.0	30.14	765.5	17.0	— 8.3	92	W	13	5.8	.....	2c	0	W	.....	0.04	1.0	Fair.....	J. Fortescue & W. Wood.
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NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Medellin, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,8 6.2 m.; Coleman City, 1,7.7 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,596 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1.856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm. *The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

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

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

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.14‡	765.5‡	.....	.....	62	16.7	94	NE	16	7.2	.....	.....	10	.....	SE	3.26	82.8	.....	.....	Stormy.....	
Navy Yard, Portsmouth, N.H.	30.14‡	765.5‡	.....	.....	34	1.1	82	NW	2	0.9	.....	.....	5	.....	.....	0	0	.....	.....	Pleasant.....	
Naval Hospital, Yokohama, Japan.....	30.23‡	767.8‡	.....	.....	48	8.9	63	N	.....	.....	3	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Adams, Mare I'd., Navy Yard, Cal.	30.16‡	766.1‡	.....	.....	57	13.9	94	S	.....	.....	2	.....	10	.....	S	.....	.....	.....	.....	Cloudy.....	
Alaska, S. 15° 47′, W. 74° 47′..*	29.98‡	761.5‡	.....	.....	62	16.7	88	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Mod'ate	SE	Hazy	
Alliance, N. 24° 14′, W. 23° 30′.....	29.74‡	755.4‡	.....	.....	74	23.3	76	WSW	.....	.....	4	.....	9	.....	SW	.....	.....	Rough	SW	Squally.....	
Colorado, New York, N. Y.....	30.30‡	769.6‡	.....	.....	32	0.0	100	Calm	0	0	.....	.....	10	.....	.....	0.15	3.8	.....	.....	Misty.....	
Constitution, Navy Yard, Norfolk, Va.	30.50‡	774.7‡	.....	.....	39	3.9	83	SW	2	0.9	.....	.....	3	.....	Calm	.....	.....	.....	.....	Clear.	
Enterprise, Tripoli, Tripoli.....	30.33‡	770.4‡	.....	.....	69	20.6	52	NE	.....	.....	3	.....	2	.....	NE	.....	.....	Smooth	.....	Clear.....	
Franklin, Off Navy Yard, Norfolk, Va.	30.38‡	771.6‡	.....	.....	43	6.1	68	S	0.7	0.3	.....	.....	2	.....	W	0	0	.....	.....	Clear.....	
Hartford, N. 24° 55′, W. 64° 44′.....	30.19‡	766.8‡	.....	.....	79	26.1	70	NNE	.....	.....	6	.....	5	.....	NNE	0	0	Mod'ate	NE	Fair	
Independence, Mare I'd, Navy Yard, Cal.	30.18‡	766.6‡	.....	.....	61	16.1	82	W	1.2	0.5	.....	.....	2	.....	NW	0.42	10.7	.....	.....	Clear.....	
Kearsage, Norfolk, Va.....	30.38‡	771.6‡	.....	.....	42	5.6	75	N	.....	.....	0–1	.....	8?	.....	N	0	0	.....	.....	Clear.....	
Lackawana, N. 14° 00′, E. 178° 21′...†.	29.97‡	761.2‡	.....	.....	80	26.7	78	ENE	.....	.....	3–5	.....	2	.....	ENE	.....	.....	Mod'ate	ENE	Fair	
Marion, Off Norfolk, Va.	30.39‡	771.9‡	.....	.....	42	5.6	75	SSW	.....	.....	1	.....	1	.....	SW	.....	.....	Smooth	.....	Clear.....	
Michigan, Erie, Pa.....	30.11‡	764.8‡	.....	.....	39	3.9	64	SSW	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....	Overcast....	
Monocacy, Shanghai, China..	30.35‡	770.9‡	.....	.....	59	15.0	94	NE	.....	.....	1	.....	10	.....	NE	.....	.....	.....	.....	Cloudy.....	
New Hampshire, Port Royal, S. C.....	30.37‡	771.4‡	.....	.....	53	11.7	86	N	8	3.6	.....	.....	2?	.....	N	0	0	.....	.....	Cloudy?.....	
Onward, Callao, Peru..... ....†.	29.97‡	761.2‡	.....	.....	63	17.2	89	SSE	.....	.....	2	.....	10	.....	.....	.....	.....	Long	W	Misty.....	
Palos, Shanghai, China.....	30.41‡	772.4‡	.....	.....	53	11.7	93	N	.....	.....	2	.....	5?	.....	.....	.....	.....	.....	.....	Overcast. ...	
Passaic, Washington, D. C.....	30.32‡	770.1‡	.....	.....	44	6.7	92	SW	.....	.....	1	.....	5	.....	.....	0	0	.....	.....	Fair	
Pensacola, Callao, Peru.....	29.99‡	761.7‡	.....	.....	64	17.8	89	SSE	.....	.....	1	.....	10	.....	.....	.....	.....	Smooth	.....	Misty.....	
Portsmouth, Hampton Roads, Va....	30.37‡	771.4‡	.....	.....	44	6.7	68	SSW	.....	.....	3	.....	2	.....	.....	0	0	Smooth	.....	Clear.....	
Powhatan, Norfolk, Va.....	30.36‡	771.1‡	.....	.....	41	5 0	75	SSE	.....	.....	2	.....	2	.....	.....	0	0	.....	.....	Fair.....	
Quinnebaug, Leghorn, Italy.....	30.2e‡	768.6‡	.....	.....	62	16.7	72	S	.....	.....	1	.....	5	.....	NW	.....	.....	.....	.....	Fair.....	
Ranger, N. 34° 50′, E. 140° 15′.....	30.11‡	764.8‡	.....	.....	58	14.4	82	N	.....	.....	1	.....	5	.....	Calm	.....	.....	Smooth	.....	Fair	
Richmond, Shanghai, China.....	30.34‡	770.6‡	.....	.....	59	15.0	88	E	.....	.....	1	.....	10	.....	NE	0	0	Smooth	.....	Pleasant....	
Rio Bravo, Brownsville, Texas....†.	30.17‡	766.3‡	.....	.....	69	20.6	100	SE	2	0.9	.....	.....	2	.....	Calm	0	0	.....	.....	Fair	
Sarnee, Annapolis, Md.....	30.30‡	769.6‡	.....	.....	45	7.2	61	SW	.....	.....	3	.....	10	.....	W	0	0	.....	.....	Cloudy.....	
Shenandoah, N. 16° 15′, W. 33° —′....	29.9.‡	760.0‡	.....	.....	80	26.7	70	NNE	.....	.....	1	.....	5	.....	.....	.....	.....	Smooth	.....	Fair.....	
St. Louis, League Island, Pa.....	30.31‡	769.9‡	.....	.....	37	2.8	90	SE	.....	.....	3	.....	10	.....	S	0.05	1.3	.....	.....	Cloudy	
Trenton, Villafranca, France	30.3.‡	769.4‡	.....	.....	64	17.8	53	WNW	.....	.....	1	.....	0	.....	.....	0	0	Smooth	.....	Clear.....	
Tuscarora, N. 15° 47′, W. 97° 01′.....	29.89‡	759.2‡	.....	.....	79	26.1	91	NE	.....	.....	2	.....	2	.....	.....	0	0	Long	SW	Fair.....	
Vandalia. N. 22° 40′, W. 92° —′	30.12‡	765.0‡	.....	.....	78	25.6	91	ENE	.....	.....	2	.....	5	.....	N	.....	.....	Mod'ate	N	Fair	
Wabash, Boston, Mass.....	30.34‡	770.6‡	.....	.....	24	—4.4	73	NW	2	0.9	.. ..	.....	10	.....	.....	0.13	3.3	.....	.....	Light snow.	
Wachusett, N. 16° —′, W. 34° —′.....	30.02‡	762.5‡	.....	.....	80	26.7	78	ENE	.....	.....	1	.....	1	.....	ENE	.....	.....	Long	NE	Fair.....	
Wyoming, Algiers, Algeria.....	30.36‡	771.1‡	.....	.....	65	18.3	73	NNE	.....	.....	1	.....	5	.....	NE	.....	.....	Smooth	NE	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

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

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		CHARACTER.	DIRECTION FROM—		
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S. S. Samaria																			Capt. T. Roberts.

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

PACIFIC MAIL S. S. CO. MARINE SERIES.

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

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitebury.
S. S. Costa Rica																			W. House & R. Lawless.
S. S. Dakota, Capt. H. G. Morse																			Capt. Connolly.
S. S. Georgia																			F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin																			Capt. A. Fuller.
S. S. Wilmington																			R. C. Ghest, 1st Officer.
S. S. Zealandia. N. 12° 36′, W. 161° 08′		30.00‡	762.0‡				NE			4			E		Mod'ate	E	Sultry	

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

WHITE STAR LINE MARINE SERIES.

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

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

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

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

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

S. S. Belgic, Capt. L. Meyer N. 31° 12′, W. 179° 88′..†		30.06‡	763.5‡	73	22.8	90	SW			4		5		SW		Mod'ate	SW	Showery	D. A. Joyce, 2nd Officer
S. S. Gaelic, Capt. Davidson N. 44° 20′, E. 167° 19′..§†		29.72‡	754.9‡	44	6.7		NW			2		k		NNW	0	Mod'ate	NW	D. clouds	J. A. Thompson, C. O. J. G. Cameron.
S. S. Oceanic, Capt. J. Metcalf																			

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

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

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

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undutsch.
S. S. Leipzig, Capt. F. Pfeiffer, N. 58° 48′, E. 5° 16′		30.15†	765.8‡	51.0	10.6	86	NNW			7		10		WNW	3 h'rs	Heavy	NNW	Drizzling	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 46° 39′, W. 46° 27′		30.25‡	768.3‡				N			4		8		NW		4	W;NW	Cloudy	Capt. G. Meyer.

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

UNITED STATES MARINE SERIES—Continued.

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

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Mersey River, Eng.		30.57‡	776.5‡	52	11.1	93	NNW			6		5		NNW	Light			Fair	Capt. R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.

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

RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents.																			
Belgenland, N. 50° 28′, W. 32° 43′		30.01‡	762.2‡	56	13.3		SSW	50	22.4			5?		SSW	3 h'rs	Heavy	SSW	Cloudy?	Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

Note.—The originals give the barometer as read off; do not distinguish between upper and lower clouds; sea-swell in general terms, as published. ‡Corrections for temperature, instrumental error and elevation applied at this office.

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

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

MARINE SERIES—Miscellaneous.																			
Furnished by the co-operation of the Observers named.																			
Schooner Addie Fuller, Charleston, S. C.		30.46‡	773.7‡	66	18.9	30	Calm	0	0			8k			0			Cloudy	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax," N. 30° 04′, W. 69° 25′		30.26‡	768.6‡	70	21.1		NE			4		10		W	Blank	Mod'ate	N	Cloudy	N. B. Foss.
Schooner Harry and Fred																			Capt. George Gardner.
Haytian																			
§ Iron Cross																			Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

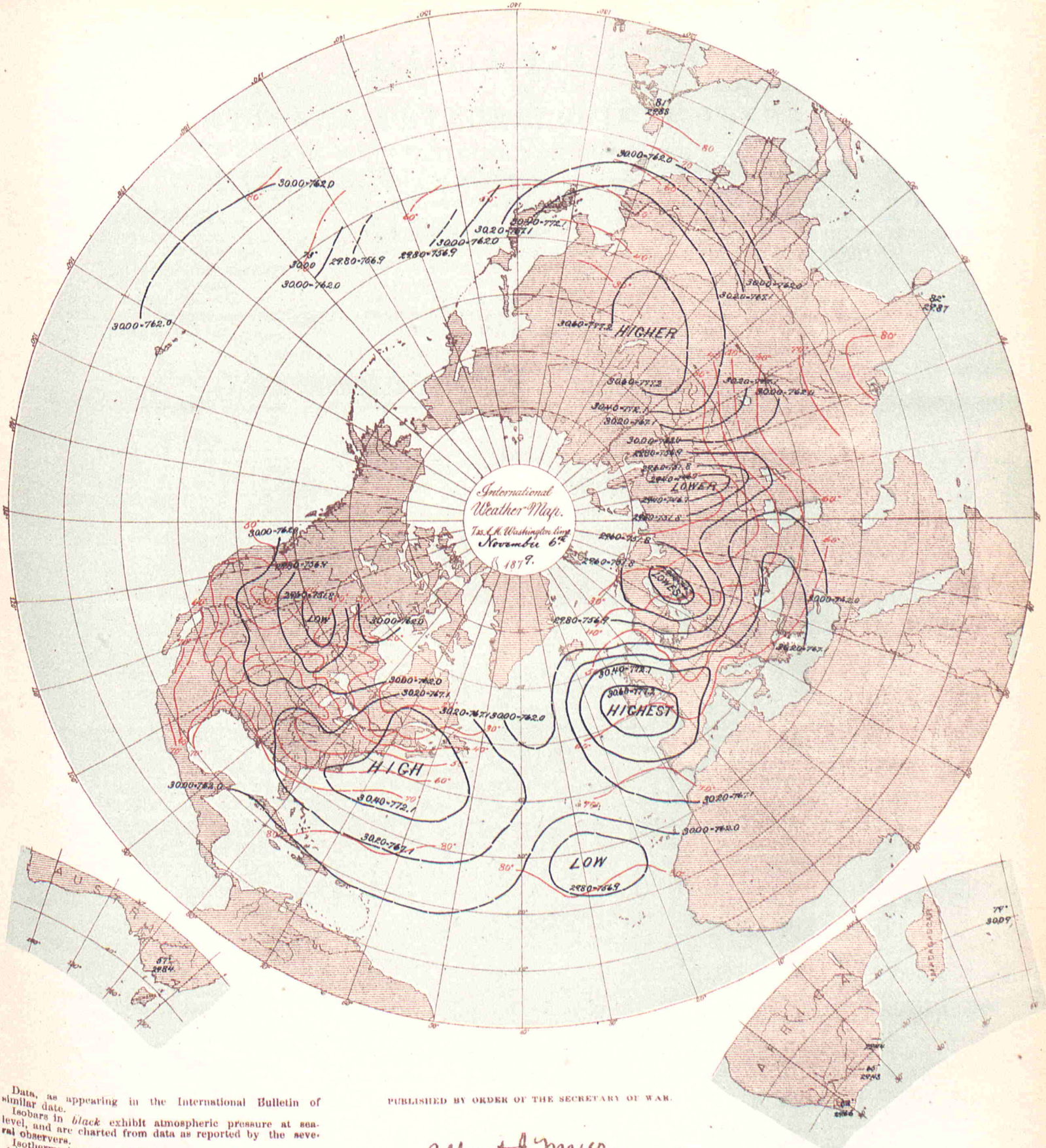
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

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

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

Albert J. Myer

Brig. Gen. (Bvt. Assgd.) Chief Signal Officer, U. S. A.



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

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

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

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

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

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

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

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 7, 1879.

7:35 A. M. WASHINGTON Mean Time.

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

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

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

ALGERIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 1—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Morocco	.....	.....	30.21	767.2	68.0	20 0	80	SW	.....	.....	1	.....	8	.....	.....	0	0	Very cloudy..	
Nemours	.....	.....	30.32	770.2	68.7	20.4	75	Calm	.....	.....	0	.....	0	.....	.....	0	0	Clear	Kesxuche.
Algiers	.....	.....	30.36	771.1	68.7	17.0	65	WNW	.....	.....	2	.....	0	.....	.....	0	0	Clear.....	Tourillere.
La Calle	.....	.....	30.30	769.5	62.2	16.8	81	NNW	.....	.....	6	....	10	....	.....	0.091	2.3	Raining	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.20	767.1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Herbin.
Tebessa	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Geriville	.....	.....	30.24	768.1	56.1	13.4	50	NNW	.....	.....	6	.....	5	.....	.....	0	0	Cloudy.....	Watrin.
Laghouat	.....	.....	.....	.....	59.5	15.3	97	N	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	Brugniuax.
Biskra	.....	.....	30.31	769 9	67.6	19.8	60	NW	.....	.....	3	.....	0	.....	.....	0	0	Clear.....	Bertrand.
.....	.....	.....	30.16	766.0	73.4	23.0	39	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear.....	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

AUSTRO-HUNGARIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 1—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.48	748.8	30.04	763.0	46.6	8.1	62	E	.....	.....	3	.....	4	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.33	745.0	30.13	765.3	36 3	2.4	85	W	0.9	0.4	.....	.....	8	.....	.....	0.146	3.7	.....	Prof. Dr. Karlinski, Dir.
Eperies	29.09	738.8	30.00	761.9	37 8	3 2	93	N	.....	.....	1	.....	8cks	.....	S	0	0	.....	Julius Mikolik.
Gratz	28.87	733.3	30.17	766.4	37.9	3.3	70	NW	.....	.....	4	.....	8	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.43	722.2	29.89	759.2	41.2	5.1	69	WNW	.....	.....	3	.....	10	.....	.....	0.033	0.85	Raining	Prof. A. Gottschling.
Kremsmünster	28.84	732.5	30.22	767.6	41.0	5.0	69	NW	.....	.....	2	.....	3	.....	.....	0.610	15.5	.....	Prof. C. Wagner.
Lemberg	28.96	735.3	29.97	761.3	36 3	2.4	85	NE	.....	.....	1	.....	2	.....	.....	0.004	0.1	.....	Dr. T. Stanecki.
Pola	29.91	759.6	30.02	762.5	52.9	11.6	51	ENE	.....	.....	1	.....	5	.....	.....	0	0	.....	I.R. Hydrographic Office.
Szathmar	29.61	749.0	29.99	761.7	41.7	5 4	55	N	.....	.....	4	.....	3	.....	.....	0.098	2.5	.....	Pet. Panesics.
Szegedin	29.70	754.3	29.99	761.7	40.3	4.6	74	NW	.....	.....	4	.....	10	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.95	760.7	30.05	763.3	54.0	12.7	43	ENE	.....	.....	1	.....	1	.....	.....	0	0	.....	P. Busin.
Vienna	29.41	747.1	30.16	766.1	42.4	5.8	58	N	.....	.....	2	.....	6	.....	.....	0.224	5.7	.....	I.R. Central Met. Ob'sy.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2:20, instead of 2:8 p. m., local time.

BELGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 1—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:8 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

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BRITISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Clouds. Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.38	771.6	30.48	774.2	54.1	12.3	.....	WNW	20	8.9	.....	.....	2	.....	.....	0	0	Blue sky....	W. Boswell.
Ardrossan	30.54	775.7	30.56	776.2	53	11.7	.....	WNW	.....	.....	3	.....	8	.....	.....	.....	.....	Overcast.. .	Wm.McNeil&G.Carrick
Armagh, (Observatory)	30.44	773.2	30.67	779.0	51.5	10.8	.....	NW	4	1.8	.....	.....	10	.....	.....	.....	.....	Gloomy	S. Call.
Bidston (Liverpool Obs)	.....	.....	30.60	777.2	51.0	10.6	.....	WNW	20	8.9	.....	.....	6	.....	.....	.....	.....	D. clouds....	John Hartnup.
Bolton (Sharples)	30.02	762.5	30.55	776.0	50.2	10.1	.....	NW	6	2.7	.....	.....	0	.....	.....	.....	.....	Blue sky....	Thomas Mackereth.
Bradford, Yorkshire	30.15	765.8	30.75	776.0	52.1	11.2	.....	NW	.....	.....	1	.....	5	.....	.....	0	0	D. clouds....	J McLandsborough.
Bridgetown, Barbadoes	29.89	759.2	29.92	760.0	83	28.3	.....	SE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds....	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	30.46	773.7	30.56	776.2	53.0	11.7	.....	NW	.....	.....	1	.....	1	.....	.....	.....	.....	Misty.....	H. Todd.
Cardington	.....	.....	30.57	776.5	52.0	11.1	.....	NW	.....	.....	0–1	.....	2	.....	.....	.....	.....	D. clouds....	John McLaren.
Chatham (School M. E.)	30.44	773.2	30.58	776.7	51.1	10.6	.....	NW	.....	.....	1	.....	6	.....	.....	.....	.....	D. clouds....	J. Carmell, Sapper, R.E.
Donaghadee	30.59	777.0	30.64	778.2	51	10.6	.....	NW	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds....	J. Mac Gowan.
Dover	30.54	775.7	30.57	776.5	50	10.0	.....	N	.....	.....	2	.....	2	.....	.....	.....	.....	¾ clouded...	J. Costello.
Falmouth (Observatory)	30.44	773.2	30.68	779.3	52.1	11.2	.....	N	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast...	The Staff.
Fort Napier, Natal	27.19	690.6	29.42	747.3	85.5	29.8	.....	NE	.....	.....	3	.....	0	.....	.....	.....	.....	Blue sky.....	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone§	29.70	754.4	29.93	760.2	87	30.6	.....	E	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds....	
Galway (Queen's College)	.....	.....	30.61	777.5	51	10.6	.....	S	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast....	Prof. A. H. Curtis.
Gibraltar, Mediterranean‖	30.16	766.1	30.22	767.6	63.4	17.4	.....	E	.....	.....	4	.....	6	.....	.....	.....	.....	D. clouds....	Sergt.Wm. Allen, A. H.
Glasgow, (Observatory)	30.32	770.1	30.53	775.4	53.0	11.7	.....	W	.....	.....	4	.....	7	.....	.....	.....	.....	D. clouds....	D. G. Maclean. [C.
Great Yarmouth	30.52	775.2	30.52	775.2	52	11.1	.....	NW	.....	.....	2	.....	4	.....	.....	.....	.....	Misty.....	G. T. Watson.
Greenwich (Royal Obs'y)	30.42	772.7	30.59	777.0	52.0	11.1	.....	N	.....	.....	1	.....	6	.....	.....	.....	.....	D clouds....	The Staff, for G.B.Airy.
Guernsey	30.40	772.1	30.62	777.7	51.5	10.8	.....	NNE	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds....	Dr.S.E Hoskins, F.R.S.
Helston	30.75	781.0	30.87	784.1	53	11.7	.....	N	.....	.....	1	.....	8k	.....	.....	0	0	Gloomy.....	M. P. Moyle.
Holyhead	30.58	776.7	30.62	777.7	52	11.1	.....	NNW	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast..	John Tilston.
Jersey	30.37	771.4	30.67	779.0	51.9	11.1	.....	NNE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast....	J. Fisher.
Kew (Observatory)	30.56	776.2	30.60	777.2	52.1	11.2	.....	NNW	6	2.7	.....	.....	7	.....	.....	.....	.....	Misty.....	The Met'g'l Office.
Leicester (Museum)	30.27	768.8	30.53	775.4	53.5	11.9	.....	E	.....	.....	1	.....	9	.....	.....	.....	.....	Overcast....	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	29.86	758.4	29.93	760.2	65.6	18.7	.....	NW	.....	.....	3	.....	6k;cs	.....	.....	.....	.....	D. clouds....	A. King.
Nairn	30.38	771.6	30.47	773.9	52	11.1	.....	W	.....	.....	1	.....	8	.....	.....	.....	.....	¾ clouded...	W. D. Penny.
Nassau, Bahamas	.....	.....	30.03	762.7	77.0	25.0	.....	E	.....	.....	1	.....	10	.....	.....	.....	.....	Drizzling....	C. S. Duncombe.
Nottingham (Observatory)	30.39	771.9	30.58	776.7	54.5	12.5	.....	NW	.....	.....	1	c	3k	.....	NW	0	0	D. clouds....	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	30.06	763.5	30.60	777.2	51.2	10.7	.....	NW	.....	.....	3	.....	9	.....	.....	.....	.....	D. clouds....	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)	.....	.....	30.61	777.5	52	11.1	.....	NW	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds....	H. E. Bellamy.
Plymouth	30.57	776.5	30.65	778.5	57.8	14.3	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Misty.....	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	30.63	778.0	30.72	780.3	52	11.1	.....	ESE	.....	.....	2	.....	8	.....	.....	.....	.....	¾ clouded...	Wm. Kennedy.
St. Ann's Head	30.50	774.7	30.66	778.7	51	10.6	.....	N	.....	.....	1	.....	10	.....	.....	.....	.....	Gloomy.....	John C. Walker.
Sandwick Manse, Orkneys	.....	.....	30.38	771.6	50	10.0	.....	W	30	13.4	.....	.....	10	.....	.....	.....	.....	Misty.....	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	29.96	761.0	30.02	762.5	53.4	11.9	.....	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	Blue sky.....	Serg't W. H. Lyne.
Sheffield	30.31	769.9	30.60	777.2	52.9	11.6	.....	W	.....	.....	1	.....	2	.....	.....	0	0	Blue sky.....	W. F. Cooper.
Silloth Rectory	30.53	775.4	30.56	776.2	55.0	12.8	78	W	.....	.....	5	.....	0	.....	.....	0	0	Blue sky.....	Francis Redford, A. M.
Stonyhurst (Observatory)	.....	.....	30.56	776.2	52.1	11.2	.....	WSW	5	2.2	.....	.....	9	.....	.....	.....	.....	D. clouds....	Rev. S. J. Perry.
Stratfield, Turgiss	30.34	770.6	30.57	776.5	51.3	10.7	.....	NW	.....	.....	2	.....	8	.....	.....	.....	.....	D clouds .	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	30.61	777.5	30.66	778.7	52	11.1	.....	NE	.....	.....	4	.....	10	.....	.....	.....	.....	Gloomy	W. Newcombe.
Valencia Observatory)	30.69	779.5	30.72	780.3	49.8	9.9	.....	E	14	6.3	.....	.....	10	.....	.....	.....	.....	D. clouds ...	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	29.99	761.7	30.03	762.7	57.1	13.9	94	S	12 1	5.4	.....	9	9k;n	.....	.....	.....	.....	.....	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.38	644.6	.....	.....	68	20.0	.....	NNW	.....	.....	.....	3k	5k	.....	.....	.....	.....	.....	Robert Burnet.
Hobart Town, Tasmania	.....	.....	29.54	750.3	59.0	15.0	67	Calm	.....	.....	0	.....	10kn	.....	.....	0.04	1.0	Cloudy	Francis Abbott, F.R.A.S.
Leith, (Restalrig Perk)	.....	.....	30.55	776.0	54.0	12.2	.....	W	.....	.....	2	.....	4k	.....	.....	0	0	Fine	Andrew Gibb.
Mauritius (Observatory)	29.92	760.0	30.11	764.7	77.0	25.0	61	E	16.0	7.2	.....	1	4	.....	E	0.06	1.5	Squally.....	C. Meldrum.
Melbourne (Observatory)	29.59	751.6	29.68	753.9	63.3	17.4	81	WNW	3	1.3	.....	.....	9	.....	.....	0	0	Dull	R. L. J. Ellery.
Monach Lt-house, Hebrides	.....	.....	30.51	774.9	52	11.1	.....	SW	.....	.....	4	.....	10	.....	.....	0	0	.....	J. Youngclause.
North Unst, Shetland is	.....	.....	30.16	766.1	.....	.....	.....	NW	.....	.....	7	.....	10	.....	.....	Blank	Blank	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing, but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) 8 a. m. The elevation of Prince Town is m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft., or 670 m.; Colesberg Bridge, unknown. §Observations taken 55 minutes early. ‖Observations taken 47 minutes late. Both of these errors have apparently existed for a long time.

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. 0—10.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. Alert, Puerto Bueno, Patagonia	.....	.....	29.84‡	757.9‡	49.8	9.9	.....	N	.....	.....	3	9	.....	.....	Squally.....	Capt.J.P. Maclear, R.N.
H. M. Sloop Gannet, S. 12° 02′, W. 77° 20′	.....	.....	29.93‡	760.2‡	62.5	16.9	.....	SSE	.....	.....	2	10	.....	.....	Raining	Commander E. Bourke, R. N.
H. M. S. Magpie, Shanghai, China	.....	.....	30.27‡	768.8‡	63	17.2	.....	E	.....	.....	2	10	.....	.....	Misty.....	Capt. R. H. Napier, R.N.
Brig Alliance, N. 24° 50′, W. 56° 55′	.....	.....	30.11‡	764.8‡	85	29.4	.....	SE	.....	.....	1	3	.....	.....	D. clouds....	Capt. W. Scott.
Barque Commewyne N. 16° 45′, W. 42° 25′	.....	.....	30.62‡	762.5‡	82.5	28.1	.....	ENE	.....	.....	4	9	.....	.....	Overcast.....	Capt. Jas. Buchan.
Brig Endymion, Off Fasnet Light, Ir land	.....	.....	30.62	777.7	51	10.6	.....	SE	.....	.....	3	10	3	NW	Overcast.....	Capt. Balkwill.
S. S. German, Algoa Bay, Cape Colony	.....	.....	29.38‡	746.2‡	65	18.3	.....	W	.....	.....	7	4	.....	.....	D. clouds....	Capt. O. D. Coxwell.
Barque Queen of Cambria, N. 8° 45′, E. 76° 15′	.....	.....	29.87‡	758.7‡	81	27.2	.....	SSW	.....	.....	1	5	.....	.....	D. clouds....	Capt. M. Parry.
S. S. Strathleven, Sydney, N. S. W.	.....	.....	29.99‡	761.7‡	70	21.1	.....	SE	.....	.....	5	8	.....	.....	D. clouds....	Capt. C. W. Pearson.
Schooner Traveller, N. 50° 35′, W. 22° 10′	.....	.....	30.21	767.3	56	13.3	.....	SSE	.....	.....	6	10	6	SE	Misty.....	.....
S. S. Gordon Castle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. V. Freeden.
German Brig "W. von Freeden"	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Greig.
Theophane	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. H. Smith.
S. S. Peruvian	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.19	665.2	29.91	759.7	66.6	19.2	84	NE	.....	.....	2	3c;ck	.....	.....	.....	0	0	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

DANISH SERIES.

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

Copenhagen	30.17	766.4	30.22	767.6	42.3	5.7	64	NNW	.....	.....	2	.....	1	.....	.....	.....	.....	.....	.....
Fanöe	30.28	769.0	30.30	769.5	47.8	8.8	88	W	.....	.....	4	.....	9	.....	.....	.....	.....	.....	.....
Godthaab (Greenland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stykkisholm (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thorshavn (Faröe)	30.09	764.2	30.12	765.1	49.3	9.6	84	W	.....	.....	7	.....	10	.....	.....	.....	.....	.....	.....
Vestervig	30.12	765.1	30.23	767.9	45.9	7.7	99	W	.....	.....	2	.....	9	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

FRENCH SERIES.

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

Alençon, Normal School	30.07	763.6	30.61	777.6	51.8	11	68	NE	.....	.....	1	.....	8n	.....	N	0	0	Very cloudy	Collignon, Director.
Amiens, Normal School	30.41	772.3	30.52	775.1	55.8	13.2	77	WNW	.....	.....	1	.....	8	.....	SE	0	0	Very cloudy	Vaillant, Director.
Arras, Engin'r School	30.28	769.1	30.54	775.8	50.2	10.1	82	N	.....	.....	4	.....	k	.....	N	0	0	.....	Klein, Commandant.
Avignon, Normal School	30.16	766.0	30.24	768.0	53.6	12	59	N	.....	.....	6	.....	5	.....	.....	0	0	Cloudy	Giraud, Director.
Bar-sur-Seine	29.93	760.2	30.50	774.8	50.2	10.1	76	NE	.....	.....	1	.....	8kn	.....	NE	0	0	Very cloudy	C. Saillard, Director
Beauvais, Normal School	30.30	769.5	30.57	776.4	52.7	11.5	69	N	.....	.....	1	.....	8	.....	N	0	0	Very cloudy	Frere Eugene Marie
Besançon, Normal School	29.58	751.2	30.48	774.3	45.3	7.4	91	SW	.....	.....	1	.....	8	.....	S	0	0	Very cloudy	A. Carré, Director.
Bourges, Normal School	29.61	752.0	30.60	777.1	45.3	7.4	97	N	.....	.....	1	.....	10	.....	.....	0.043	1.1	Foggy	Marlot, Diretor.
Brest, Naval Observatory	29.96	761.0	30.53	775.4	51.1	10.6	80	N	.....	.....	3	.....	8k	.....	N	0	0	Very cloudy	M. Gence, Director.
Caen, Normal School	30.43	772.8	30.67	779.0	52.9	11.6	71	NE	.....	.....	1	.....	10	.....	NE	0	0	.....	Ch. de Rermaree, Dir.
Carcassonne, N. School	30.61	777.5	.....	.....	51.8	11	77	N	.....	.....	1	.....	8	.....	N	0	0	Very cloudy	M. Bietrin, Director.
Châlons-sur-Marne, N. Sch'	30.07	763.8	30.51	775.6	48.6	9.2	66	W	.....	.....	2	.....	10	WNW	WNW	0	0	Covered	September, Director.
Chartres, Normal School	30.18	766.6	30.51	774.9	53.6	12.0	69	NW	.....	.....	4	.....	5	NE	NE	0	0	Cloudy	Jadot, Director.
Clermont-Fd, Puy de D. Obs	29.96	760.9	30.50	775.7	48.2	9	89	NW	.....	.....	4	.....	4	.....	SE	0	0	.....	Vergier, Director.
Commercy, Normal School	29.11	739.4	30.50	774.7	50.0	10.0	66	NW	.....	.....	3	.....	10	.....	N	0	0	.....	Alluard, Director.
Commune de Gréasque*	29.56	750.8	30.44	773.2	50.0	10	83	NW	.....	.....	3	.....	8n;k	NW	NW	0	0	Very cloudy	Dr. Coullet, Director.
Grenoble, Normal School	29.02	737.0	30.16	766.0	55.9	13.3	43	NW	.....	.....	4	.....	5	.....	NW	0	0	.....	L. Kina, Director.
La Roche-sur-Yon, N. Sch'l	29.56	750.9	30.35	770.8	51.8	11	59	N	.....	.....	3	.....	5k	.....	NE	0	0	Cloudy	Ablard, Director.
Le Mans, Normal School	30.44	773.1	30.66	778.7	50.4	10.2	74	NW	.....	.....	1	.....	10	.....	.....	0	0	Covered	Mouillot, Director.
Lons-Le-Saulnier, N. School	30.28	769.1	30.60	777.1	50.9	10.5	77	N	.....	.....	2	.....	8	.....	NNW	0	0	Very cloudy	Poirrier, Director.
Lorient, Naval Observatory	29.55	750.5	30.50	774.6	45.5	7.5	91	NNE	.....	.....	1	.....	10	.....	.....	0.31	8.	Light rain	A. Baudry, Director
Lyons Obs'y (Park Station)	30.51	775.0	30.62	777.8	52.9	11.6	76	N	.....	.....	1	.....	.....	NW	N	0	0	.....	Lt. T. Carré, Director.
Mâcon, Normal School	29.80	756.8	30.43	772.9	49.8	9.9	18	N	.....	.....	1	.....	10	.....	N	0	0	Covered	Ch. André, Director.
Marseilles, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Mirecourt, Normal School	29.82	757.5	30.09	764.3	57.0	13.9	56	NW	.....	.....	2	.....	8	.....	NW	0	0	.....	E. Stephan, Director.
Mont-Louis	29.37	746.0	30.45	773.3	49.3	9.6	81	N	.....	.....	4	.....	kn	N	N	0.16	4	.....	Barbier, Director.
Nice	25.09	637.3	30.41	772.3	46.4	8.0	37	NE	31.8	14.2	.....	.....	4	.....	NNW	0	0	.....	M. Cave.
Nismes, Normal School	30.04	762.9	30.07	763.7	62.6	17.0	66	W	.....	.....	2	.....	1	NW	W	0	0	Clear	M. Boissieré, Director.
Paris, Montsouris Obs'y	30.07	763.6	30.27	768.8	56.5	13.6	60	NE	.....	.....	4	.....	5	.....	N	0	0	Cloudy	M. Boyer, Director.
Perpignan	30.26	768.7	.....	.....	52.9	11.6	69	NNW	.....	.....	2	.....	7	.....	N	0	0	.....	Marie Davy, Director.
Pic du Midi (Plantade) H. P.	30.23	767.7	30.33	770.3	53.8	12.1	59	NE	33.6	15.0	.....	.....	2	.....	.....	0	0	.....	Dr. Fines.
Pic du Midi (Summit) H. P.	22.79	578.8	.....	.....	36.5	2.5	.....	SE	.....	.....	3	.....	1	NW	SE	0	0	Clear	Gen'l de Nansouty.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Puy de Dome (Summit) Obs	29.23	742.4	30.32	770.2	48.9	9.4	73	N	.....	.....	4	.....	cn	N	NE	0	0	.....	Cantier, Director.
Rochefort, Naval Obs'y	25.45	646.4	.....	.....	31.5	—0.3	98	N	.....	.....	3	.....	.....	.....	.....	0	0	Fog, frost-work.	Alluard, Director.
Ronen, Normal School	30.61	777.4	30.64	778.2	51.1	10.6	80	N	.....	.....	1	.....	10	N	N	0	0	Covered	Lt E. Decante, Director
Saint Malo (Port) Obs'y	30.50	774.6	30.58	776.8	52.9	11.6	72	NNE	.....	.....	1	.....	5	.....	N	0	0	Cloudy	Frere Lucard, Director.
Saint Maur (near Paris)	30.60	777.1	30.63	777.9	52.7	11.5	70	NNE	.....	.....	2	.....	8	NNW	NNW	0	0	Very cloudy	Lt. Hercouet, Director.
Tarbes, Normal School	30.39	771.8	30.55	776.0	54.5	12.5	71	NNW	.....	.....	2	.....	.....	N	N	0	0	.....	E. Renou, Director.
Toulouse, Observatory	29.52	749.9	30.62	777.7	34.7	1.5	100	NW	.....	.....	3	.....	1	NW	SW	0	0	Clear	T. Huguet, Director.
Tours	29.84	758.0	30.58	776.7	47.8	8.8	71	NW	.....	.....	3	.....	10	.....	.....	0	0	Covered	M. Juller Mercadier.
Versailles, Observatory	30.37	771.4	30.57	776.4	51.8	11.0	63	N	.....	.....	1	.....	10	.....	.....	0	0	Covered	Cousin-Marquet.
Villefranche-sur-Saone, N.S	30.05	763.3	30.54	775.8	51.4	10.8	73	NW	.....	.....	1	.....	.....	.....	.....	0	0	.....	Dr. A. Berigny, Director
SUB-SERIES.	29.75	755.7	30.48	774.3	50.0	10	86	NNW	.....	.....	3	.....	5	.....	N	0	0	Cloudy	Nico:, Director.
Fort de France, Martinique	29.93	760.1	29.95	760.8	80.6	27	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.55	14.	.....	L'Abbé Marchési
Zi-Ka-Wei (near Shanghai)	30.26	768.5	30.28	769.2	61.7	16.5	88	NNE	2.7	1.2	.....	.....	10	.....	.....	0	0	Covered	Marc Dechevrens.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in gene al terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferraud is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the last 24 hours. Inches.	Rain-fall or melted snow in the last 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.38	746.2	30.23	767.8	44.6	7.0	51	NE			6		2k	NE		0.197	5.0		Prof. Dr. Hoh.
Berlin	29.92	760.0	30.10	764.5	43.7	6.5	66	NW			9		3			0.031	0.8		Prof. Dr. Arndt.
Breslau	29.65	753.2	30.19	766.8	39 2	4.0	69	NNW			3		4			0	0		Royal University Obs'y.
Carlsruhe	29.95	760.8	30.39	772.0	48.5	9.7	60	NE			0		8	NE		0	0		Albert Senz.
Cassel	29.74	755.4	30.39	772.0	46.8	8.2	65	N			4		5	NW		0.203	5.14		Dr. H. Möhl.
Emden			30.38	771.6	48.7	9.3	95	W			0		10			0.311	7.9		Prof. Dr. Prestel.
Frankfort on the Main	30.02	762.6	30.40	772.2	50.0	10.0	53	NNE			2		4			0.035	0.9		Physical Society.
Friedrichshafen	28.89	733.9	30.37	771.5	44.2	6.8	90	W			4		10	W		0	0		Chief Telegrapher Wilhelm.
Hamburg	30.26	768 5	30.33	770.3	45.0	7.2	58	NW			1		0			0.157	4.0	Clear.	Captain F. Hegemann.
Kiel	30.29	769.3	30.30	769.7	44.1	6.7	60	NW			1		0			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.92	760.0	30.00	762.1	43.2	6.2	76	N.			2		5			0.114	2.9		Prof. E. Luther.
Köslin			30.18	766.5	41.5	5.3		NE			2		4			0.213	5.4		H. Müller.
Leipsic Observatory	29.89	759.3	30.33	770.4	41.7	5.4	63	NNW			3		4	N		0.331	8.4		Prof. Dr. Bruhns, Privy Counselor.
Magdeburg	30.11	764 8	30.34	770.6	45.1	7 3	72	N			2	1c		N		0.354	9.0	Clear.	Dr. Assmann.
Memel	29.91	759.7	29.93	760.2	42.6	5.9	71	N			4		9ks						Reinbrecht & Ishermann
Munich (München)	28.46	722.8	30.34	770.6	38.5	3.6	77	NW			2		5			0.594	15.1	Raining	Dr. C. Lang.
Neufahrwasser	30.07	763.8	30.09	764.2	42.6	5 9	88	NNW			5		8			0.039	1.0		A. Lothes.
Neustadt (Palatinate)	29.84	757.8	30.38	771.7	50.0	10.0	63	NNE			1		0	N		0	0		Reallehrer Dicknether.
Posen	29 87	758.8	30.17	766.4	40.3	4.6	68	N			7		2			0	0		Prof. Dr. Hagener.
Strassburg (in Alsace)	29.87	758.7	30.44	773.2	47.1	8.4	89	NE			2		10	NNW		0.001	0.03		Imp. University Observatory.
Stuttgart	29.39	746.6	30.34	771.2	46.8	8.2	57	N			1		7	N		0.075	1.9		Prof. Dr. Schoder.
Weissenburg (Bavaria)	28.78	731.1	30.36	771.2	43.9	6.6	62	N	11	5			7k		N	0.429	10.9		Reallehrer J. Hopfner.
Wustrow	30.14	765.2	30.27	768.8	42 6	5.9	68	NW			4		5s			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

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

Athens	29.61	752 2	30.01	762.2	57.6	14.2		SW			2.0		5k					½ clear	Dr. J. F. J. Schmidt.

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

INDIAN SERIES.

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

Kurrachee	29.86	758.5	29.91	759.8	80.5	26.9	63	Calm	1	0.4			0			0	0	Blue sky	
Deesa	29.48	748.7	29.95	760.8	78.7	25.9	37	NW	6.9	3.1			0			0	0	Blue sky	
Bombay	29.86	758.4	29.90	759 3	78.7	25.9	76	NNW	15	6 7			0			0	0	Blue sky	
Poona (Yerrowda)	28.02	711.8	29.86	758.8	80.5	26.9	26	E	6	2.7			0			0	0	Blue sky	
Belgaum	27.36	695.0	29.92	759.9	72.6	22.6	69	Calm	0	0			0			0	0	Blue sky	
Lahore	29.12	739.6	29.88	758.8	70.7	21.5	49	Calm	0.3	0.1			0			0	0	Blue sky	
Roorkee	28.98	736.0	29.90	759.4	69.2	20.7	46	NW	1.6	0.7						0	0		
Agra	29.32	744.8	29.90	759.3	74.8	23.6	45	Calm	2.6	1.2						0	0		
Nagpur	28.86	732.9	29.91	759.6	75.7	24.3	32	NE	2.4	1.1						0	0	Blue sky	
Jubbulpore	28.53	724.7	29.93	760 1	69.5	20.8	51	ESE	1.7	0.8						0	0	Blue sky	
Lucknow	29.52	749.8	29.91	759.6	70.2	21.2	64	N	0.3	0.1						0	0	Blue sky	
Allahabad	29.60	751.9	29.92	760.1	66.8	19.3	60	Calm	0.4	0.2			0			0	0	Blue sky	
Patna	29.73	755.2	29.92	759.9	73.7	23.2	64	W	0.2	0.1			0			0	0	Blue sky	
Hazaribagh	27.87	707.9	29.92	760.0	69.8	21.0	44	W	3.9	1.8			0			0	0	Blue sky	
Cuttack	29.83	757.6	29.91	759.7	74.8	25.8	72	NE	1	0.4			0			0	0	Blue sky	
Calcutta (Aliporé)	29.87	758 7	29.89	759.2	72.0	22.2	76	WNW	4.0	1.8			0			0	0	Blue sky	
Goalpara	29.49	749.0	29.88	759.1	74.0	23.3	67	Calm	1.8	0.8			0			0	0	Blue sky	
Chittagong	29.79	756.6	29.88	758.9	76.8	24.9	64	Calm	2.6	1.2			0			0	0	Misty	
Sibsagar	29.57	751.2	29.92	759.8	72.4	22.4	85	SSE	1.2	0.5			10			0	0	D. clouds	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

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

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

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.64	752.9	30.07	763.6	51.8	11.0	56	E	0.7	0.3	.....	.....	5	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.49	749.1	30.02	762.4	62.4	16.9	32	NNW	.....	.....	2	.....	2	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.95	760.6	30.06	763.4	52.2	11.2	65	NE	8.7	3.9	.....	.....	8	NE	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.11	739.5	30.04	763.1	53.4	11.9	60	ESE	2.5	1.1	.....	.....	1	W	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.82	757.4	30.01	762.3	66.2	19.0	23	NW	6.3	2.8	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.13	714.4	30.07	763.8	57.4	14.1	28	N	.....	.....	2	.....	1	NE	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.95	760.8	30.00	762.0	54.5	12.5	70	NE	6.9	3.1	.....	.....	7	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.74	755.4	30.00	762.0	56.5	13.6	71	N	.....	.....	2	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.88	758.9	29.96	761 0	60.8	16.0	68	NW	1.3	0.6	.....	.....	4	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.78	756.4	29.96	760.9	60.1	15.6	52	NW	11.2	5.0	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. C. De Giorgi.
Cosenza	29.03	737.4	29.93	760.1	55.8	13.2	73	NNW	1.3	0.6	.....	.....	10	.....	.....	0.146	3.7	.....	Prof. D. Conti.
Cagliari	29.78	756.4	29.97	761.3	61.2	16.2	60	NW	.....	.....	4	.....	4	N	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.71	754.6	29.96	761.0	62.1	16.7	56	W	2.5	1.1	.....	.....	10	.....	.....	0.016	0.4	.....	Prof. G. Ciacciatore.
Syracuse	29.84	758.0	29.92	759.9	64.2	17.9	46	W	9.8	4.4	.....	.....	10	WSW	.....	0	0	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.41	747.0	29.95	760.6	56.5	13.6	60	NW	3.8	1.7	.....	.....	5	.....	.....	0	0	.....	Prof. F. Brioschi.

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

JAPANESE SERIES.

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

Hiroshima, I. M. Obs'y	30.37	771.4	30.38	771.6	48.7	9.3	83	NNE	4.3	1.9	.....	.....	10s	.....	.....	0	0	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	30.13	765.3	30.31	770.6	52.1	11.2	73	NNE	1.6	0.7	.....	.....	10s	.....	.....	0	0	Cloudy	S. Takehayashi.
Tokei, (Yeddo) Observatory	30.29	769.3	30.36	771.1	46.1	7.8	83	S	3 3	1.5	.....	0	0	.....	.....	0	0	Clear	The Staff.
Wakayama	30.32	770.1	30.37	771.4	49.6	9.8	80	ENE	1.8	0.8	.....	.....	10s	.....	.....	0	0	Cloudy	.....

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

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

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

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	25.07	636.8	30.17	766.3	50.4	10.2	68	Calm	.....	.....	0	.....	0	.....	.....	0	0	Very fine	Prof. L. Perez.
Leon	24.46	621.3	30.22	767.6	53.8	12.1	78	NW	.....	.....	2	0	0	.....	.....	0	0	Fine	Prof. M. Leal.
Mazatlan	29.71	754.5	29.97	761.1	75.0	23.9	95	E	.....	.....	1	2k	0	.....	.....	0	0	Clear	I. Guerrero, C. E.
Mexico, Central Observatory	23.09	586.4	30.23	767.8	46.4	8.0	77	Calm	0	0	.....	5c	0	.....	.....	0	0	Fine	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	50.5	10 3	84	Calm	.....	.....	0	1cs	0	.....	.....	0	0	Clear	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.54	597.9	30.45	773.4	43.9	6.6	53	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.19	614.3	30.22	767.6	52.7	11.5	70	E	.....	.....	1	2	1	W	E	0	0	Clear	G. Barroeta, M. D.
Tlacotalpam	29.99	761.7	30.00	762.0	70.7	21 5	92	W	.....	.....	1	1	1	NE	W	0	0	Light fog	Prof. M. M. Chàzaro.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell.
Zacatecas	22.58	573.6	30.19	766.7	58.3	14.6	61	Calm	.....	.....	0	2ck	0	SW	.....	0	0	Clear	A. Nuñez.

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,708.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7.433.9 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column; the instrumental correction —0.88 mm., or —0.035 inch, has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

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

Flushing	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Groningen	30.52	775.2	30.52	775.2	52.2	11.2	.....	NNW	.....	.....	4	.....	.....	.....	.....	0.028	0 7	.....	.....
Helder	30.34	770.6	30.39	772.0	50.0	10.0	.....	N	.....	.....	.....	.....	.....	.....	.....	0.122	3 1	.....	.....
Hellevoetsluis	30.43	772.9	30.43	772.9	50.2	10 1	.....	NNW	.....	.....	4	.....	.....	.....	.....	0.059	1.5	.....	.....
Utrecht	30.47	774.0	30.47	774.0	51 4	10.8	91	NNW	.....	.....	2	.....	.....	.....	.....	0 122	3.1	.....	.....
.....	30.41	772.5	30.46	773 7	51.6	10.9	83	NNW	.....	.....	3	.....	10	.....	.....	0.083	2.1	Dull	H. v. d. Brink.

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

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.12	765.1	30.18	766.5	43.5	6.4	98	SE	4.3	1.9	.....	.....	10	.....	.....	0.386	9.8	Raining	
Brönö	29.45	748.1	29.49	749.1	44.6	7.0	77	WNW	27	12	.....	.....	10	.....	.....	0.205	5.2	.....	
Christiana	29.88	758.9	30.03	762.7	39.9	4.4	76	WSW	0	0	.....	.....	6	.....	.....	0	0	.....	
Tromsö	29.37	746.0	29.41	747.1	28.9	— 1.7	66	NE	4	2	.....	.....	10	.....	.....	0	0	.....	

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

PORTUGUESE SERIES.

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

Angra (Azores)	29.72	754.8	29.91	759.6	65.5	18.6	83	ENE	0	0	.....	.....	4	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.36	745.6	30.37	771.5	65.1	18.4	57	ENE	1.3	0.6	.....	.....	6	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	29.94	760.4	30.02	762.6	72.9	22.7	77	ESE	0	0	.....	.....	10	.....	.....	0.020	0.5	.....	Capt. D. A. de Cunha.
Lisbon Observatory	30.00	761.9	30.35	770.9	65.3	18.5	70	NE	13.6	6.1	.....	.....	4	NNW	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	29.84	757.8	29.91	759.6	63.3	17.4	98	NNE	0.7	0.3	.....	.....	10	.....	.....	10.467	265.8	Thunder-storm..	

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

PORTUGUESE NAVAL SERIES. VESSELS.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	
D. Fernando	.....	.....	.....	A. G. da Silva Costa, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira	.....	.....	.....	A. M. de Sande, Com'd't.
Mindello	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Quanza, Capt. A. J. de Mattos	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Rio Duro	.....	.....	.....	H. de C. C. e Athayde.
Rio Lima, Capt. S. C. da Silva Costa.	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Porto Praya, Cape Verd I'ds.	.....	.....	.....	A. A. A. Loureiro.
Sá da Bandeira	.....	.....	.....	F. Teixeira da Silva, Com'd't.
Sado, Capt. J. A de Brito Capello, St. Paul de Loando	.....	.....	D. clouds....	H. Mecudonco, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	.....	.....	.....	J. G. Felgo, 2nd Lieut.

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

RUSSIAN SERIES.

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

Archangel	29.76	755.9	29.78	756.4	24.8	— 4.0	93	WSW	9	4	.....	.....	9k	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Astrakhan	30.50	774.7	30.42	772.6	37.4	3.0	62	ESE	7	3	.....	.....	10s	.....	.....	.....	.....	.....	Capt. Wisganow.
Barnaul	29.63	752.5	30.14	765.6	35.8	2.1	54	S	0	0	.....	.....	4	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Dorpat	29.67	753.5	29.91	759.8	35.8	2.1	94	W	2	1	.....	.....	10n	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	29.17	741.0	30.21	767.3	18.9	— 7.3	69	WNW	27	12	.....	.....	7	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	30.07	763.8	30.36	771.2	18.7	— 7.4	80	SSE	7	3	.....	.....	5	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.26	743.3	29.93	760.1	34.2	1.2	73	S	2	1	.....	.....	10ks;n	.....	.....	.....	.....	.....	Physical Cabinet.
Krotkowo*	29.96	761.0	30.44	773.1	19.0	— 7.2	79	W	0	0	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	30.00	761.9	30.21	767.3	34.9	1.6	78	ESE	4	2	.....	.....	5	.....	.....	.....	.....	.....	Meteorological Obs.
Moscow	29.55	750.6	30.13	765.4	27.3	— 2.6	89	S	7.8	3.5	.....	.....	10s	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	28.08	713.1	30.56	776.1	16.2	— 8.8	69	W	2	1	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	29.92	759.9	29.99	761.7	49.8	9.9	70	S	9	4	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	30.00	762.0	30.24	768.0	46.8	8.2	63	NNE	11	5	.....	.....	1s	.....	.....	.....	.....	.....	.....
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	30.47	774.0	30.62	777.7	41.5	5.3	51	NW	7	3	.....	.....	2k	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	29.85	758.1	29.86	758.5	30.4	— 0.9	98	ESE	2	1	.....	.....	10n	.....	.....	.....	.....	Snowing.....	Central Physical Obs.
Tashkend	28.61	726.8	29.94	760.4	59.7	15.4	50	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.81	731.7	30.26	768.6	48.2	9.0	92	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Raining.. ..	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	29.61	752.0	30.04	763.0	38.3	3.5	77	NW	9	4	.....	.....	2ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.48	748.7	29.91	759.7	38.3	3.5	85	SE	2	1	.....	.....	10	.....	.....	.....	.....	Heavy clouds...	Astronomical Obs.
Yenisiesk	29.88	759.0	30.19	766.7	27.3	— 2.6	61	SE	7	3	.....	.....	0	.....	.....	.....	.....	.....	Marks.

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

SPANISH SERIES.

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

Barcelona, Met. Obs'y	30.16	766.0	30.26	768.7	59.9	15.5	51	W	3.5	1.56	.....	2c;ck	.....	.....	.....	0	0	....	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.53	775.4	30.59	776.9	56.1	13.4	72	SE	0.9	0.42	.....	1	8	NE	.....	0	0	Almost cov'd	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.48	698.1	.....	.....	46.4	8.0	59	NE	5.4	2.41	.....	0	0	.....	.....	0	0	Clear...	Domingo Martin y Perez.
Madrid, Royal Observatory	28.12	714.2	30.36	771.2	60.3	15.7	64	S	2.2	1.00	.....	0	0	.....	.....	0	0	Clear.....	The Staff.
Murcia, Met. Obs'y	30.17	766.4	30.32	770.2	68.0	20.0	63	WSW	4.6	2.08	.....	0	0	.....	.....	0	0	Clear.....	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.50	749.3	30.39	772.0	63.5	17.5	55	NE	5.6	2.5	.....	1	0	.....	.....	0	0	Almost clear	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I	29.95	760.6	30.01	762.3	75.2	24.0	86	NE	1.1	0.5	.....	1c;ck	3k;n	NW	ESE	0	0	Threatening	Benito Vines, S. J.
Manilla, Phillippine Islands	29.71	754.7	29.76	756.0	82.0	27.8	.....	SE	0	0	.....	.....	10n	.....	W	0.012	0.3	Covered.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.20	767.0	30.30	769.5	70.7	21.5	61	ESE	8.2	3.7	.....	1	2	E	E	0	0	....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I	29.90	759.4	29.99	761.7	82.0	27.8	81	E	0	0	.....	6ks	4kn	E	E	0.255	6.50	Cloudy.....	Enrique Gadea, Chief Eng'r

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

SWEDISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature.		Barometer. Reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind. Direction.	Wind. Velocity		Wind. Force.	Clouds. Amount.		Clouds. Direction.		Rain-fall or melted snow in the past 24 hours.		Weather.	OBSERVER.
												Up'er	Lo'er	Upper.	Lower.				
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0–10.	0–10.	0–10.	From—	From—	Inches.	Millimeters.		
Haparanda	29.67	753.7	29.71	754.7	30.6	— 0.8	.....	E	.....	.....	2	.....	10	.....	.....	.....	.....	Snowing.....	
Umea	29.69	754.2	29.74	755.5	27.0	— 2.8	96	Calm	.....	.....	0	.....	10	.....	.....	0.079	2.0	.....	
Hernosand	29.77	756.2	29.82	757.5	31.6	— 0.2	81	?	.....	.....	2	.....	10	.....	.....	0	0	.....	
Stockholm	29.90	759.5	30.08	764.0	32.7	0.4	92	NNW	.....	.....	2	.....	7	.....	.....	0	0	.....	
Wisby	29.96	761.0	30.02	762.5	38.5	3.6	80	NNW	.....	.....	6	.....	10	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.92	760.0	30.01	762.2	32.7	0.4	82	SW	6.9	3.1	.....	.....	5	.....	.....	0	0	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

SWISS SERIES.

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

Geneva	28.95	735.4	30.40	772.1	47.5	8.6	76	NNE	.....	.....	3	.....	6	.....	.....	0.016	0.4	Cloudy.....	The Observatory.
Zurich	28.72	729.6	30.41	772.3	41.4	5.2	91	W	.....	.....	1	.....	10	.....	.....	0.173	4.4	Raining.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, +9.2 mm.; Thermometer, +0.2 Cent.; Relative Humidity, +1 per cent.

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

TURKISH SERIES.

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

Constantinople	.....	.....	30.06	763.5	49.1	9.5	65	SE	4	2.0	.....	.....	0	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.93	760.3	54.3	12.4	.....	E	.....	.....	2	.....	10	.....	.....	0	0	Covered.....	A. Bertrand.
Sub-series.																			
Beirut, (Syria) Lee Obsy	29.92	760.0	30.04	762.9	64.4	18.0	79	SW	.....	.....	1	.....	10n	.....	SW	0.30	7.6	Overcast.....	Prof. C. V. A. van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. A. Blair.
Charlottetown, P. E. Island	30.38	771.6	30.43	772.9	19.0	— 7.2	86	Calm	0	0	.....	0	0	.....	.....	0	0	Hazy.....	H. J. Cundall, C. E.
Cornwall, Ontario	30.08	764.0	30.29	769.4	20.9	— 6.2	96	N	.....	.....	1	.....	Fog	.....	.....	0	0	Foggy	James Smith, M. A.
Dalhousie, N. B	30.26	768.6	30.44	773.2	18.2	— 7.7	.....	W	.....	.....	1	0	8s	.....	.....	0	0	Cloudy.....	H. A. Johnson.
Father Point, Quebec	30.34	770.6	30.36	771.1	18.3	— 7.6	84	S	10	4.5	.....	0	8s	.....	.....	0	0	Fair.....	J. McWilliams.
Fredericton, N. B	30.38	771.6	30.44	773.2	22.8	— 5.1	76	NE	1.5	0.7	.....	.....	10s	.....	.....	0	0	Overcast.....	Prof. Harrison.
Fort Garry, Manitoba	28.58	725.9	29.41	747.0	33.0	0.6	100	NE	12	5.4	.....	5k	6n	NE	.....	0.05	1.3	Light rain...	James Stewart.
Granton, Ontario	28.98	736.1	30.12	765.0	36	2.2	.....	SE	.....	.....	2	.....	10n	.....	.....	0	0	Cloudy.....	James Grant.
Halifax, N. S	30.28	769.1	30.42	772.7	23.0	— 5.0	91	N	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	A. Allison, M. A.
Hamilton, Ontario	29.84	757.9	30.23	767.8	31.9	— 0.1	96	Calm	.....	.....	0	.....	Fog	.....	.....	0	0	Foggy	Geo. Dickson, M. A.
Hearn's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.95	760.7	30.30	769.6	34.4	1.3	72	SE	5	2.2	.....	.....	10s	.....	.....	0	0	Cloudy.....	S. Woods, M. A.
Little Glace Bay, N. S	29.37	746.0	29.40	746.7	32.0	0.0	95	NW.	6	2.7	.....	7k	0	NW	.....	0	0	Cloudy	C. H. Rigby.
Montreal, Quebec	30.11	764.8	30.32	770.1	27.9	— 2.3	88	SE	.....	.....	.....	.....	10s;sme	.....	.....	0	0	Overcast....	C. H. McLeod, C. E.
Moose Factory, Ontario	29.80	756.9	29.84	757.9	33.3	0.7	92	S	.....	.....	1	.....	9	.....	.....	0	0	Cloudy.....	J. R. Nason.
Norwood	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. R. Mosley.
Peterboro, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. Jeffers, B. A.
Port Dover, Ontario	29.46	748.3	30.26	768.6	29.4	— 1.4	71	Calm	.....	.....	0	.....	10n	.....	.....	0	0	Overcast....	H. Morgan.
Port Hastings, N. S	29.47	748.5	30.17	766.3	41.1	5.1	100	S	11	4.9	.....	.....	Haze	.....	.....	0	0	Cloudy.....	Peter Grant.
Port Stanley, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Payne.
Quebec, Quebec	29.49	749.0	30.14	765.5	43.3	6.3	95	SE	13	5.8	.....	.....	10n	.....	SE	0	0	Cloudy.....	Capt. Ashe, R. N.
Rockliffe, Ontario	30.02	762.5	30.36	771.1	27	— 2.8	100	NE	.....	.....	1	.....	10n	.....	.....	0.10	2.5	Light snow.	W. H. McIntyre.
St. Andrews, N. B	29.74	754.6	30.20	767.1	28.0	— 2.2	88	E	6	2.7	.....	4cs	2s	W	SE	0	0	Fair.....	Dr. Gove.
St. John, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. Murdock, C. E.
Saugeen, Ontario	30.22	767.6	30.40	772.1	24	— 4.4	87	SE	4	1.8	.....	.....	10ks	.....	.....	0	0	Overcast....	K. Stewart.
Stayner, Ontario	29.32	744.7	30.06	763.5	36.0	2.2	95	SE	16	7.2	.....	.....	10ks	.....	.....	0	0	Overcast....	R. J. Cole.
Stratford, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. MacGregor, M. A.
Sydney, C. B	28.82	732.0	30.15	765.8	34.4	1.3	96	SE	5	2.2	.....	.....	Fog	.....	.....	0	0	Foggy	T. C. Hill, C. E.
Toronto, Ontario	30.40	772.1	30.44	773.2	30.0	— 1.1	78	Calm	0	0	.....	.....	10s	.....	.....	0.01	0.3	Overcast....	Magnetic Observatory.
Windsor, N. S	29.82	757.4	30.22	767.6	35.8	2.1	94	NE	7	3.1	.....	.....	10n	.....	.....	0	0	Foggy	Prof. John E. Oram.
Woodstock, Ontario	30.31	769.9	30.41	772.4	14.0	—10.0	100	SW	0	0	.....	0	1ks	.....	.....	0	0	Fine.....	Prof. J. Montgomery.
Yarmouth, N. S	29.05	737.9	30.16	766.1	33.9	1.1	91	NE	8	3.6	.....	0	0	.....	.....	0	0	Foggy	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	30.20	767.1	30.46	773.7	30.0	— 1.1	89	W	.....	.....	.....	10k	10s	.....	.....	0	0	Fair.....	John Delany.
St. Pierre, N. F	.....	.....	30.28	769.2	33.8	1	.....	SW	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	l'Hopital Maritime.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10, except Yarmouth and St. Johns on scale 0 to 20. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

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

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	30.13	765.3	30.38	771.6	31	— 0.6	89	NE	2	0.9	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
Alpena, Michigan	29.29	744.0	29.94	760.5	40	4.4	91	S	8	3.6	.....	.....	8s	.....	S	0	0	Cloudy	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	29.03	737.3	30.19	766.8	52	11.1	93	SE	9	4.0	.....	2k	0	SE	.....	0	0	Fair	
Atlantic City, New Jersey	30.35	770.9	30.37	771.4	32	0.0	100	N	8	3.6	.....	.....	10s;fg	.....	Calm	0.02	0.5	Foggy	
Augusta, Georgia	30.17	765.8	30.28	769.1	47	8.3	85	Calm	0	0	.....	0	Haze	.....	Calm	0	0	Clear.	
Baltimore, Maryland	30.34	770.6	30.40	772.1	37	2.8	81	S	4	1.8	.....	0	Haze	.....	Calm	0.18	4.6	Clear.....	
Barnegat, New Jersey	30.34	770.6	30.36	771.1	34	1.1	100	N	11	4.9	.....	10k	Haze	N	Calm	0.15	3.8	Cloudy.....	
Bismarck, Dakota	27.82	706.6	29.67	753.6	35	1.7	80	W	6	2.7	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Boerne, Texas	28.49	723.6	29.77	756.1	63	17.2	83	SW	8	3.6	.....	.....	10ks	.....	SW	0	0	Cloudy.....	
Boise City, Idaho	27.24	691.9	30.20	767.1	29	— 1.7	72	W	4	1.8	.....	0	8s	.....	W	0.02	0.5	Fair	
Boston, Massachusetts	30.15	765.8	30.31	769.9	32	0.0	89	NW	7	3.1	.....	.....	10n	.....	Calm	0.15	3.8	Light snow.	
Brackettville, Texas	28.75	730.2	29.79	756.7	61	16.1	88	E	9	4.0	.....	.....	Fog	Calm	Calm	0	0	Foggy	
Breckenridge, Minnesota	28.56	725.4	29.53	750.0	43	6.1	59	W	16	7.2	.....	1c	0	Calm	.....	0	0	Clear.....	
Brownsville, Texas	29.91	759.7	29.95	760.7	74	23.3	81	S	6	2.7	.....	0	0	.....	.....	0	0	Clear..	
Buffalo, New York	29.48	748.8	30.20	767.1	35.5	1.9	66	SE	5	2.2	.....	2cs	Haze	Calm	Calm	0	0	Fair.	
Burkes, Arizona	.....	.....	.....	.....	42	5.6	42	Calm	.....	.....	0	0	8s	.....	W	0	0	Cloudy.....	
Burlington, Vermont	30.05	763.3	30.35	770.9	29	— 1.7	89	SE	1	0.4	.....	2ck	2ks	NW	NW	Inap.	Inap.	Fair.....	
Cairo, Illinois	29.69	754.1	30.08	764.0	59	15.0	88	S	5	2.2	.....	.....	10s	.....	S	0	0	Cloudy.....	
Campo, California	27.35	694.7	29.92	760.0	27	— 2.8	88	SW	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Cape Hatteras, N. Carolina	30.31	769.9	30.32	770.1	54	12.2	87	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Cape Henry, Virginia	30.30	769.6	30.31	769.9	54	12.2	74	NE	18	8.0	.....	0	Haze	.....	Calm	0	0	Clear.....	
Cape Lookout, N. Carolina	30.27	768.8	30.29	769.4	54	12.2	87	N	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Cape May, New Jersey	30.33	770.4	30.36	771.1	41	5.0	82	N	6	2.7	.....	0	Haze	.....	.....	0.11	2.8	Clear.....	
Castroville, Texas	29.14	740.1	29.82	757.4	68	20.0	79	S	6	2.7	.....	.....	10s	.....	S	0	0	Cloudy.....	
Charleston, South Carolina	30.17	766.3	30.23	767.8	60	15.6	94	NE	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Charlotte, North Carolina	29.40	746.7	30.23	767.8	49	9.4	85	W	2	0.9	.....	0	Sm'e	.....	Calm	0	0	Smoky.....	
Chattanooga, Tennessee	29.40	746.7	30.23	767.8	45	7.2	84	NE	1	0.4	.....	5ck;1cs	Sm'e	S;Calm	Calm	0	0	Fair	
Cheyenne, Wyoming	23.87	606.3	29.81	757.2	29	— 1.7	56	W	6	2.7	.....	0	2s	.....	Calm	0	0	Clear.....	
Chicago, Illinois	29.20	741.7	29.88	758.9	54	12.2	74	SW	12	5.4	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Cincinnati, Ohio	29.49	749.0	30.14	765.5	52	11.1	79	SE	6	2.7	.....	.....	10ks	.....	SW	0.16	4.1	Cloudy.....	
Cleveland, Ohio	29.41	747.0	30.15	765.8	39	3.9	91	SE	16	7.2	.....	2k	8s;fog	SW	sw;Calm	0	0	Cloudy.....	
Coleman City, Texas	28.67	713.0	29.72	754.9	53	11.7	86	S	5	2.2	.....	.....	10s	.....	S	0	0	Cloudy.....	
Columbus, Ohio	29.29	744.0	30.14	765.5	47	8.3	77	SE	4	1.8	.....	10k	Sm'e	S	Calm	0	0	Cloudy.....	
Concho, Texas	27.95	709.9	29.58	751.3	60	15.6	65	SW	12	5.4	.....	0	0	.....	.....	0	0	Clear.....	
Corsicana, Texas	29.46	748.3	29.92	760.0	66	18.9	89	S	4	1.8	.....	.....	10ks	.....	S	0.02	0.5	Cloudy	
Davenport, Iowa	29.21	741.9	29.84	757.9	50	10.0	93	S	13	5.8	.....	.....	10s	.....	SW	0	0	Threatening	
Deadwood, Dakota	25.16	639.0	.....	.....	34	1.1	34	W	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Decatur, Texas	28.68	728.5	29.80	756.9	71	21.7	71	S	20	8.9	.....	0	0	.....	.....	0	0	Clear.	
Denison, Texas	29.11	739.4	29.88	758.9	64	17.8	94	S	14	6.3	.....	.....	10s	.....	S	0.01	0.3	Cloudy.....	
Denver, Colorado	24.63	625.6	29.85	758.2	39	3.9	38	SE	9	4.0	.....	0	0	.....	.....	0	0	Clear.....	
Des Moines, Iowa	28.88	733.5	29.73	755.1	56	13.3	81	SW	4	1.8	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Detroit, Michigan	29.38	746.2	30.05	763.3	46	7.8	84	S	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Dodge City, Kansas	27.64	702.0	30.00	762.0	40	4.4	56	N	13	5.8	.....	0	0	.....	.....	0	0	Clear.....	
Dubuque, Iowa	29.12	739.6	29.81	757.2	52	11.1	86	S	3	1.3	.....	.....	Fog	.....	Calm	0	0	Foggy...	
Duluth, Minnesota	28.83	732.3	29.49	749.0	44	6.7	84	NE	1	0.4	.....	.....	10c	.....	N	0	0	Cloudy.....	
Eagle Pass, Texas	29.14	740.1	29.85	758.2	63	17.2	83	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Eastport, Maine	30.30	769.6	30.37	771.4	35	1.7	75	E	9	4.0	.....	.....	10s	.....	E	0	0	Cloudy.	
Edinburg, Texas	.....	.....	.....	.....	71	21.7	85	SE	.....	.....	1	.....	10s	.....	SE	0	0	Cloudy.....	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.44	747.8	30.18	766.6	37	2.8	81	S	20	8.9	.....	10ks	Haze	W	Calm	0	0	Cloudy.....	
Escanaba, Michigan	29.08	738.6	29.72	754.9	45	7.2	76	S	11	4.9	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Florence, Arizona	28.23	717.0	29.83	757.7	56	13.3	46	NE	2	0.9	.....	10k	0	SW	.....	0	0	Cloudy	
Fort Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.51	698.7	29.32	744.7	38	3.3	55	W	21	9.4	.....	10cs	0	W	.....	0.07	1.8	Cloudy.....	
Fort Custer, Montana	26.71	678.4	.....	.....	35	1.7	36	SW	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.10	637.8	30.06	763.5	45	7.2	53	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter.	29.31	744.5	29.84	757.9	62	16.7	88	SE	12	5.4	.....	.....	10s	.....	S	0	0	Cloudy	
Fort Grant, Arizona	25.07	636.8	29.87	758.7	51	10.6	29	N	4	1.8	.....	2cs	0	NW	.....	0	0	Clear.....	
Fort Griffin, Texas	28.54	724.9	29.78	756.4	61	16.1	77	S	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.31	691.1	.....	.....	35	1.7	45	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear.	
Fort McKavett, Texas	27.62	701.5	29.48	748.8	60	15.0	88	S	12	5.4	.....	0	0	.....	.....	0	0	Clear.....	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.60	726.4	29.69	754.1	55	12.8	93	SE	13	5.8	.....	0	0	.....	.....	0.08	2.0	Clear	
Fort Stevenson, Dakota	27.71	703.8	.....	.....	34	1.1	61	S	10	4.5	.....	0	0	.....	.....	0	0	Clear.....	
Fort Verde, Arizona	.....	.....	.....	.....	36	2.2	71	W	.....	.....	2	.....	10s	.....	W	0	0	Cloudy.....	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.08	713.2	29.59	751.6	60	15.6	60	S	12	5.4	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Galveston, Texas	29.97	761.2	30.01	762.2	70	21.1	95	S	4	1.8	.....	0	2ks	.....	Calm	0	0	Clear.....	
Graham, Texas	28.72	729.5	29.75	755.6	60	15.6	82	S	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Grand Haven, Michigan	29.19	741.4	29.82	757.4	55	12.8	81	S	16	7.2	.....	.....	10s	.....	SW	0.02	0.5	Cloudy.....	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	28.83	732.3	29.74	755.4	60	15.6	88	SE	7	3.1	.....	0	0	.....	.....	0	0	Clear.....	
Indianapolis, Indiana	29.23	742.4	30.00	762.0	54	12.2	74	SE	5	2.2	.....	.....	10s	.....	SE	0	0	Cloudy.....	
Indianola, Texas	29.96	761.0	29.99	761.7	68	20.0	95	S	7	3.1	.....	0	1s	.....	S	0	0	Clear.....	
Jacksboro, Texas	28.75	730.2	29.85	758.2	59	15.0	70	SE	16	7.2	.....	0	5s	.....	Calm	0	0	Fair	
Jacksonville, Florida	30.16	766.1	30.19	766.8	92	16.7	88	NE	2	0.9	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy.....	
Keokuk, Iowa	29.21	741.9	29.81	757.2	54	12.2	80	SW	10	4.5	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Key West, Florida	30.02	762.5	30.05	763.3	73	22.8	95	NE	8	3.6	.....	.....	10n	.....	NE	0.31	7.9	Light rain...	
Kittyhawk, North Carolina	30.30	769.6	30.33	770.4	52	11.1	86	NW	8	3.6	.....	0	Haze	.....	Calm	0	0	Clear.....	
Knoxville, Tennessee	29.25	742.9	30.30	769.6	38.5	3.6	82	NE	4	1.8	.....	0	Sm'e	.....	.....	0	0	Smoky.....	
La Crosse, Wisconsin	28.96	735.6	29.66	753.4	57	13.9	81	S	10	4.5	.....	.....	10s	.....	SW	0	0	Cloudy.....	
La Mesilla, New Mexico	25.99	660.1	30.14	765.5	35	1.7	53	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Laredo, Texas	29.55	750.6	29.88	758.9	65	18.3	63	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Leavenworth, Kansas	28.94	735.1	29.76	755.9	57	13.9	87	S	2	0.9	.....	.....	10n	.....	.....	Inap.	Inap.	Light rain...	
Little Rock, Arkansas	29.69	754.1	30.04	763.0	60	15.6	88	SE	4	1.8	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Los Angeles, California	29.58	751.3	29.92	760.0	50.5	10.3	89	N	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	
Louisville, Kentucky	29.56	750.8	30.12	765.0	53	11.7	67	SE	4	1.8	.....	8ck	2s	Calm	Calm	0	0	Cloudy.....	
Lynchburg, Virginia	29.66	753.4	30.37	771.4	43	6.1	53	Calm	0	0	.....	1c	Sm'e	W	Calm	Inap.	Inap.	Clear.....	
Madison, Wisconsin	28.78	731.0	29.75	755.6	50	10.0	79	S	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Marquette, Michigan	28.98	736.1	29.67	753.6	46	7.8	69	S	12	5.4	.....	.....	10s	.....	SE	0	0	Cloudy.....	
Mason, Texas	28.27	718.0	29.98	761.5	66	18.9	79	S	4	1.8	.....	.....	10s	.....	S	0	0	Cloudy.....	
Memphis, Tennessee	29.74	755.4	30.08	764.0	57	13.9	93	SE	4	1.8	.....	.....	10s	.....	SE	0.04	1.0	Cloudy.....	
Milwaukee, Wisconsin	29.08	738.6	29.80	756.9	49	9.4	93	SW	22	9.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Mobile, Alabama	30.09	764.3	30.13	765.3	62	16.7	100	NE	3	1.3	.....	.....	Fog	.....	.....	1.25	31.7	Foggy	
Montgomery, Alabama	29.94	760.5	30.18	766.6	58	14.4	87	SE	7	3.1	.....	5k	0	S	.....	0	0	Clear.....	

UNITED STATES SERIES—CONTINUED.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Morgantown, West Virginia	29.24	742.7	30.27	768.8	38	3.3	91	Calm	0	0	.....	.....	Fog	.....	Calm	0.05	1.3	Foggy	
Mt. Washington, N. H.	23.82	605.0	30.18	766.6	17	— 8.3	83	NW	4	1.8	.....	8ck	8ks	NW	NW	0	0	Cloudy.....	
Nashville, Tennessee	29.62	752.3	30.16	766.1	51	10.6	79	Calm	0	0	.....	2cs	0	Calm	.....	0	0	Fair	
New Haven, Connecticut	30.22	767.6	30.34	770.6	34	1.1	84	N	7	3.1	.....	0	5s	.....	Calm	0.04	1.0	Clearing.....	
New London, Connecticut	30.26	768.6	30.32	770.1	33	0.6	79	NW	4	1.8	.....	0	Fog	.....	Calm	0.07	1.8	Clear	
New Orleans, Louisiana	30.06	763.5	30.12	765.0	62	16.7	88	SE	4	1.8	.....	.....	Fog	.....	Calm	0	0	Dense fog...	
Newport, Rhode Island	30.25	768.3	30.31	769.9	36	2.2	90	NW	11	4.9	.....	.....	10s	.....	Calm	0.09	2.3	Cloudy	
New York, New York	30.18	766.6	30.37	771.4	37	2.8	80	NW	4	1.8	.....	0	0	.....	.....	0.15	3.8	Clear.....	
Norfolk, Virginia	30.26	768.6	30.32	770.1	51	10.6	72	NE	7	3.1	.....	0	0	.....	.....	0	0	Clear.....	
North Platte, Nebraska	26.94	683.8	29.54	750.3	32	0.0	59	NW	3	1.3	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Olympia, Washington Ter.	30.21	767.3	30.25	768.3	38.5	3.6	91	S	10	4.5	.....	2ck	0	W	.....	0	0	Clear.....	
Omaha, Nebraska	28.62	726.9	29.68	753.9	53	11.7	86	SW	4	1.8	.....	0	5s	.....	SW	Inap	Inap.	Fair.....	
Oswego, New York	30.00	762.0	30.33	770.4	35	1.7	80	SE	6	2.7	.....	0	8s	.....	Calm	0	0	Fair.....	
Pembina, Dakota	28.52	724.4	29.34	745.2	38	3.3	91	NW	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Pensacola, Florida	30.13	765.3	30.16	766.1	62	16.7	94	E	.....	.....	1	0	8ks	.....	S	Blank	Blank	Cloudy.....	
Philadelphia, Pennsylvania	30.33	770.4	30.38	771.6	35	1.7	90	NE	4	1.8	.....	.....	10s;fg	.....	Calm	0.20	5.1	Cloudy	
Phœnix, Arizona	28.59	726.2	30.37	771.4	53	11.7	42	E	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Pike's Peak, Colorado	17.58	446.5	29.79	756.7	13	—10.6	26	SW	24	10.7	.....	5cs	0	W	.....	0	0	Fair.....	
Pilot Point, Texas	29.10	739.1	29.91	759.7	63	17.2	83	SE	20	8.9	.....	2k	8s	S	SE	0.01	0.3	Cloudy	
Pioche, Nevada	.....	.....	.....	.....	37	2.8	88	NW	11	4.9	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Pittsburg, Pennsylvania	29.43	747.5	30.26	768.6	42	5.6	91	SE	4	1.8	.....	.....	10s	.....	Calm	0.15	3.8	Cloudy.....	
Port Huron, Michigan	29.38	746.2	30.05	763.3	42	5.6	91	SE	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy.	
Portland, Maine	30.27	768.8	30.32	770.1	35	1.7	80	N	8	3.6	.....	.....	10s	.....	Calm	0.20	5.1	Cloudy.....	
Portland, Oregon	30.26	768.6	30.33	770.4	40.0	4.4	88	SE	2	0.9	.....	.....	9s	.....	SW	0.03	0.8	Cloudy.....	
Portsmouth, N. Hampshire	.....	.....	.....	.....	55	12.8	87	W	5	2.2	.....	0	0	.....	.....	0	0	Clear..	
Prescott, Arizona	24.49	622.0	29.85	758.2	53	11.7	14	S	.....	.....	4	5c	0	W	.....	0	0	Fair.....	
Punta Rassa, Florida	30.06	763.5	30.08	764.0	69	20.4	85	NE	11	4.9	.....	2ck	0	SW	.....	0	0	Fair.....	
Red Bluff, California	29.85	758.2	30.22	767.6	48	8.9	36	N	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.72	754.9	29.93	760.2	68	20.0	90	SE	10	4.5	.....	0	0	.....	.....	0	0	Clear.....	
Rochester, New York	29.64	752.8	30.28	769.1	34	1.1	70	S	8	3.6	.....	1c	0	SW	.....	0.01	0.3	Clear	
Roseburg, Oregon	29.78	756.4	30.38	771.6	36	2.2	100	NE	2	0.9	.....	.....	10s;fg	.....	Calm	0.07	1.8	Cloudy.....	
Sacramento, California	30.10	764.5	30.18	766.6	48	8.9	56	NW	24	10.7	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.37	746.0	29.93	760.2	57	13.9	81	S	11	4.9	.....	.....	10s	.....	S	0	0	Cloudy.....	
St. Paul, Minnesota	28.76	730.5	29.56	750.8	49	9.4	71	SW	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy	
Salt Lake City, Utah	25.60	647.7	29.83	757.7	38	3.3	45	NW	5	2.2	.....	.....	10s	.....	Calm	0.02	0.5	Threatening	
San Antonio, Texas	29.26	743.2	29.83	757.7	68	20.0	90	SE	2	0.9	.....	.....	10ks	.....	SE	0	0	Cloudy	
San Diego, California	29.87	758.7	29.94	760.5	59	15.0	82	S	2	0.9	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Sandusky, Ohio	29.43	747.5	30.10	764.5	49	9.4	78	S	16	7.2	.....	.....	10s	.....	SW	Inap	Inap	Cloudy.....	
Sandy Hook, New Jersey	30.32	770.1	30.36	771.1	38	3.3	81	N	13	5.8	.....	5k	Haze	N	Calm	0.13	3.3	Fair.....	
San Francisco, California	30.08	764.0	30.14	765.5	51	10.6	53	N	22	9.8	.....	0	0	.....	.....	0	0	Clear.	
Santa Fé, New Mexico	23.16	588.2	29.70	754.4	38	3.3	45	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Savannah, Georgia	30.14	765.5	30.24	768.1	56	13.3	94	N	3	1.3	.....	0	Fog	.....	Calm	0	0	Clear	
Shreveport, Louisiana	29.79	756.7	30.00	762.0	64	17.8	100	SE	4	1.8	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy.....	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.25	768.3	30.29	769.4	58	14.4	94	N	5	2.2	.....	1k	2ks	E	NE	0	0	Fair.....	
Socorro, New Mexico	25.27	641.8	29.34	745.2	36	2.2	61	S	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Springfield, Illinois	29.25	742.9	29.91	759.7	54	12.2	80	S	10	4.5	.....	0	0	.....	.....	Inap	Inap.	Clear.....	
Springfield, Massachusetts	30.22	767.6	30.36	771.1	31	— 0.6	79	N	4	1.8	.....	0	0	.....	.....	0.04	1.0	Clear.....	
Stockton, Texas	27.10	688.3	30.10	764.5	52	11.1	23	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Thatcher's Island, Mass	30.28	769.1	30.34	770.6	40	4.4	91	NE	17	7.6	.....	.....	10s	.....	NE	0.10	2.5	Cloudy.....	
Toledo, Ohio	29.37	746.0	30.07	763.8	47	8.3	85	SE	4	1.8	.....	8k	0	SW	.....	0	0	Cloudy.....	
Tucson, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Uvalde, Texas	29.94	760.5	30.46	773.7	32.0	0.0	89	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Vicksburg, Mississippi	29.00	736.6	29.80	756.9	66	18.9	84	SE	5	2.2	.....	.....	10s	.....	SE	0	0	Cloudy	
Virginia City, Montana	29.85	758.2	30.11	764.8	56	13.3	100	SE	11	4.9	.....	.....	Fog	.....	.....	0.02	0.5	Foggy	
Visalia, California	24.16	613.6	29.64	752.8	22	— 5.6	58	SW	1	0.4	.....	5cs;hz	0	W	.....	0.08	2.0	Hazy.....	
Washington, D. C.	29.60	751.8	30.08	764.0	44	6.7	64	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Wickenburg, Arizona	30.27	768.8	30.39	771.9	34	1.1	90	N	1	0.4	.....	0	Fog	.....	Calm	0.40	10.2	Clear.....	
Wilmington, North Carolina	.....	.....	.....	.....	37	2.8	38	N	.....	.....	1	0	0	.....	.....	0	0	Clear.....	
Winnemucca, Nevada	30.19	766.8	30.27	768.8	54	12.2	87	E	2	0.9	.....	2k	0	NE	.....	0	0	Fair	
Wood's Holl, Massachusetts	25.68	652.3	30.04	763.0	25	— 3.9	87	E	13	5.8	.....	0	4s	.....	SW	0.07	1.8	Fair.....	
Yankton, Dakota	30.23	767.8	30.27	768.8	37	2.8	100	N	14	6.3	.....	.....	10n	.....	NE	0.36	9.1	Light rain...	
Yuma, Arizona	28.48	723.4	29.76	755.9	47	8.3	55	NW	7	3.1	.....	5k	0	NW	.....	0	0	Fair..... ...	
	29.59	751.6	29.75	755.6	60	15.6	39	W	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
SUB-SERIES.																			
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	29.92	760.0	29.97	761.2	78	25.6	82	Calm	0	0	.....	4k	0	SW	.....	0	0	Fair.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.14	765.5	30.15	765.8	77	25.0	83	Calm	0	0	.....	8cs	2cs	Calm	.....	0	0	Fair.....	James Gall.
Medellin, Colombia, S. A.*	25.18	639.6	.....	.....	65.2	18.4	82	Calm	.....	.....	0	3k	4ks	.....	.....	0.02	0.5	.....	Thomas Herran.
Navassa, W. I.	29.88	758.9	29.96	761.0	82	27.8	.....	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.98	761.5	29.98	761.5	83	28.3	75	E	.....	.....	1	5k	3s	E	.....	0	0	Fair.....	C. J. Hering.
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	30.06	763.5	30.12	765.0	24.0	— 4.4	94	NW	8	3.6	.....	3c	0	NW	.....	0	0	Fair.....	J. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Medellin, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,596 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,395.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.53 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm. *The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

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

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

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.09‡	764.3‡	.....	.....	65	18.3	94	NNE	5	2.2	.....	.....	8	.....	SE	0	0	.....	.....	Fair	
Navy Yard, Portsmouth, N.H.	30.14‡	765.5‡	.....	.....	25	—3 9	90	SE	2	0.9	....	.....	5	.....	.....	0	0	.....	.....	Pleasant	
Naval Hospital, Yokohama, Japan	30.34‡	770.6‡	.....	.....	49	9.4	82	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	.....	Clear	
Adams, Mare I'd., Navy Yard, Cal.	30.14‡	765.5‡	.....	.....	50	10.0	93	W	.....	....	3	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Alaska, S. 17° 09′, W. 71° 59′..*.	29.95‡	760.7‡	.....	.....	65	18.3	73	E	.....	....	3	.....	10	.....	.....	.....	.....	Long	SE	Hazy	
Alliance, N. 25° 09′, W. 24° 18′.....	29.86‡	758.4‡	.....	.....	74	23.3	76	WSW	.....	.....	4-6	.....	8	.....	NW	.....	.....	Rough	NNW	D. clouds	
Colorado, New York, . Y.	30.25‡	768.3‡	.....	.....	37	2.8	83	W	.....	.....	1	.....	0	.....	.....	0.12	3.0	.....	.....	Hazy	
Constitution, Navy Yard, Norfolk, Va.	30.34‡	770.6‡	.....	.....	50	10.0	93	NNE	2	0.9	....	.....	0	.....	.....	.....	.....	.....	.....	Hazy	
Enterprise, Tripoli, Tripoli	30.16‡	766.1‡	.....	.....	68	20.0	56	W	.....	.....	4	.....	2	.....	W	.....	.....	Smooth	.....	Clear	
Franklin, Off Navy Yard, Norfolk, Va.	30.32‡	770.1‡	.....	.....	48	8.9	??	NE	7.2	3.2	....	.....	0	.....	.....	0	0	.....	.....	Clear	
Hartford, N. 26° 20′, W. 67° 24′.....	30.14‡	765.5‡	.....	.....	77	25.0	73	ENE	.....	.....	5	.....	10	.....	NE	0.02	0.5	Mod'ate	NE	Cloudy	
Independence, Mare I'd, Navy Yard, Cal.	30.11‡	764.8‡	.....	.....	58	14 4	70	NW	1.8	0.8	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Kearsage, Norfolk, Va	30.34‡	770.6‡	.....	.....	49	9.4	38	SW	.....	.....	0-1	.....	5	.....	NE	0	0	.....	.....	Hazy	
Lackawana, N. 16° 07′, E. 178° 10′...†.	29.97‡	761.2‡	.....	.....	77	25.0	86	ENE	....	.....	3	.....	8	.....	ENE	.....	.....	Mod'ate	ENE	Fair	
Marion, Off Norfolk, Va.	30.31‡	769.9‡	.....	.....	52	11.1	86	NE	.....	.....	1	.....	1	.....	ENE	.....	.....	Smooth	.....	Clear	
Michigan, Erie, Pa	30.14‡	765.5‡	.....	.....	38	3.3	81	S	.....	.....	6	.....	10	.....	WSW	.....	.....	.....	.....	Cloudy	
Monocacy, Shanghai, China..	30.27‡	768.8‡	.....	.....	62	16.7	94	ENE	.....	.....	1	.....	10	.....	NE	.....	.....	.....	.....	Misty	
New Hampshire, Port Royal, S. C.	30.2.‡	767.6‡	.....	.....	60	15.6	94	NE	6	2.7	.....	.....	1	.....	Calm	0	0	.....	.....	Clear	
Onward, Callao, Peru ....†.	29.93‡	760.2‡	.....	.....	63	17.2	89	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Long	W	Misty	
Palos, Shanghai, China	30.26‡	768.6‡	.....	.....	62	16.7	88	NE	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....	Rainy	
Passaic, Washington, D. C.	30.33‡	770.4‡	.....	.....	35	1 7	90	NE	.....	....	1	.....	2	.....	.....	0.26	6.6	.....	.....	Clear	
Pensacola, Callao, Peru	29.94‡	760.5‡	.....	.....	63	17.2	89	SSE	.....	.....	1	.....	10	.....	.....	.....	.....	Smooth	.....	Overcast	
Portsmouth, Hampton Roads, Va.	30.35‡	770.9‡	.....	.....	52	11.1	79	ENE	.....	.....	2	.....	2	.....	.....	0	0	Smooth	.....	Clear	
Powhatan, Norfolk, Va	30.29‡	769.4‡	.....	.....	52	11.1	79	NNE	.....	.....	2	.....	0	.....	.....	0	0	.....	.....	Clear	
Quinnebaug, Leghorn, Italy	29.97‡	761.2‡	.....	.....	61	16.1	71	WNW	.....	.....	2	.....	2	.....	NW	.....	.....	.....	.....	Fair	
Ranger, N. 35° 48′, E. 143° 10′.....	30.26‡	768.6‡	.....	.....	60	15.6	71	NNE	.....	.....	3	.....	2	.....	NE	.....	.....	Long	N	Fair	
Richmond, Shanghai, China	30.27‡	768.8‡	.....	.....	63	17.2	94	Calm	.....	.....	0	.....	10	.....	W	0.05	1.3	Smooth	.....	Cloudy	
Rio Bravo, Brownsville, Texas... †.	30.07‡	763.8‡	.....	.....	70	21.1	100	ESE	3	1.3	.....	.....	2	.....	S	0	0	.....	.....	Fair	
Santee, Annapolis, Md	30.35‡	770.9‡	.....	.....	41	5.0	100	N	.....	.....	1	.....	2	.....	SW	0	0	.....	.....	Hazy	
Shenandoah, N. 15° 20′, W. 32° —′.. ..	30.02‡	762.5‡	.....	.....	81	27.2	66	NNE	.....	.....	2	.....	2	.....	.....	.....	.....	Mod'ate	NNE	Fair	
St. Louis, League Island, Pa.	30.35‡	770.9‡	.....	.....	34	1.1	100	Calm	0	0	... ..	.....	10	.....	.....	0.06	1.5	.....	.....	Dense fog	
Trenton, Villafranca, France	30.04‡	763.0‡	....	.....	68	20.0	51	W	.....	.....	1	.....	0	.....	.....	0	0	Smooth	.....	Clear	
Tuscarora, Sacrificios, Mexico	29.86‡	758.4‡	.....	.....	76	24.4	86	WNW	.....	.....	2	.....	0	.....	.....	0	0	Long	N	Clear	
Vandalia, N. 23° 21′, W. 89° 30′	30.06‡	763.5‡	.....	.....	79	26.1	86	E	.....	.....	2	.....	2	.....	E	.....	.....	Mod'ate	NE	Clear	
Wabash, Boston, Mass	30.21‡	768.1‡	.....	.....	30	—1.1	90	NW	7	3.1	.....	.....	10	.....	.....	0.08	2.0	.....	.....	Light snow	
Wachusett, N. 15° —′, W 34° —′.....	30.05‡	763.3‡	.....	.....	80	26.7	74	ENE	.....	.....	2	.....	1	.....	ENE	.....	.....	Long	ENE	Fair	
Wyoming, Algiers, Algeria	30.29‡	769.4‡	.....	.....	64	17.8	53	NNW	.....	.....	1-2	.....	5	.....	N	.....	.....	Smooth	NE	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

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

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S. S. Samaria																			Capt. T. Roberts.
Note.—†Aneroid. *The error of the barometer is not known.																			
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitebury.
S. S. Costa Rica																			W. House & R. Lawless.
S. S. Dakota, Capt. H. G. Morse																			Capt. Connolly.
S. S. Georgia																			F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin																			Capt. A. Fuller.
S. S. Wilmington																			R. C. Ghest, 1st Officer.
S. S. Zealandia, N. 7° 49′, W. 102° 48′		29.85‡	758.2‡				NE		4				NE		Heavy	SE	Clear		
Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
Note.—The orginals give the barometer as read off; wind-force by the scale 0 to 12; for the Brittanic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer N. 31° 05′, W. 176° 29′		29.81‡	757.2‡	74	23.3	95	SSW		6		5		SW		Heavy	SW	Squally		D. A. Joyce, 2nd Officer
S. S. Gaelic, Capt. Davidson N. 45° 04′, E. 172° 09′	§†	29.85‡	758.2‡	46	7.8		N		5		ks		NW		Mod'ate	NE	Hailing		J. A. Thompson, C. O. J. G. Cameron.
S. S. Oceanic, Capt. J. Metcalf																			
Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office. §The date of this observation on the Gaelic is uncertain by one day.																			
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undutsch.
S. S. Leipzig, Capt. F. Pfeiffer, N. 50° 50′, E. 0° 53′		30.56‡	776.2‡	53.5	11.9	80	N		4		5		N	0	Mod'ate	WNW	Hazy		S. Risius, 3rd Officer.
S. S. Nurnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 47° 21′, W. 41° 04′		30.02‡	762.5‡				N		6		8		N		6	N	Cloudy		Capt. G. Meyer.
Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			

UNITED STATES MARINE SERIES—Continued.

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

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'er 0—10.	Upper. From—	Lower. From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Mersey River, Eng.		30.6‡	779.3‡	55	12.8	100	NNW			2	2		NNW	0			Clear.		Capt. R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.

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

RED STAR LINE MARINE SERIES.

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

Belgenland, N. 50° 37′, W. 62° 20′		29.84‡	757.9‡	60	15.6		S	45	20.1			10		SSE	2 h'rs	Heavy	S	Hazy	Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

Note.—The originals give the barometer as read off; do not distinguish between upper and lower clouds; sea-swell in general terms, as published. ‡Corrections for temperature, instrumental error and elevation applied at this office.

ALLAN LINE MARINE SERIES.

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

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

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

MARINE SERIES—Miscellaneous.

Furnished by the co-operation of the Observers named.

Schooner Addie Fuller, Charleston, S. C.		30.27‡	768.8‡	60	15.6	94	NE					8k			0			Cloudy	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.,
Brigantine "George of Halifax," N. 28° 37′, W. 69° 00′	†	30.14‡	765.5‡	73	22.8		ENE			4		2		NE	0	Smooth	NE	Clear	N. B. Foss.
Schooner Harry and Fred																			Capt. George Gardner.
Haytian.																			
§ Iron Cross																			Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

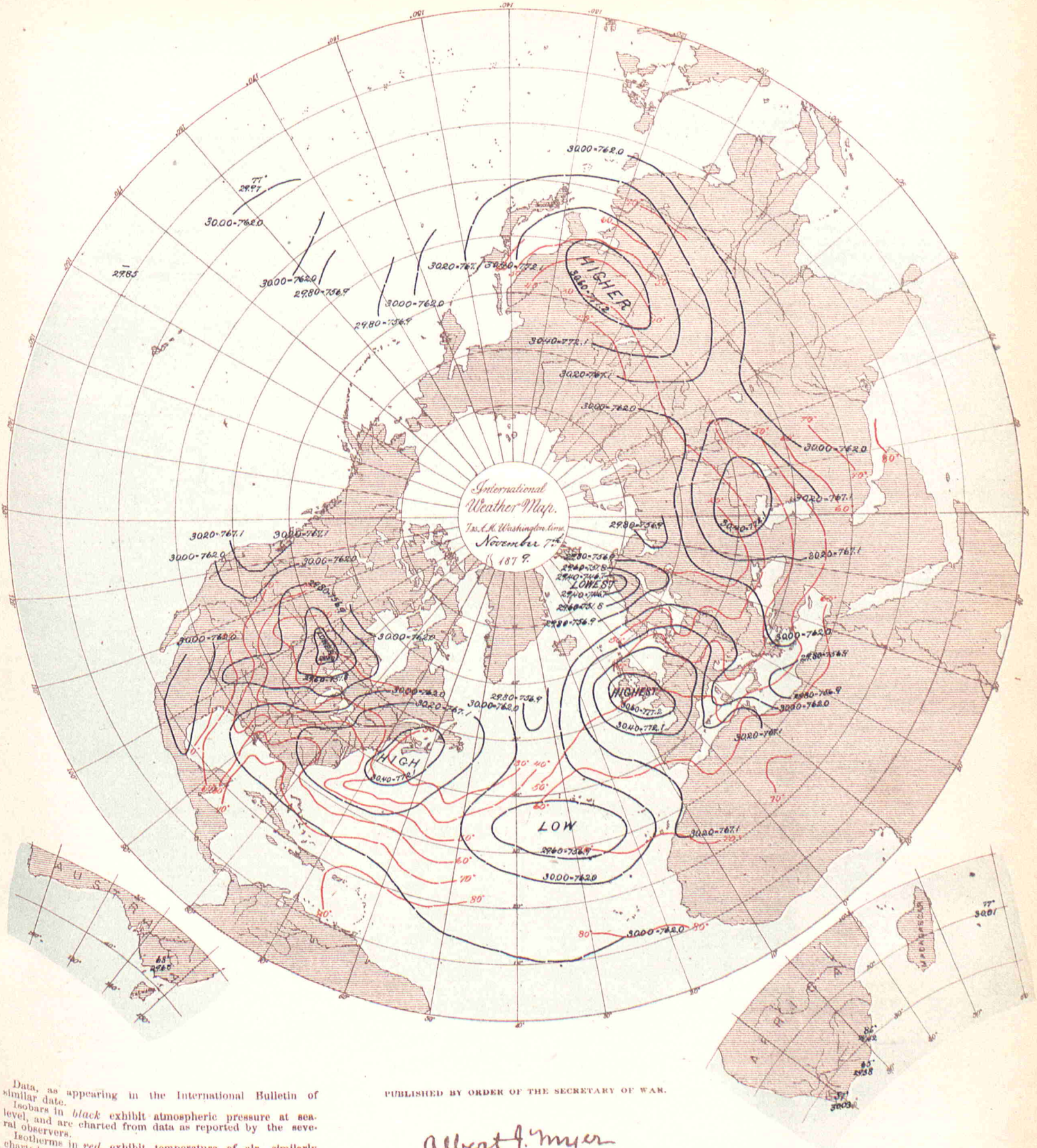
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

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

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

Albert J. Myer

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



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

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

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

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

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

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

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

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 8, 1879.

7:35 A. M. WASHINGTON Mean Time.

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

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

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

ALGERIAN SERIES.

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

STATIONS.	Barometer. Corrected for instru'm'tal error and temperature. Inches.	Barometer. Corrected for instru'm'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.18	766.5	68.2	20.1	81	W	.....	.....	1	.....	8	.....	.....	0	0	Very cloudy	
Nemours	.....	.....	30.31	769.9	70.7	21.5	72	E	.....	.....	4	.....	0	.....	.....	0	0	Clear	Kesxuche.
Algiers	.....	.....	30.37	771.5	65.1	18.4	69	NE	.....	.....	3	.....	0	.....	.....	0.120	3.2	Clear	Tourilliere.
La Calle	.....	.....	30.26	768.5	58.6	14.8	74	NE	.....	.....	7	.....	8	.....	.....	0.106	2.7	Very cloudy	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.098	2.5	.....	Jacques.
Sfax	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.17	766.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Herbin.
Tebessa	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Watrin.
Geriville	.....	.....	30.24	768.2	50.7	10.4	43	NNW	.....	.....	6	.....	5	.....	.....	0.016	0.4	Cloudy	Brugniuax.
Laghouat	.....	.....	.....	.....	53.6	12.0	44	N	.....	.....	3	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	30.24	768.0	62.2	16.8	47	NW	.....	.....	4	.....	2	.....	.....	0	0	Fair	Chauvaux.
.....	.....	.....	30.22	767.5	70.5	21.4	51	NW	.....	.....	7	.....	10	.....	.....	0	0	Covered	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

AUSTRO-HUNGARIAN SERIES.

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

Agram	29.93	760.3	30.50	774.7	46.9	8.3	50	NE	.....	.....	3	.....	0	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.61	752.2	30.41	772.5	41.7	5.4	91	W	10.3	4.6	.....	.....	10	.....	.....	0	0	.....	Prof. Dr. Karlinski, Dir.
Eperies	29.45	747.9	30.36	771.1	40.6	4.8	87	S	.....	.....	2	.....	1 8	.....	.....	0	0	.....	Julius Mikolik.
Gratz	29.20	741.7	30.59	774.6	42.6	5.9	60	S	.....	.....	2	.....	0	.....	.....	0.394	10.0	.....	Andreas Rospini.
Hermannstadt	28.94	735.0	30.43	772.9	39.2	4.0	79	NNW	.....	.....	1	.....	5	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	29.16	740.7	30.56	776.1	43.2	6.2	66	NW	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	29.26	743.1	30.28	769.1	41.2	5.1	80	NW	.....	.....	3	.....	8	.....	.....	0.035	0.9	.....	Dr. T. Stanecki.
Pola	30.33	770.4	30.45	773.3	48.4	9.1	37	NE	.....	.....	3	.....	0	.....	.....	0	0	.....	I.R. Hydrographic Office.
Szathmar	29.98	761.6	30.47	773.9	42.8	6.0	49	W	.....	.....	3	.....	3	.....	.....	0	0	.....	Pet. Panesics.
Szegedin	30.18	766.5	30.47	773.9	42.8	6.0	90	N	.....	.....	3	.....	0	.....	.....	0	0	.....	Karl Stancel.
Trieste	30.38	771.6	30.48	774.2	48.9	9.4	38	NE	.....	.....	2	.....	0	.....	.....	0	0	Clear	P. Busin.
Vienna	29.74	755.3	30.49	774.4	45.7	7.6	59	W	.....	.....	4	.....	2	.....	.....	0.012	0.3	.....	I.R. Central Met. Ob'sy.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2:20, instead of 2:8 p. m., local time.

BELGIAN SERIES.

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

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

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

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BRITISH SERIES.

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

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	Corrected for instrum'tal error and temperature. Millimeters.	Reduced to sea-level. Inches.	Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lw'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Aberdeen	30.28	769.1	30.38	771.6	46.6	8.1	.....	SSE	3	1.3	.....	.....	3	.....	.....	0.160	4.06	Blue sky.....	W. Boswell.
Ardrossan	30.42	772.7	30.44	773.2	48	8.9	.....	WSW	.....	.....	3	.....	8	.....	.....	.....	.....	Overcast.....	Wm.McNeil &G.Carrick
Armagh, (Observatory)	30.21	767.3	30.45	773.4	48.0	8.9	.....	SSW	9	4.0	.....	.....	10	.....	.....	.....	.....	Gloomy.....	S. Call.
Bidston (Liverpool Obs)	.....	.....	30.52	775.2	49.2	9.6	.....	SW	5	2.2	.....	.....	10	.....	.....	.....	.....	Overcast.....	John Hartnup.
Bolton (Sharples)	29.95	760.7	30.48	774.2	46.6	8.1	.....	NW	6	2.7	.....	.....	10	.....	.....	.....	.....	Gloomy.....	Thomas Mackereth.
Bradford, Yorkshire	30.10	764.5	30.50	774.7	48 8	9.3	.....	SE	.....	.....	2	.....	10	.....	.....	0	0	Overcast.....	J McLandsborough.
Bridgetown, Barbadoes	29.90	759.4	29.94	760.5	82·	27.8	.....	NE	.....	.....	1	.....	2	.....	.....	.....	.....	D. clouds...	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	30.46	773.7	30.56	776.2	47.0	8.3	.....	NW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	H. Todd.
Cardington	.....	.....	30.53	775.4	48.0	8.9	.....	W	.....	.....	0–1	.....	10	.....	.....	.....	.....	Overcast..	John McLaren.
Chatham (School M. E.)	30.44	773.2	30.57	776.6	45.1	7.3	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Foggy	J. Carmell, Sapper, R.E.
Donaghadee	30.43	772.9	30.48	774.2	48	8.9	.....	WSW	.....	.....	3	.....	8	.....	.....	.....	.....	D. clouds ..	J. Mac Gowan.
Dover	30.53	775.4	30.56	776.2	50	10.0	.....	W	.....	.....	1	.....	10	.....	.....	.....	.....	Foggy	J. Costello.
Falmouth (Observatory)	30.31	769.9	30.55	776.0	52.6	11.4	.....	S	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	The Staff.
Fort Napier, Natal	27.64	702.0	29.86	758.4	64.0	17.8	.....	S	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone§	29.69	754.1	29.92	760.0	87	30.6	.....	W	.....	.....	0	.....	3	.....	.....	.....	.....	D. clouds.....	
Galway (Queen's College)	.....	.....	30.35	770.9	50	10.0	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	Prof. A. H. Curtis.
Gibraltar, Mediterranean‖	30.19	766.8	30.24	768.1	64.4	18.0	.....	E	.....	.....	5	.....	6	.....	.....	.....	.....	D clouds....	Sergt.Wm. Allen, A. H.
Glasgow, (Observatory)	30.22	767.6	30.43	772.9	46.5	8.2	.....	WSW	.....	.....	3	.....	10	.....	.....	.....	.....	Misty.....	D. G. Maclean. [O.
Great Yarmouth	30.54	775.7	30.54	775.7	47	8.3	.....	WSW	.....	.....	2	.....	7	.....	.....	.....	.....	Foggy	G. T. Watson.
Greenwich (Royal Obs'y)	30.40	772.1	30.57	776.5	46.5	8.1	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Foggy	The Staff, for G.B.Airy.
Guernsey	30.33	770.4	30.55	776.0	51.5	10.8	.....	SE	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds....	Dr. S.E Hoskins, F.R.S.
Helston	30.64	778.2	30.78	781.8	54	12.2	.....	SSE	.....	.....	0	.....	6k	.....	.....	0	0	Fair	M. P. Moyle.
Holyhead	30.44	773.2	30.48	774.2	52	11.1	.....	WSW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast..	John Tilston.
Jersey	30.30	769.6	30.60	777.2	51.7	10.9	.....	SSW	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds....	J. Fisher.
Kew (Observatory)	30.54	775.7	30.58	776.7	49.0	7.8	.....	NNW	8	1.3	.....	.....	.....	.....	.....	.....	.....	Foggy	The Met'g'l Office.
Leicester (Museum)	30.27	768.8	30.54	775.7	47.2	8.4	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	29.78	756.4	29.86	758.4	54	12.2	.....	NE	.....	.....	3	.....	8n	.....	.....	.....	.....	Overcast.. ..	A. King.
Nairn	30.23	767.8	30.33	770.4	50	10.0	.....	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	½clouded...	W. D. Penny.
Nassau, Bahamas	.....	.....	30.03	762.7	76.5	24.7	.....	E	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast.....	C. S. Duncombe.
Nottingham (Observatory)	30.33	770.4	30.53	775.4	48.1	8.9	.....	Calm	.....	.....	0	.....	10	.....	.....	0	0	Overcast.....	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	30.00	762.0	30.53	775.4	47.0	8.3	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Misty.....	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)	.....	.....	30.56	776.2	47	8.3	.....	WSW	.....	.....	1	.....	10	.....	.....	.....	.....	Threatening	H. E. Bellamy.
Plymouth	30.46	773.7	30.54	775.7	50.5	10.3	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Overcast.....	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	30.39	771.9	30.49	774.4	53	11.7	.....	SSW	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast.....	Wm. Kennedy.
St. Ann's Head	30.37	771.4	30.53	775.4	51	10.6	.....	SSW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast. ...	John C. Walker.
Sandwick Manse, Orkneys	.....	.....	30.26	768.6	49	9.4	.....	WSW	24	10.7	.....	.....	1	.....	.....	.....	.....	Blue sky.....	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	30.12	765.0	30.19	766.5	56.0	14.4	.....	NE	.....	.....	2	.....	7	.....	.....	.....	.....	D clouds....	Serg't W. H. Lyne.
Sheffield	30.26	768.6	30.55	776.0	49.0	9.4	.....	SW	.....	.....	1	.....	10	.....	.....	0	0	Overcast.....	W. F. Cooper.
Silloth Rectory	30.44	773.2	30.47	773.9	47.7	8.7	91	W	.....	.....	1	.....	10	.....	.....	0	0	Overcast.....	Francis Redford, A. M.
Stonyhurst (Observatory)	.....	.....	30.49	774.4	47.7	8.7	.....	SW	4	1.8	.....	.....	10	.....	.....	.....	.....	Misty.....	Rev. S. J. Perry.
Stratfield, Turgiss	30.36	771.1	30.59	777.0	47.3	8.5	.....	N	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	30.50	774.7	30.56	776.2	55	12.8	.....	S	.....	.....	2	.....	10	.....	.....	.....	.....	Gloomy.....	W. Newcombe.
Valencia Observatory)	30.48	774.2	30.50	774.7	53.5	11.9	.....	SSE	23	10.3	.....	.....	10	.....	.....	.....	.....	D. clouds....	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	30.04	763.0	30.08	764.0	67.5	19.7	52	S	14.1	6.3	.....	4	4cs;k	.....	.....	.....	.....	.....	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
Hobart Town, Tasmania	.....	.....	29.44	747.8	59.0	15.0	77	W	.....	.....	8	.....	7k	.....	.....	0.07	1.8	.....	Francis Abbott, F.R.A.S
Leith, (Restalrig Perk)	.....	.....	30.35	770.9	47.1	8.4	.....	W	.....	.....	8	.....	10k	.....	.....	0	0	Overcast.....	Andrew Gibb.
Mauritius (Observatory)	29.92	760.0	30.10	764.6	77.4	25.2	61	NE	15.5	6.9	.....	1	4	.....	NE	0	0	Squally.....	C. Meldrum.
Melbourne (Observatory)	29.82	757.4	29.92	759.9	55.9	13.3	68	WSW	14	6.3	.....	.....	0	.....	.....	0.01	0.3	Very fine	R. L. J. Ellery.
Monach Lt-house, Hebrides	.....	.....	30.25	768.3	52	11.7	.....	SW	.....	.....	4	.....	10	.....	.....	0	0	....	J. Youngclause.
North Unst, Shetland Is	.....	.....	30.06	763.3	.....	.....	.....	W	.....	.....	6	.....	10	.....	.....	Blank	Blank	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing, but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft., or 670 m.; Colesberg Bridge, unknown. §Observations taken 55 minutes early. ‖Observations taken 47 minutes late. Both of these errors have apparently existed for a long time.

BRITISH MARINE SERIES. VESSELS.																Sea or swell. Height scale 0—9	Sea or swell. Direction from—		
H. M. S. Alert, Off Bonduca I'd., Patagonia	.....	.....	29.28‡	743.7‡	44.2	6.8	.....	NNW	.....	.....	5	.....	10	.....	.....	.....	.....	Showery.....	Capt. J.P. Maclear, R.N.
H. M. Sloop Gannet, S. 11° 47′, W. 77° 13′	.....	.....	29.92‡	760.0‡	64	17.8	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Misty.....	Commander E. Bourke, R. N.
H. M. S. Magpie, Shanghai, China	.....	.....	30.30‡	769.6‡	58	14.4	.....	N	.....	.....	3	.....	10	.....	.....	.....	.....	Raining.....	Capt. R. H. Napier, R.N.
Brig Alliance, N. 25° 00′, W. 56° 55′	.....	.....	30.05‡	764.0‡	75.8	24.3	.....	Calm	.....	.....	0	.....	9	.....	.....	.....	.....	Showery.. ...	Capt. W. Scott.
Barque Commewyne N. 15° 00′, W. 44° 40′	.....	.....	30.01‡	762.2‡	82	27.8	.....	ENE	.....	.....	5	.....	8	.....	.....	.....	.....	D. clouds.....	Capt. Jas. Buchan.
S. S. Ethiopia, N. 55° 15′, W. 14° 05′	.....	.....	30.07	763.8	54	12.2	.....	SSW	.....	.....	5	.....	10	.....	.....	5	SSW	Raining	Capt. Campbell.
S. S. German, S. 34° 15′, E. 24° 35′	.....	.....	30.11‡	764.8‡	63	17.2	.....	WSW	.....	.....	3	.....	1	.....	.....	.....	.....	Blue sky.....	Capt. O. D. Coxwell.
Barque Queen of Cambria, N. 9° 55′, E. 75° 50′	.....	.....	29.88‡	758.9‡	82	27.8	.....	Calm	.....	.....	0	.....	4	.....	.....	.....	.....	D. clouds.....	Capt. M. Parry.
S. S. Strathleven, Sydney, N. S. W.	.....	.....	29.91‡	759.7‡	68.5	20.3	.....	N	.....	.....	6	.....	10	.....	.....	.....	.....	Thunder-storm....	Capt. C. W. Pearson.
Schooner Traveller, N. 50° 40′, W. 20° 20′	.....	.....	29.92	760.0	57	13.9	.....	S	.....	.....	6	.....	10	.....	.....	5	SSE	Raining.....	.....
S. S. Gordon Castle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. V. Freeden.
German Brig "W. von Freeden"	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Greig.
Theophane	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. H. Smith.
S. S. Peruvian	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.19	665.2	29.91	759.7	67.6	19.8	84	SE	.....	.....	2	8c;ck;d	.....	.....	.....	Inap.	Inap.	.....	Federico Maison.

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

DANISH SERIES.

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

Copenhagen	30.15	765.9	30.20	767.1	49.5	9.7	79	NNW	.....	.....	7	.....	8	.....	.....	.....	.....	.....	.....
Farõe	30.34	770.5	30.35	771.0	49.6	9.8	88	W	.....	.....	4	.....	5	.....	.....	.....	.....	.....	.....
Godthaab (Greenland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stykkisholm (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thorshavn (Farõe)	29.87	758.6	29.90	759.5	49.3	9.6	94	SSW	.....	.....	5	.....	10	.....	.....	.....	.....	.....	.....
Vestervig	30.19	766.7	30.30	769.5	48.0	8.9	93	WNW	.....	.....	4	.....	9	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

FRENCH SERIES.

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

Alençon, Normal School	30.04	763.0	30.59	777.0	50.0	10	80	SE	.....	.....	1	.....	8n	.....	E	0	0	Very cloudy	Colignon, Director.
Amiens, Normal School	30.45	773.4	30.56	776.3	52.5	11.4	86	NW	.....	.....	1	.....	8	.....	.....	0.031	0.8	Very cloudy	Vaillant, Director.
Arras, Engin'r School	30.33	770.4	30.60	777.2	49.6	9.8	78	N	.....	.....	1	.....	kn	.....	.....	0	0	.....	Klein, Commandant.
Avignon, Normal School	30.39	771.8	30.47	773.8	58.3	14.6	47	N	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	Giraud, Director.
Bar-sur-Seine	30.00	762.0	30.57	776.5	50.9	10.5	76	E	.....	.....	1	.....	10	.....	NE	0	0	Covered	C. Saillard, Director
Beauvais, Normal School	30.32	770.2	30.60	777.1	51.6	11	85	E	.....	.....	1	.....	10	.....	SSE	0	0	Covered	Frere Eugene Marie
Besançon, Normal School	29.59	751.6	30.51	774.9	48.7	9.3	67	NE	.....	.....	2	.....	2	.....	E	0	0	Slightly cl'dy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.67	753.5	30.64	778.2	47.5	8.6	76	N	.....	.....	1	.....	5kn	SW	SW	0	0	Cloudy	Marlot, Diretor.
Bourges, Normal School	29.95	760.6	30.51	775.0	50.2	10.1	95	NE	.....	.....	1	.....	8kn	.....	NE	0	0	Very cloudy	M. Gence, Director.
Brest, Naval Observatory	30.29	769.4	30.54	775.6	52 9	11.6	77	E	.....	.....	1	.....	9	.....	E	0	0	.....	Ch. de Kermaree, Dir.
Caen, Normal School	30.58	776.7	.....	.....	46.6	8.1	89	WNW	.....	.....	1	.....	5	.....	NW	0	0	Cloudy	M. Bletrin, Director.
Carcassonne, N. School	29.98	761.6	30.41	772.3	57.0	13.9	60	SE	.....	.....	3	.....	5	E	E	0	0	Cloudy	September, Director.
Châlons-sur-Marne, N. Sch'l	30.29	769.3	30.61	777.6	50.5	10.3	81	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Covered	Jadot, Director.
Chartres, Normal School	29.98	761.4	30.56	776.2	48.6	9.2	89	N	.....	.....	1	.....	8	.....	S	0	0	.....	Vergier, Director.
Clermont-Fd, Puy de D. Obs	29.14	740.1	30.53	776.4	50.7	10.4	60	N	.....	.....	1	.....	10	.....	N	0	0	.....	Alluard, Director.
Commercy, Normal School	29.70	754.3	30.58	776.8	49.0	9.8	93	NW	.....	.....	1	.....	10n	NW	NW	0	0	Covered	Dr. Coullet, Director.
Commune de Gréasque*	29.34	745.3	30.48	774.3	58.1	14.5	58	N	.....	.....	1	.....	5	NW	SE	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.75	755.7	30.54	775.8	50.0	10	62	ENE	.....	.....	1	.....	5cks	NE	.....	0	0	Cloudy	Ablard, Director.
La-Roche-sur-Yon, N. Sch'l	30.23	767.9	30.45	773.5	52.5	11.4	73	NE	.....	.....	1	.....	8	.....	NW	0	0	Very cloudy	Mouillot, Director.
Le Mans, Normal School	30.24	768.2	30.58	776.7	49.3	9.6	84	ESE	.....	.....	2	.....	10	.....	.....	0	0	Covered	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.59	751.5	30.54	775.6	50.2	10.1	58	NNE	.....	.....	1	.....	5cn	N	NE	0.20	0	Cloudy	A. Baudry, Director
Lorient, Naval Observatory	30.45	773.3	30.56	776.1	53.2	11.8	76	Calm	.....	.....	0	.....	.....	.....	.....	0	5.	.....	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.90	759.5	30.54	775.7	48.9	9.4	64	ENE	.....	.....	1	.....	.....	.....	NNE	0	0	.....	Ch. André, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	30.13	765.3	30.40	772.2	63.0	17.7	71	S	.....	.....	1	.....	7	.....	WSW	0	0	.....	E. Stephan, Director.
Mirecourt, Normal School	29.52	749.8	30.60	777.2	49.3	9.6	86	NNE	.....	.....	1	.....	kn	NNE	NNE	0	0	.....	Barbier, Director.
Mont-Louis	25.17	639.4	30.49	774.4	47.3	8.5	52	WSW	18.6	8.3	.....	.....	2	.....	W	0	0	.....	M. Cave.
Nice	30.41	772.4	30.44	773.2	61.5	16.4	59	SE	.....	.....	2	.....	1	SE	SE	0	0	Clear	M. Boissiéré, Director.
Nismes, Normal School	30.26	768.7	30.47	773.9	60.4	15.8	59	N	.....	.....	3	.....	5	.....	S	0	0	Cloudy	M. Boyer, Director.
Paris, Montsouris Obs'y	30.29	769.3	.....	.....	51.1	10.6	86	E	.....	.....	1	.....	10	.....	.....	0.004	0.1	.....	Marie Davy, Director.
Perpignan	30.35	770.8	30.45	773.4	56.7	13.7	60	SE	7.4	3.3	.....	.....	1	.....	.....	0	0	.....	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.81	579.4	.....	.....	50.2	10.1	.....	NE	.....	.....	1	.....	1	SW	NE	0	0	Clear	Gen'l de Nansouty.
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Privas, Normal School	29.40	746.8	30.19	771.4	54.3	12.4	54	N	.....	.....	1	.....	n	N	NE	0	0	.....	Cantier, Director.
Puy de Dome (Summit) Obs	25.48	647.8	.....	.....	35.6	2.0	64	E	.....	.....	3	.....	.....	.....	.....	0.472	13.0	Rain at distance	Alluard, Director.
Rochefort, Naval Obs'y	30.46	773.7	30.49	774.5	54.5	12.5	69	NNE	.....	.....	1	.....	2	NNE	NNE	0	0	¼ covered	Lt E. Decante, Director
Rouen, Normal School	30.48	774.3	30.57	776.5	48.7	9.3	80	SSE	.....	.....	1	.....	10	.....	SE	0	0	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.52	775.2	30.55	776.0	48.2	9.0	89	SE	.....	.....	1	.....	8	SE	SE	0	0	Misty	Lt. Hercouet, Director.
Saint Maur (near Paris)	30.41	772.3	30.57	776.5	51.8	11.0	86	NE	.....	.....	1	.....	.....	.....	ENE	0	0	.....	E. Renou, Director.
Tarbes, Normal School	29.49	749.0	30.57	776.4	34.7	1.5	81	W	.....	.....	8	.....	1	W	NW	0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.73	755.1	30.46	773.7	50.4	10.2	81	NE	.....	.....	1	.....	8	.....	.....	0	0	Very cloudy	M. Julier Mercadier.
Tours	30.33	770.4	30.53	775.4	51.3	10.7	71	ENE	.....	.....	1	.....	10	.....	E	0	0	Covered	Cousin-Marquet.
Versailles, Observatory	30.07	763.8	30.57	776.4	49.3	9.6	89	N	.....	.....	1	.....	.....	.....	.....	0.016	0.37	.....	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.81	757.2	30.54	775.7	51.8	11	86	NNW	.....	.....	1	.....	2	.....	NW	0	0	Slightly cl'dy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.92	760.0	29.95	760.7	81.0	27.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	0 12	S.	.....	L'Abbé Marchési
Zi-Ka-Wei (near Shanghai)	30.29	769.4	30.32	770.0	64.9	12.7	98	NNW	8.3	3.7	.....	.....	10n	.....	.....	0.551	14.0	Raining	Marc Dechevreus.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,686.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centrigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.65	753.2	30.51	775.0	41.2	5.1	94	Calm			0		10n					Light rain.	Prof. Dr. Hoh.
Berlin	30.17	766.4	30.35	770.9	51.4	10.8	69	W			7		10			0.043	1.1		Prof. Dr. Arndt.
Breslau	29.83	757.7	30.37	771.4	43 9	6.6	89	W			4		10					Rainy	Royal University Obs'y.
Carlsruhe	30.14	765.5	30.59	776.9	47.5	8.6	87	SW			2		10	N					Albert Senz.
Cassel	29.94	760.5	30.56	776.2	50.4	10.2	69	NW			3		8	NW		0.010	0.26		Dr. H. Möhl.
Emden			30.49	774.5	50.0	10.0	79	NW			2		10			0.016	0.4		Prof. Dr. Prestel.
Frankfort on the Main	30.21	767.2	30.59	776.9	50.0	10.0	88	SW			1		10			Inap.	Inap.		Physical Society.
Friedrichshafen	29.13	739.8	30.63	777.9	42 4	5.8	77	SW			2		2	W		0	0		Chief Telegrapher Wilhelm.
Hamburg	30.38	771.7	30.45	773.5	49.6	9.8	83	NW			2		10			0.012	0.3	Hazy	Captain F. Hegemann.
Kiel	30.36	771.2	30.38	771.6	50 9	10.5	62	WNW			5		9			0.010	0.26		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.91	759.8	30.00	761.9	42.8	6.0	96	W			2		9			0.134	3.4		Prof. E. Luther.
Köslin			30.16	766.0	47.8	8.8		NW			6		3			0.047	1.2		H. Müller.
Leipsic Observatory	30.08	764.0	30.51	775.0	47.3	8.5	84	NW			2		10	WNW		0.028	0.7		Prof. Dr. Bruhns, Privy Counselor.
Magdeburg	30.26	768.6	30.49	774.5	48.6	9 2	87	W			2		10ks	WSW		0.012	0.3		Dr. Assmann.
Memel	29.89	759.2	29.94	760.4	47.5	8.6	84	NW			5–6		3cs						Reinbrecht & Ishermann
Munich (München)	28.71	729.3	30.61	777.5	43.5	6.4	64	Calm			0		9			0.008	0.2		Dr. C. Lang.
Neufahrwasser	30.06	763.4	30.07	763.8	48.6	9.2	79	NW			4		3			0.016	0.4		A. Lothes.
Neustadt (Palatinate)	30.03	762.8	30.57	776.5	49.3	9.6	88	Calm			0		10			0	0		Reallehrer Dicknether.
Posen	29.97	761.2	30.26	768.7	45.5	7.5	91	WNW			7		10			Inap.	Inap.	Raining	Prof. Dr. Hagener.
Strassburg (in Alsace)	30.05	763.3	30.62	777.7	47.8	8.8	88	Calm			0		10	NE		0.008	0.2		Imp. University Observatory.
Stuttgart	29.60	751.8	30.58	776.7	42.8	6.0	82	NE			1		10			0	0		Prof. Dr. Schoder.
Weissenburg (Bavaria)	29.63	737.4	30.62	777.8	40.5	4.7	90	WSW	2	1			10			0	0		Reallehrer J. Hopfner.
Wustrow	30.29	769.4	30.32	770.0	46.6	8.1	79	NW			4		5s			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centrigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens	29.65	753.0	30.04	763.1	56.7	13.7		SW			0.5		10					Raining	Dr. J. F. J. Schmidt.

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

INDIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centrigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Kurrachee	29.93	760.2	29.98	761.5	79.6	26.4	72	NW	6	2.7			2			0	0	D. clouds	
Deesa	29.51	749.4	29.98	761.6	81.2	27.3	33	NW	6.4	2.9			0			0	0	Blue sky	
Bombay	29.88	758.8	29.91	759.8	78.9	26.1	70	NNW	19	8.5			0			0	0	Blue sky	
Poona (Yerrowda)	28.06	712.8	29.91	759.8	81.0	27.2	24	E	9	4.0			0			0	0	Blue sky	
Belgaum	27.39	695.6	29.94	760.3	75.1	23.9	49	E	2	0.9			0			0	0	Blue sky	
Lahore	29.19	741.4	29.95	760.8	69.7	20.9	44	Calm	0.2	0.1			0			0	0	Blue sky	
Roorkee	29.07	738.4	30.00	761.9	68.5	20.5	52	S	0.9	0.4						0	0		
Agra	29.38	746.2	29.96	760.8	74.7	23.7	52	Calm	2.1	0.9						0	0		
Nagpur	28.90	734.1	29.95	760.8	77.2	25.1	33	Calm	2.4	1.1						0	0	Blue sky	
Jubbulpore	28.58	725.9	29.97	761.3	70.8	21.6	50	Calm	1.9	0.9						0	0	Blue sky	
Lucknow	29.52	749.8	29.91	759.6	72.2	22.3	52	N	0.7	0.3						0	0	Blue sky	
Allahabad	29.66	753.4	29.98	761.6	68.0	20.0	55	Calm	0.6	0.3			0			0	0	Blue sky	
Patna	29.79	756.6	29.97	761.2	77.9	25.5	40	Calm	0	0			0			0	0	Blue sky	
Hazaribagh	27.93	709.3	29.98	761.6	69.0	20.6	44	NW	2.2	1.0			0			0	0	Blue sky	
Cuttack	29.87	758.6	29.95	760.8	74.6	23.7	68	Calm	1	0.4			0			0	0	Blue sky	
Calcutta (Alipore)	29.91	759.8	29.93	760.3	73.2	22.9	79	NNW	2.0	0.9			0			0	0	Blue sky	
Goalpara	29.56	750.9	29.96	760.9	76.8	24.9	61	ENE	4.4	2.0			0			0	0	Blue sky	
Chittagong	29.84	758.0	29.94	760.3	76.8	24.9	61	NW	2.7	1.2			0			0	0	Misty	
Sibsagar	29.62	752.4	29.96	761.1	72.6	22.6	84	SE	1.4	0.6			0			0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

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

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

STATIONS	Barometer, corrected for instrum'tal error and temperature. Inches.	Barometer, corrected for instrum'tal error and temperature. Millimeters.	Barometer, reduced to sea-level. Inches.	Barometer, reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	30.07	763.8	30.49	774.5	47.8	8.8	52	W	0.7	0.3	.....	.....	0	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.94	760.4	30.47	774.0	50.9	10.5	57	ESE	.....	.....	1	.....	1	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	30.38	771.7	30.49	774.5	50.5	10.3	48	NW	4.3	1.9	.....	.....	0	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.53	750.0	30.46	773.6	52.0	11.1	58	SW	1.3	0.6	.....	.....	2	NNE	.....	0	0	.....	Prof. P. F. Denza.
Genoa	30.23	767.7	30.42	772.6	57.9	14.4	39	N	5.6	2.5	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.52	724.4	30.46	773.8	45.0	7.2	78	WNW	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.39	772.0	30.44	773.3	51.1	10.6	49	NE	27.3	12.2	.....	.....	1	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	30.17	766.2	30.43	772.9	53.6	12.0	35	NE	.....	.....	6	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	30.35	770.9	30.44	773.1	55.6	13.1	40	NE	9.8	4.4	.....	.....	0	.....	.....	0	0	.....	Prof. P. Monte.
Rome	30.08	763.9	30.25	768.4	52.3	11.3	39	N	16.8	7.5	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. C. De Giorgi.
Cosenza	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. D. Conti.
Cagliari	29.12	739.7	30.02	762.4	48.9	9.4	69	NNE	8.7	3.9	.....	.....	10	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	30.04	762.9	30.23	767.8	60.3	15.7	17	E	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. G. Ciacciatore.
Syracuse	29.78	756.4	30.04	762.9	50.2	10.1	59	NNE	1.8	0.8	.....	.....	10	N	.....	0.154	3.9	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.60	751.7	30.13	765.3	49.8	9.9	51	NW	9.4	4.2	.....	.....	3	.....	.....	0	0	.....	Prof. F. Brioschi.

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

JAPANESE SERIES.

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

Hiroshima, I. M. Obs'y	30.14	765.5	30.16	766.0	51.5	10.8	89	NNE	7.9	3.5	.....	.....	8s	.....	.....	0.052	1.32	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.94	760.5	30.14	765.5	55.8	13.2	86	NNE	1.2	0.5	.....	.....	10s	.....	.....	0.140	3.56	Cloudy	S. Takehayashi.
Tokei, (Yeddo) Observatory.	29.91	759.7	29.98	761.5	46.9	8.3	79	NW	4.9	2.2	.....	0	0	.....	.....	0	0	Clear	The Staff.
Wakayama	30.07	763.8	30.13	765.3	49.2	9.6	86	ENE	5.9	2.6	.....	.....	0	.....	.....	0.005	0.13	Clear	.....

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

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

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

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	25.00	635.1	30.11	764.9	48.2	9.0	69	SW	.....	.....	1	.....	0	.....	.....	0	0	Foggy	Prof. L. Perez.
Leon	24.41	620.0	30.13	765.3	55 9	13.3	86	NW	.....	.....	1	0	0	.....	.....	0	0	Fine	Prof. M. Leal.
Mazatlan	29.67	753.6	29.93	760.2	74.7	23.7	93	E	.....	.....	1	1k	0	.....	.....	0	0	Clear	I. Guerrero, C. E.
Mexico, Central Observatory	23.06	585.7	30.19	766.9	48.6	9.2	70	Calm	0	0	.....	0	0	.....	.....	0	0	Very fine	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	51.8	11.0	81	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.51	597.1	30.48	774.2	41.9	5.5	36	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.15	613.5	30.11	764.7	57.9	14 4	72	SW	.....	.....	1	1	0	W	.....	0	0	Clear	G. Barroeta, M. D.
Tlacotalpam	29.86	758.5	29.87	758.8	73.8	23.2	94	S	.....	.....	2	0	0	.....	.....	0	0	Clear	Prof. M. M. Châzaro
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell.
Zacatecas	22.52	572.0	30.22	767.6	55.0	12.8	71	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	A. Nuñez.

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

NETHERLANDS SERIES.

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

Flushing	30.60	777.1	30.60	777.1	52.3	11.3	.....	WSW	.....	.....	2	.....	.....	.....	.....	0.012	0.3	.....	.....
Groningen	30.46	773.8	30.52	775.2	50.7	10.4	.....	NW	.....	.....	.....	.....	.....	.....	.....	0.020	0.5	.....	.....
Helder	30.49	774.4	30.49	774.4	50.0	10.0	.....	WSW	.....	.....	4	.....	.....	.....	.....	0	0	.....	.....
Hellevoetsluis	30.57	776.5	30.57	776.5	49 1	9.5	93	SW	.....	.....	2	.....	.....	.....	.....	0	0	.....	.....
Utrecht	30.52	775.1	30.56	775.1	52.5	11.4	83	W	.....	.....	2	.....	8	.....	.....	0.012	0 3	Very cloudy	H. v. d. Brink.

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

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.13	765.2	30.18	766.6	48.2	9.0	100	W	6.0	2.7	.....	.....	10	.....	.....	0.378	9.6	Raining.	.....
Brönö	29.81	757.1	29.85	758.1	41.0	5.0	60	WNW	9	4	.....	.....	8	.....	.....	0	0	.....	.....
Christiana	29.85	758.2	30.00	762.0	49.8	9.9	64	NNE	2	1	.....	.....	8	.....	.....	0	0	.....	.....
Tromsö	29.63	752.7	29.68	753.8	26.4 — 3.1		65	NE	18	8	.....	.....	10	.....	.....	0.165	4.2	.....	.....

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

PORTUGUESE SERIES.

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

Angra (Azores)	29.60	751.8	29.79	756.6	65.8	48.8	84	NNE	3.1	1.4	.....	.....	8	.....	.....	0.197	5.0	.....	Dr. J. A. Sampaio.
Campo Major	29.30	744.2	30.32	770.2	62.6	17.0	46	ENE	4.9	2.2	.....	.....	2	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	29.95	760.6	30.03	762.8	73.9	23.3	60	Calm	0	0	.....	.....	8	.....	.....	0.020	0.5	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.92	759.9	30.28	769.1	61.2	16.2	63	NE	13.7	6.1	.....	.....	9	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	29.67	753.5	29.74	755.3	72.0	22.2	82	NNE	8.7	3.9	.....	.....	3	.....	.....	1.740	44.2	.....	

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

PORTUGUESE NAVAL SERIES. VESSELS.																Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa, Porto Praya, Cape Verd I'ds.	.....	.....	.....	.....	81.3	27.4	.....	E	.....	.....	1	.....	7	.....	E	1	E	D. Clouds, 5 minutes rain-fall.	A. A. A. Loureiro.
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Com'd't.
Sado, Capt. J. A de Brito Capello, St. Paul de Loando	.....	.....	29.92	760.0	81.0	27.2	.....	W	.....	.....	4	.....	5	.....	W	.....	.....	D. clouds....	H. Mecudonco, 2nd Lieut.]
Tejo, Capt. J. M. T. Guimaraes, Macao, China	.....	.....	30.12	765.0	69.8	21.0	.....	NNE	.....	.....	5	.....	10	.....	.....	3	N	Raining, 16 hr's rain-fall.]	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

RUSSIAN SERIES.

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

Archangel	29.13	740.0	29.15	740.5	28.0	— 2.2	98	ESE	2	1	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Astrakhan	30.49	774.4	30.41	772.3	39.4	4.1	41	E	4	2	.....	.....	0	.....	.....	.....	.....	.....	Capt. Wisganow.
Barnaul	30.03	762.7	30.58	776.6	13.5	—10.3	80	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	29.32	744.8	29.57	751.1	38.1	3.4	87	W	11	5	.....	.....	0	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	29.31	744.4	30.35	771.0	15.4	— 9.2	72	SW	9	4	.....	4c;ck	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	29.87	758.8	30.16	766.1	24.3	— 4.3	73	SSW	18	8	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.52	749.8	30.19	766.7	34.2	1.2	87	WSW	7	3	.....	.....	10cs;ks	.....	.....	.....	.....	.....	Physical Cabinet.
Krotkowo*	29.79	756.7	30.30	769.7	19.8	— 6.8	79	S	4	2	.....	.....	10	.....	.....	.....	.....	.....	Cand. Faijanow.
Lugan	30.04	763.0	30.25	768.3	37.4	3.0	88	SW	9	4	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Moscow	29.25	743.0	29.82	757.4	31.6	— 0.2	90	SW	13	6	.....	.....	10s	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	28.03	712.0	30.53	775.4	12.2	—11.0	85	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	30.30	769.6	30.37	771.4	41.2	5.1	68	NW	13	6	.....	.....	1cs	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	29.93	760.3	30.17	766.4	42.4	5.8	33	ENE	13	6	.....	.....	9ks	.....	.....	.....	.....	.....	.....
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	30.32	770.1	30.46	773.7	33.8	1.0	51	NW	4	2	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	29.28	743.8	29.30	744.2	35.2	1.8	91	NW	20	9	.....	.....	10n	.....	.....	.....	.....	Light rain ..	Central Physical Obs.
Tashkend	28.59	726.2	30.16	766.1	58.3	14.6	47	.....	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.84	732.5	30.26	768.6	57.6	14.2	52	NW	4	2	.....	.....	1k	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	29.76	755.8	30.19	766.9	38.3	— 3.5	95	WSW	16	7	.....	.....	10n	.....	.....	.....	.....	Light rain..	Astronomical Obs.
Wilna	29.48	748.8	29.92	759.7	39.0	3.9	93	SW	7	3	.....	.....	10	.....	.....	.....	.....	Heavy clouds..	Astronomical Obs.
Yenisiesk	30.13	765.2	30.43	773.0	23.7	— 4.6	63	WSW	9	4	.....	.....	10	.....	.....	.....	.....	.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

SPANISH SERIES.

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

Barcelona, Met. Obs'y	30.32	770.1	30.43	772.8	59.4	15.2	57	SE	2.7	1.19	.....	.....	0	.....	.....	0	0	Hazy	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.33	770.3	30.38	771.7	60.8	16.0	63	SE	1.3	0.58	.....	0	0	.....	.....	0	0	Clear	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.37	695.2	.....	.....	55.9	13.3	47	NE	2.0	0.90	.....	0	0	.....	.....	0	0	Clear	Domingo Martin y Perez.
Madrid, Royal Observatory	28.13	714.6	30.39	771.8	58.6	14.8	54	SE	3.7	1.67	.....	1	0	N	.....	0	0	Almost clear	The Staff.
Murcia, Met. Obs'y	30.28	769.0	30.43	772.8	66.2	19.0	69	E	1.7	0.75	.....	1	4	WNW	.....	0	0	Cloudy	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.36	745.7	30.25	768.3	67.5	19.7	61	NE	0	0	.....	.....	0	.....	.....	0	0	Clear	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	29.93	760.3	30.00	762.0	73.8	23.2	88	ESE	1.3	0.6	.....	1ck	4s;k	.....	E	Inap.	Inap.	Hazy	Benito Vines, S. J.
Manilla, Phillippine Islands	29.70	754.4	29.75	755.7	80.6	27.0	.....	NNW	0	0	.....	.....	10ck	.....	W	1.150	29.2	Covered	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.17	766.4	30.27	768.9	67.6	19.8	62	ESE	29.1	13.0	.....	0	0	.....	.....	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I	29.59	759.3	29.98	761.6	77.7	25.4	90	E	0	0	.....	2ck	2k	E	E	0.010	0.25	Clear	Enrique Gadea, Chief Eng'r

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

SWEDISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.61	752.0	29.65	753.0	15.1	— 9.4	.....	NW	...	.....	4	.....	0	.....	.....	0.354	9.0	.....	
Umea	29.69	754.2	29.74	755.5	33.4	0.8	78	N	.....	.....	2	.....	9	.....	.....	0.047	1.2	.....	
Hernosand	29.72	755.0	29.78	756.3	42.8	6.0	56	NNW	.....	.....	2	.....	1	.....	.....	0.004	0.1	.....	
Stockholm	29.77	756.1	29.95	760.6	43.5	6.4	47	NW	.....	.....	2	.....	1	.....	.....	0	0	.....	
Wisby	29.85	758.2	29.91	759.7	45.7	7.6	67	NW	.....	.....	6	.....	3	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.82	757.4	29.91	759.6	41.9	5.5	51	WNW	7.6	3.4	.....	.....	2	N	.....	0	0	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

SWISS SERIES.

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

Geneva	28.98	736.6	30.53	775.5	44.8	7.1	65	NE	.....	.....	3	.....	8	.....	.....	0	0	Cloudy	The Observatory.
Zurich	28.93	734.9	30.63	778.1	36.3	2.4	89	E	.....	.....	2	.....	5	.....	.....	0	0	Cloudy.....	The Observatory.
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, +12.4 mm.; Thermometer, —1.2 Cent.; Relative Humidity, —10 per cent.
NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

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

Constantinople	.....	.....	30.23	767.9	55.9	13.3	53	ENE	19	8.5	.....	.....	8	.....	NE	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.97	761.1	52.2	11.2	.....	E	.....	.....	3	.....	10	.....	.....	0.59	15.	Covered	A. Bertrand.
Sub-series.																			
Beirut, (Syria) Lee Obsy	30.10	764.5	30.21	767.3	67.8	19.9	65	N	.....	.....	4	.....	6n	.....	N	0.21	5.1	D. clouds	Prof. C. V. A. van Dyck.
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. A. Blair.
Charlottetown, P. E. Island	30.34	770.6	30.38	771.6	31.6	— 0.2	84	SW	4	1.8	.....	0	5s	.....	.....	0	0	Fair.....	H. J. Cundall, C. E.
Cornwall, Ontario	29.88	758.9	30.08	764.0	37.5	3.0	93	SE	.....	.....	1	.....	10s	.....	.....	0	0	Cloudy.	James Smith, M. A.
Dalhousie, N. B	30.02	762.5	30.20	767.1	29.3	— 1.5	.....	E	.....	.....	1	.....	10s	.....	.....	0.03	0.8	Gloomy	H. A. Johnson.
Father Point, Quebec	30.01	762.2	30.03	762.7	35.1	1.7	90	SW	36	16.1	.....	.....	10n	.....	.....	0.03	0.8	Threatening	J. McWilliams.
Fredericton, N. B	30.26	768.6	30.33	770.4	32.5	0.3	85	SE	4	1.8	.....	.....	10s	.....	SW	0	0	Overcast	Prof. Harrison.
Fort Garry, Manitoba	28.85	732.8	29.70	754.4	27.5	— 2.5	74	W	10	4.5	.....	5k	5n	W	.....	0.01	0.3	Cloudy.....	James Stewart.
Granton, Ontario	28.94	735.1	30.04	763.0	49	9.4	.....	S	.....	.....	1	1c	0	.....	.....	0	0	Clear.....	James Grant.
Halifax, N. S	30.31	769.9	30.44	773.2	27.1	— 2.7	89	NW	1	0.4	.....	Haze	Haze	.....	.....	0	0	Hazy	A. Allison, M. A.
Hamilton, Ontario	29.70	754.4	30.07	763.8	52.6	11.4	93	SW	.....	.....	1	0	0	.....	.....	0	0	Clear.....	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.74	755.4	30.08	764.0	49.1	9.5	85	S	20	8.9	.....	10cs	0	.....	.....	0	0	Cloudy.....	S. Woods, M. A.
Little Glace Bay, N. S	30.38	771.6	30.42	772.7	38.5	3.6	88	SW	2	0.9	.....	4c	0	SW	.....	0	0	Fair	C. H. Rigby.
Montreal, Quebec	29.91	759.7	30.12	765.0	39.8	4.3	77	S	12	5.4	.....	.....	10ks	.....	W	0.01	0.3	Overcast.....	C. H. McLeod, C. E.
Moose Factory, Ontario	29.65	753.1	29.68	753.9	40.3	4.6	94	W	.....	.....	4	.....	10	.....	.....	0.35	8.9	Cloudy.....	J. R. Nason.
Norwood	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. R. Mosley.
Peterboro, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. Jeffers, B. A.
Port Dover, Ontario	29.40	746.7	30.09	764.3	49.1	9.5	85	SW	7	3.1	.....	10k	0	SW	.....	0	0	Fair.....	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.42	747.3	30.07	763.8	49.1	9.5	96	SE	3	1.3	.....	2ck	0	SW	.....	0	0	Clear.....	M. Payne.
Quebec, Quebec	29.82	757.4	30.16	766.1	34.5	1.4	95	Calm	.....	.....	0	.....	Haze	.....	.....	0.02	0.5	Cloudy.....	Capt. Ashe, R. N.
Rockliffe, Ontario	29.53	750.0	30.00	762.0	41.5	5.3	91	SE	2	0.9	.....	.....	10s	.....	S	Inap.	Inap.	Light rain...	W. H. McIntyre.
St. Andrews, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Gove.
St. John, N. B	30.19	766.8	30.36	771.1	39	3.9	81	S	18	8.0	.....	.....	10n	.....	.....	0	0	Overcast..	G. Murdock, C. E.
Saugeen, Ontario	29.25	742.9	29.95	760.7	56.6	13.7	77	S	16	7.2	.....	9k	0	S	.....	0	0	Cloudy	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.75	730.2	30.02	762.5	51.1	10.6	91	SW	12	5.4	.....	1cs	2s	SW	.....	0	0	Fair.....	C. J. MacGregor, M. A.
Sydney, C. B	30.39	771.9	30.43	772.9	28.2	— 2.1	84	Calm	0	0	.....	5ck	1ks	NW	.....	0	0	Fair	T. C. Hill, C. E.
Toronto, Ontario	29.70	754.4	30.09	764.3	43.4	6.3	96	S	3	1.3	.....	5ck	Fog	W	.....	0	0	Fair.....	Magnetic Observatory.
Windsor, N. S	30.30	769.6	30.40	772.1	24.0	— 4.4	87	W	2	0.9	.....	0	2cs	.....	.....	0	0	Fine.....	Prof. John E. Oram.
Woodstock, Ontario	28.97	735.8	30.04	763.0	49.7	9.8	92	SE	23	10.3	.....	0	1ks	.....	.....	0	0	Clear.....	Prof. J. Montgomery.
Yarmouth, N. S	30.35	770.9	30.42	772.7	33.7	0.9	72	SE	.....	.....	1	9k	0	W	.....	0	0	Cloudy	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	30.29	769.4	30.55	776.0	29.0	— 1.7	78	Calm	.....	.....	.....	.....	10	.....	.....	0	0	Overcast.....	John Delany.
St. Pierre, N. F	.....	.....	30.33	770.3	35.6	2	.....	SE	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	l'Hopital Maritime.
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10, except Yarmouth and St. Johns on scale 0 to 20. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

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

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	30.11	764.8	30.35	770.9	40	4.4	73	S	8	3.6	.....	5k	2s	W	Calm	0	0	Fair	
Alpena, Michigan	29.25	742.9	29.89	759.2	47	8.3	92	S	4	1.8	.....	.....	8s	.....	SW	0	0	Cloudy	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	29.03	737.3	30.17	766.3	59	15.0	97	E	7	3.1	.....	.....	Fog	.....	Calm	0.02	0.5	Foggy	
Atlantic City, New Jersey	30.14	773.2	30.45	773.4	44	6.7	100	Calm	0	0	.....	10k	Fog	NW	Calm	0	0	Cloudy	
Augusta, Georgia	30.06	763.5	30.26	768.6	67	19.4	69	Calm	0	0	.....	2k	8s	S	Calm	0	0	Cloudy	
Baltimore, Maryland	30.39	771.9	30.44	773.2	44	6.7	92	S	4	1.8	.....	.....	10s; fg	.....	Calm	0	0	Cloudy	
Barnegat, New Jersey	30.42	772.7	30.44	773.2	40	4.4	100	NE	2	0.9	.....	.....	10ks;s	.....	W	0	0	Cloudy	
Bismarck, Dakota	27.96	710.2	29.82	757.4	29	— 1.7	89	NW	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Boerne, Texas	28.32	719.3	29.58	751.3	67	19.4	89	S	8	3.6	.....	0	5ks	.....	S	0	0	Cloudy	
Boise City, Idaho	27.00	685.8	29.96	761.0	34	1.1	70	SE	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Boston, Massachusetts	30.23	767.8	30.39	771.9	40	4.4	82	S	8	3.6	.....	2c	Haze	Calm	Calm	0.02	0.5	Fair	
Brackettville, Texas	28.57	725.7	29.58	751.3	68	20.0	95	E	8	3.6	.....	.....	10ks	.....	SE	0	0	Cloudy	
Breckenridge, Minnesota	28.74	730.0	29.76	755.9	29	— 1.7	67	W	6	2.7	.....	0	8s	.....	Calm	0	0	Cloudy	
Brownsville, Texas	29.72	754.9	29.77	756.1	78	25.6	82	S	20	8.9	.....	.....	10s	.....	S	0	0	Cloudy	
Buffalo, New York	29.39	746.5	30.08	764.0	54	12.2	61	S	15	6.7	.....	5ck	2s; hz	SW	SW; Calm	0	0	Fair	
Burkes, Arizona	.....	.....	.....	.....	41	5.0	49	W	.....	.....	1	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.91	759.7	30.21	767.3	41	5.0	65	S	26	11.6	.....	5ck	5ks	W	W	0	0	Cloudy	
Cairo, Illinois	29.61	752.1	29.99	761.7	62	16.7	77	S	16	7.2	.....	.....	10s	.....	S	0	0	Cloudy	
Campo, California	27.34	694.4	29.91	759.7	25	— 3.9	87	SW	3	1.3	.....	2ck	0	Calm	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.37	771.4	30.37	771.4	64	17.8	83	E	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Cape Henry, Virginia	30.38	771.6	30.40	772.1	57	13.9	81	SE	10	4.5	.....	0	Haze	.....	Calm	0	0	Clear	
Cape Lookout, N. Carolina	30.33	770.4	30.34	770.6	64	17.8	89	E	14	6.3	.....	Haze	Haze	Calm	Calm	0	0	Dense haze	
Cape May, New Jersey	30.41	772.4	30.44	773.2	50	10.0	71	SE	.....	.....	.....	5k	0	SE	.....	0	0	Fair	
Castroville, Texas	28.97	735.8	29.64	752.8	70	21.1	80	SE	12	5.4	.....	.....	10s	.....	SE	0	0	Cloudy	
Cedar Keys, Florida	30.11	764.8	.....	.....	.....	.....	.....	E	.....	.....	2	0	5s	.....	SE	0	0	Fair	
Charleston, South Carolina	30.18	766.6	30.24	768.1	65	18.3	84	E	6	2.7	.....	0	0	.....	.....	0.05	1.3	Clear	
Charlotte, North Carolina	29.44	747.8	30.26	768.6	57	13.9	94	E	6	2.7	.....	.....	10s; fg	.....	E; Calm	0	0	Cloudy	
Chattanooga, Tennessee	29.35	745.5	30.15	765.8	62	16.7	83	Calm	0	0	.....	.....	10s	.....	S	Inap.	Inap.	Cloudy	
Cheyenne, Wyoming	23.86	606.0	29.80	756.9	21	— 6.1	86	NW	6	2.7	.....	5k	5s	NW	NW	0.13	3.3	Cloudy	
Chicago, Illinois	29.14	740.1	29.81	757.2	59	15.0	65	S	8	3.6	.....	.....	10s	.....	S	0	0	Cloudy	
Cincinnati, Ohio	29.46	748.3	30.11	764.8	58	14.4	70	SE	6	2.7	.....	2k	5ks	SW	SW	0	0	Fair	
Cleveland, Ohio	29.37	746.0	30.09	764.3	56	13.3	69	SE	9	4.0	.....	8k	0	SW	.....	0	0	Clearing	
Coleman City, Texas	27.88	708.1	29.46	748.3	66	16.9	79	S	12	5.4	.....	0	5s	.....	SW	0	0	Fair	
Columbus, Ohio	29.27	743.4	30.10	764.5	56	13.3	69	S	6	2.7	.....	8k	Sm'e	S	Calm	0	0	Fair	
Concho, Texas	27.84	707.1	29.45	748.0	62	16.7	83	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.32	744.7	29.76	755.9	72	22.2	76	S	12	5.4	.....	.....	10ks	.....	S	0	0	Threatening	
Davenport, Iowa	29.08	738.6	29.69	754.1	57	13.9	87	S	13	5.8	.....	0	2s	.....	S	Inap.	Inap.	Fair	
Deadwood, Dakota	25.20	640.1	.....	.....	27	— 2.8	76	Calm	0	0	.....	2c	0	W	.....	0	0	Fair	
Decatur, Texas	28.50	723.9	29.60	751.8	75	23.9	68	S	40	17.9	.....	2k	0	SW	.....	0	0	Fair	
Denison, Texas	28.88	733.5	29.64	752.8	69	20.6	80	S	16	7.2	.....	.....	10ks	.....	SW	0	0	Cloudy	
Denver, Colorado	24.64	625.8	29.86	758.4	31	— 0.6	69	N	4	1.8	.....	5ck	5s	Calm	.....	0	0	Cloudy	
Des Moines, Iowa	28.73	729.7	29.58	751.3	52	11.1	93	N	8	3.6	.....	.....	10n	.....	N	0.10	2.5	Light rain	
Detroit, Michigan	29.33	745.0	29.99	761.7	55	12.8	81	SW	6	2.7	.....	.....	10s	.....	SW	0	0	Cloudy	
Dodge City, Kansas	26.98	685.3	29.23	742.4	41	5.0	49	NE	26	11.6	.....	0	8ks	.....	NW	0	0	Cloudy	
Dubuque, Iowa	29.09	736.6	29.67	753.6	58	14.4	88	SE	2	0.9	.....	.....	10s	.....	Calm	0.04	1.0	Cloudy	
Duluth, Minnesota	29.05	738.1	29.74	755.4	37	2.8	71	SW	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Eagle Pass, Texas	28.99	736.3	29.68	753.9	74	23.3	63	SE	4	1.8	.....	.....	10s	.....	SE	0	0	Cloudy	
Eastport, Maine	30.28	769.1	30.34	770.6	42	5.6	78	SW	12	5.4	.....	.....	10s	.....	SW	0	0	Cloudy	
Edinburg, Texas	.....	.....	.....	.....	73	22.8	81	E	.....	.....	1	0	0	.....	.....	0	0	Clear	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.40	746.7	30.11	764.8	53	11.7	67	S	12	5.4	.....	10ck	0	W	.....	0	0	Cloudy	
Escanaba, Michigan	29.16	740.7	29.81	757.2	43	6.1	83	NW	2	0.9	.....	.....	10s	.....	NW	0	0	Cloudy	
Florence, Arizona	28.36	720.3	29.96	761.0	47	8.3	48	Calm	0	0	.....	0	2ks	.....	Calm	0	0	Fair	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.77	705.4	29.66	753.4	27	— 2.8	100	NW	15	6.7	.....	.....	10n	.....	NW	0.18	4.6	Light snow	
Fort Custer, Montana	26.50	673.1	.....	.....	21	— 6.1	71	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.01	635.2	29.97	761.2	50	10.0	79	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.12	739.6	29.63	752.6	69	20.6	75	SE	16	7.2	.....	.....	10s	.....	S	0	0	Cloudy	
Fort Griffin, Texas	25.06	636.5	29.86	758.4	42	5.6	36	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	28.36	720.3	29.56	750.8	69	20.6	90	S	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	27.28	692.9	.....	.....	27	— 2.8	65	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	27.53	699.2	29.37	746.0	64	17.8	89	SW	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Stevenson, Dakota	28.32	719.3	29.36	745.7	69	20.6	75	S	31	15.2	.....	.....	10s	.....	S	0	0	Threatening	
Fort Verde, Arizona	27.92	709.2	.....	.....	27	— 2.8	88	W	9	4.0	.....	5c	0	W	.....	0	0	Fair	
Fort Yates, Dakota	.....	.....	.....	.....	37	2.8	81	NW	.....	.....	1	.....	10s	.....	NW	0	0	Cloudy	
Fredericksburg, Texas	27.95	709.9	29.44	747.8	65	18.3	84	S	12	5.4	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Galveston, Texas	29.83	757.7	29.87	758.7	71	21.7	90	SE	7	3.1	.....	0	5ks	.....	S	0	0	Fair	
Graham, Texas	28.54	724.9	29.53	750.0	69	20.6	80	S	8	3.6	.....	.....	10s	.....	SW	0	0	Cloudy	
Grand Haven, Michigan	29.25	742.9	29.89	759.2	58	14.4	76	S	23	10.3	.....	0	5ks	.....	SW	0	0	Fair	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Indianapolis, Indiana	29.21	741.9	29.98	761.5	58	14.4	76	SE	6	2.7	.....	.....	10ks	.....	S	0	0	Cloudy	
Indianola, Texas	29.79	756.7	29.82	757.4	74	23.3	90	S	14	6.3	.....	.....	10s	.....	S	0	0	Threatening	
Jacksboro, Texas	28.50	723.9	29.57	751.1	69	20.6	61	SE	16	7.2	.....	0	5s	.....	S	0	0	Fair	
Jacksonville, Florida	30.11	764.8	30.14	765.5	68	20.0	90	NE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Keokuk, Iowa	29.05	737.9	29.64	752.8	60	15.6	88	S	14	6.3	.....	5cs	2ks	Calm	S	0	0	Fair	
Key West, Florida	29.99	761.7	30.02	762.5	74	23.3	90	NE	11	4.9	.....	0	0	.....	.....	0.17	4.3	Clear	
Kittyhawk, North Carolina	30.38	771.6	30.41	772.4	60	15.6	88	E	7	3.1	.....	0	Haze	.....	Calm	0	0	Clear	
Knoxville, Tennessee	29.20	741.7	30.20	767.1	57.5	14.2	70	E	1	0.4	.....	.....	10ks	.....	SW	0	0	Smoky	
La Crosse, Wisconsin	28.99	736.3	29.71	754.6	45	7.2	84	N	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
La Mesilla, New Mexico	25.92	658.4	30.05	763.5	40	4.4	31	Calm	0	0	.....	8c	0	Calm	.....	0	0	Cloudy	
Laredo, Texas	29.53	750.0	29.87	758.7	65	18.3	73	SW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	28.70	729.0	29.49	749.0	65	18.3	78	S	19	8.5	.....	.....	10ks	.....	SW	0	0	Cloudy	
Little Rock, Arkansas	29.56	750.8	29.90	759.4	65	18.3	89	SE	8	3.6	.....	.....	10s	.....	SW	0	0	Cloudy	
Los Angeles, California	29.59	751.6	29.93	760.2	48.5	9.2	50	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.53	750.0	30.08	764.0	58	14.4	76	SE	4	1.8	.....	2k	2s	S	S	0	0	Fair	
Lynchburg, Virginia	29.70	754.4	30.40	772.1	50	10.0	85	SE	1	0.4	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy	
Madison, Wisconsin	28.74	730.0	29.69	754.1	58	14.4	88	S	9	4.0	.....	0	10s	.....	Calm	0.03	0.8	Cloudy	
Marquette, Michigan	29.09	738.9	29.79	756.7	44	6.7	76	W	4	1.8	.....	.....	10s	.....	W	0	0	Cloudy	
Mason, Texas	28.11	714.0	29.79	756.7	68	20.0	84	SW	7	3.1	.....	.....	10s	.....	SW	0	0	Cloudy	
Memphis, Tennessee	29.65	753.1	29.99	761.7	61	16.1	88	SE	5	2.2	.....	.....	10s	.....	SE	0	0	Cloudy	
Milwaukee, Wisconsin	29.05	737.9	29.75	755.6	57	13.9	87	S	18	8.0	.....	.....	10s	.....	SW	0	0	Cloudy	
Mobile, Alabama	30.03	762.7	30.07	763.8	65	18.3	97	E	4	1.8	.....	0	5s	.....	S	0.40	10.2	Fair	
Montgomery, Alabama	29.93	760.2	30.16	766.1	61	16.1	94	E	9	4.0	.....	.....	10s	.....	Calm	0	0	Cloudy	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Morgantown, West Virginia	29.23	742.4	30.21	767.3	58	14.4	70	Calm	0	0	.....	.....	10ks	.....	SW	0	0	Cloudy.....	
Mt. Washington, N. H.	28.89	606.8	30.25	768.3	31	— 0.6	79	NW	48	21.5	.....	.....	10s	.....	NW	0	0	Cloudy.....	
Nashville, Tennessee	29.55	750.6	30.09	764.3	57	13.9	87	Calm	0	0	.....	0	1s	.....	SE	0	0	Clear	
New Haven, Connecticut	30.32	770.1	30.44	773.2	38	3.3	91	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
New London, Connecticut	30.38	771.6	30.44	773.2	37	2.8	81	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Clear.....	
New Orleans, Louisiana	29.95	760.7	30.01	762.2	66	18.9	89	SE	6	2.7	.....	8ks	Hz;sm	S	SE	0	6	Fair.....	
Newport, Rhode Island	30.38	771.6	30.43	772.9	43	6.1	83	NE	4	1.8	.....	Sm'e	Sm'e	.....	.....	0	0	Smoky.....	
New York, New York	30.28	769.1	30.46	773.7	41	5.0	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Norfolk, Virginia	30.35	770.9	30.41	772.4	52	11.1	86	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
North Platte, Nebraska	26.92	683.8	29.52	749.8	37	2.8	45	NW	17	7.6	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Olympia, Washington Ter.	29.65	753.1	29.69	754.1	37.0	2.8	95	NW	2	0.9	.....	.....	10n	.....	Calm	0.31	7.9	Light rain...	
Omaha, Nebraska	28.52	724.4	29.61	752.1	42	5.6	83	N	15	6.7	.....	.....	10n	.....	Calm	0.15	3.8	Light rain..	
Oswego, New York	29.84	757.9	30.17	766.3	49	9.4	78	S	12	5.4	.....	.....	10s	.....	W	0	0	Cloudy.....	
Pembina, Dakota	28.82	732.0	29.67	753.6	28	— 2.2	88	NW	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy	
Pensacola, Florida	30.10	764.5	30.12	765.0	66	18.9	95	E	.....	.....	1	.....	10ks	.....	SE	Blank	Blank	Cloudy.....	
Philadelphia, Pennsylvania	30.40	772.1	30.45	773.4	43	6.1	83	NE	3	1.3	.....	5k	5s;fg	NW	Calm	0	0	Cloudy.....	
Phœnix, Arizona	28.70	729.0	30.52	775.2	47	8.3	48	W	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Pike's Peak, Colorado	17.40	442.0	29.61	752.1	7	—13.9	54	S	12	5.4	.....	.....	Fog	.....	.....	0.09	2.3	Foggy	
Pilot Point, Texas	28.92	734.6	29.69	754.1	69	20.6	79	SE	20	8.9	.....	2k	8s	SE	S	0	0	Cloudy.....	
Pioche, Nevada	.....	.....	.....	.....	28	— 2.2	66	E	4	1.8	.....	.....	10n	.....	Calm	Inap.	Inap.	Light snow.	
Pittsburg, Pennsylvania	29.38	746.2	30.20	767.1	53	11.7	73	SW	3	1.3	.....	.....	10s	.....	W	0	0	Cloudy.....	
Port Huron, Michigan	29.33	745.0	29.98	761.5	54	12.2	80	S	12	5.4	.....	.....	10ks	.....	SW	0	0	Cloudy, ...	
Portland, Maine	30.31	769.9	30.36	771.1	37	2.8	90	W	8	3.6	.....	0	Fog	.....	.....	0	0	Clear	
Portland, Oregon	29.68	753.9	29.75	755.6	41.0	5.0	91	SE	2	0.9	.....	.....	10n	.....	S	0.30	7.6	Light rain...	
Portsmouth, N. Hampshire	.....	.....	.....	.....	63	17.2	89	NE	9	4.0	.....	0	0	.....	.....	0	0	Clear.....	
Prescott, Arizona	24.55	623.6	29.91	759.7	33	0.6	51	W	.....	.....	1	5k	5s	W	W	0	0	Cloudy.....	
Punta Rassa, Florida	30.04	763.0	30.05	763.3	70	21.1	85	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Red Bluff, California	29.60	751.8	29.96	761.0	48	8.9	70	SE	12	5.4	.....	.....	10s	.....	S	0.06	1.5	Cloudy.....	
Rio Grande City, Texas	29.56	750.8	29.76	755.9	67	19.4	89	S	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Rochester, New York	29.52	749.8	30.13	765.3	53	11.7	73	SW	10	4.5	.....	.....	9ks	.....	SW	0	0	Cloudy	
Roseburg, Oregon	29.28	743.7	29.86	758.4	39	3.9	91	NW	2	0.9	.....	.....	10n	.....	W	0.86	9.1	Light rain...	
Sacramento, California	29.90	759.4	29.98	761.5	46.5	8.1	89	SE	7	3.1	.....	.....	10n	.....	Calm	0.26	6.6	Light rain...	
St. Louis, Missouri	29.31	744.5	29.87	758.7	60	15.6	82	SE	17	7.6	.....	.....	10s	.....	S	0	0	Cloudy.....	
St. Paul, Minnesota	28.88	733.5	29.70	754.4	39	3.9	55	Calm	0	0	.....	.....	10ks	.....	SW	0	0	Cloudy..	
Salt Lake City, Utah	25.48	647.2	29.81	757.2	30	— 1.1	47	SE	1	0.4	.....	5cs	0	Calm	.....	Inap	Inap.	Fair.....	
San Antonio, Texas	29.05	737.9	29.60	751.8	74	23.3	72	SE	8	3.6	.....	.....	10ks	.....	SE	0	0	Threatening	
San Diego, California	29.89	759.2	29.96	761.0	50	10.0	65	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Sandusky, Ohio	29.40	746.7	30.06	763.5	58	14.4	76	S	12	5.4	.....	5k	5ks	SW	SW	0	0	Cloudy.....	
Sandy Hook, New Jersey	30.42	772.7	30.45	773.4	45	7.2	84	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Clear.....	
San Francisco, California	29.90	759.4	29.96	761.0	53	11.7	80	S	6	2.7	.....	.....	10s	.....	S	0.06	1.5	Cloudy.....	
Santa Fé, New Mexico	23.04	585.2	29.58	751.3	33	0.6	61	E	6	2.7	.....	0	1s	.....	E	0.06	1.5	Clear..	
Savannah, Georgia	30.14	765.5	30.23	767.8	62	16.7	94	E	1	0.4	.....	8ck	0	S	.....	0.07	1.8	Fair.....	
Shreveport, Louisiana	29.62	752.3	29.83	757.7	68	20.0	95	SE	8	3.6	.....	.....	10n	.....	Calm	0.03	0.8	Light rain...	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.32	770.1	30.35	770.9	62	16.7	94	NE	8	3.6	.....	1k	5ks	Calm	S	0	0	Cloudy.....	
Socorro, New Mexico	25.22	640.6	29.28	743.7	47	8.3	21	N	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois	29.16	740.7	29.82	757.4	57.5	14.2	87	S	17	7.6	.....	8c;cs;k	0	W;SW	.....	0	0	Fair..	
Springfield, Massachusetts	30.29	769.4	30.43	772.9	29	— 1.7	89	Calm	0	0	.....	.....	Fog	.....	.....	0	0	Foggy	
Stockton, Texas	26.88	682.7	29.88	758.9	66	18.9	23	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Thatcher's Island, Mass	30.32	770.1	30.37	771.4	51	10.6	93	SW	20	8.9	.....	0	0	.....	.....	0	0	Clear.....	
Toledo, Ohio	29.33	745.0	30.00	762.0	58	14.4	82	S	8	3.6	.....	10cs	0	SW	.....	0	0	Clear	
Tucson, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon	29.48	748.8	29.98	761.5	35.0	1.7	80	N	9	4.0	.....	Haze	2s	Calm	Calm	0	0	Fair.....	
Uvalde, Texas	28.89	733.8	29.68	753.9	71	21.7	80	E	2	0.9	.....	.....	10s	.....	SE	0	0	Cloudy.	
Vicksburg, Mississippi	29.77	756.1	30.03	762.7	59	15.0	100	S	4	1.8	.....	.....	10s	.....	S	0	0	Cloudy.....	
Virginia City, Montana	24.04	610.6	29.52	749.8	11	—11.7	60	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Visalia, California	29.55	750.6	29.93	760.2	47	8.3	62	E	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Washington, D. C.	30.31	769.9	30.43	772.9	42	5.6	91	E	1	0.4	.....	.....	10s;fg	.....	SW; Calm	0	0	Cloudy.....	
Wickenburg, Arizona	.....	.....	.....	.....	43	6.1	51	SW	.....	.....	1	5cs	0	W	.....	0	0	Fair	
Wilmington, North Carolina	30.24	768.1	30.32	770.1	59	15.0	88	NE	3	1.3	.....	5k	2s	NE	Calm	0	0	Fair	
Winnemucca, Nevada	25.45	646.4	29.81	757.2	28	— 2.2	88	NW	1	0.4	.....	.....	10n	.....	Calm	0.03	0.8	Light snow..	
Wood's Holl, Massachusetts	30.39	771.9	30.43	772.9	45	7.2	76	NW	2	0.9	.....	Haze	5s	.....	Calm	0.01	0.3	Clear?.....	
Yankton, Dakota	28.52	724.4	29.81	757.2	41	5.0	41	N	16	7.2	.....	.....	10s	.....	N	0	0	Cloudy	
Yuma, Arizona	29.72	754.9	29.89	759.2	48	8.9	63	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
SUB-SERIES.																			
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	29.91	759.7	29.96	761.0	77	25.0	82	Calm	0	0	.....	0	4ks	.....	NE	0	0	Cloudy.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.11	764.8	30.12	765.0	77	25.0	87	N	4	1.8	.....	8c	2cs	N	.....	0	0	Fair.....	James Gall.
Medellin, Colombia, S. A.*	25.18	639.6	.....	.....	65.5	18.6	82	Calm	.....	.....	0	2k	3ks	.....	.....	0	0	.....	Thomas Herran.
Navassa, W. I.	29.86	758.4	29.94	760.5	82	27.8	.....	NE	7	3.1	.....	8s	5k	NE	NE	0.15	3.8	Cloudy.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.97	761.2	29.97	761.2	83	28.3	75	SE	.....	.....	2	3c	4k	E	.....	0	0	Fair	C. J. Hering.
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	30.08	764.0	30.14	765.5	17.0	— 8.3	92	N	11	4.9	.....	0	0	.....	.....	0	0	Clear.....	J. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Medellin, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,8-6.2 m.; Coleman City, 1,7.7 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,396 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4,800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.53 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 m., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm. *The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

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

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

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.09‡	764.3‡	.....	.....	67	19.4	95	SE	3	1 .3	.....	.....	10	.....	SE	0	0	.....	.....	Threatening	
Navy Yard, Portsmouth, N.H	30.14‡	765.5‡	.....	.....	32	0.0	.....	SW	2	0.9	.....	.....	2	.....	.....	0	0	.....	.....	Clear	
Naval Hospital, Yokohama, Japan	29.94‡	760.5‡	.....	.....	54	12 2	61	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	.....	Clear	
Adams, Mare I'd., Navy Yard, Cal.	30.03‡	762.7‡	.....	.....	54	12.2	93	SE	.....	.....	1	.....	10	.....	SE	.....	.....	.....	.....	Cloudy	
Alaska, S. 18° 41′, W. 70° 27.′..*	29.99‡	761.7‡	.....	.....	63	17 2	83	SE	.....	.....	2	.....	8	.....	NNW	.....	.....	Long	SE	Hazy	
Alliance, N. 25° 43′, W. 24° 53′	30.02‡	762.5‡	.....	.....	74	23.3	81	WNW	.....	.....	2	.....	6	.....	WNW	.....	.....	Smooth	NW	D. clouds	
Colorado, New York, . Y.	30.23‡	767.8‡	.....	.....	40	4.4	96	Calm	0	0	.....	.....	1	.....	Calm	0	0	.....	.....	Foggy	
Constitution, Navy Yard, Norfolk, Va.	30.46‡	773.7‡	.....	.....	52	11.1	100	SE	1	0.4	.....	.....	1	.....	Calm	.....	.....	.....	.....	Clear	
Enterprise, N. 30° 12′, E. 15° 28′?	29.93‡	760.2‡	.....	.....	62	16.7	88	W	.....	.....	6	.....	9	.....	NNW	.....	.....	Mod'ate	.....	Cloudy	
Franklin, Off Navy Yard, Norfolk, Va.	30.39‡	771.9‡	.....	.....	54	12.2	87	ENE	2	0.9	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Hartford. N. 28° 10′, W. 69° 38′	30.23‡	767.8‡	.....	.....	75	23.9	64	NE	....	.....	6	.. ..	10	.....	NE	0	0	Mod'ate	NE	Cloudy	
Independence, Mare I'd, Navy Yard, Cal.	29.94‡	760.5‡	.....	.....	58	14.4	82	SE	3.6	1.6	.....	.....	3?	.....	E	0.6	15.	.....	.....	Rainy	
Kearsage, Norfolk, Va	30.14‡	765.5‡	.....	.....	54	12.2	93	S	.....	.....	0–1	.....	8?	.....	NE	0	0	.....	.....	Clear	
Lackawana, N. 17° 57′ E. 178° 00′...†	29.99‡	761.7‡	.....	.....	79	26.1	82	ENE	.....	.....	3	.....	8	.....	ENE	.....	.....	Mod'ate	ENE	Fair	
Marion, Off Norfolk, Va.	30.41‡	772.4‡	.....	.....	56	13.3	100	ESE	.....	.....	1	.....	1	.....	SE	.....	.....	Smooth	.....	Clear	
Michigan, Erie, Pa.	30.05‡	763.3‡	.....	.....	55	12.8	68	S	.....	.....	6	.....	10	.....	WSW	.....	.....	.....	.....	Cloudy	
Monocacy, Shanghai, China..	30.27‡	768.8‡	.....	.....	56	13.3	94	NW	.....	.....	1	.....	10	.....	NE	.....	.....	.....	.....	Raining	
New Hampshire, Port Royal, S. C.	30.25‡	768.3‡	.....	.....	77	25.0	91	SE	9	4.0	.....	.....	2	.....	SE	0	0	.....	.....	Fair	
Onward, Callao, Peru †.	29.93‡	760.2‡	.....	.....	64	1.78	83	SSW	.....	.....	1	.....	10	.....	.....	.....	.....	Long	W	Misty	
Palos, Woosung, China	30.30‡	769.6‡	.....	.....	56	13.3	100	NNW	.....	.....	2–3	.....	10?	.....	.....	.....	.....	.....	.....	Clear?	
Passaic, Washington, D. C.	30.42‡	772.7‡	.....	.....	45	7.2	76	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	.....	Cloudy	
Pensacola, Callao, Peru	29.92‡	760.0‡	.....	.....	64	17.8	83	S	.....	.....	0–1	.....	10	.....	.....	.....	.....	Smooth	.....	Overcast	
Portsmouth, Hampton Roads, Va.	30.42‡	772.7‡	.....	.....	54	12.2	93	ESE	.....	.....	1	.....	2	.....	.....	0	0	Smooth	.....	Misty	
Powhatan, Norfolk, Va	30.39‡	771.9‡	.....	.....	56	13.3	87	Calm	.....	.....	0	.....	2	.....	.....	0	0	.....	.....	Hazy	
Quinnebaug, Leghorn, Italy	30.39‡	771.9‡	.....	.....	57	13.9	47	E	.....	.....	3	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Ranger, N. 36° 45′, E. 146° 30′	29.74‡	755.4‡	.....	.....	66	18.9	79	WNW	.....	.....	6	.....	8	.....	NW	.....	.....	Mod'ate	NW	Cloudy	
Richmond, Shanghai, China	30.28‡	769.1‡	.....	.....	57	13.9	100	NNW	.....	.....	3	.....	10	.....	NW	0.3	8.	Smooth	.....	Rainy	
Rio Bravo, Brownsville, Texas... †	29.87‡	758.7‡	.....	.....	74	23 3	100	SSE	6	2.7	.....	.....	10	.....	SSE	0	0	.....	.....	Cloudy	
Santee, Annapolis, Md	30.43‡	772.9‡	.....	.....	47	8.3	92	W	.....	.....	1	.....	10	.....	Calm	0	0	.....	.....	Cloudy	
Shenandoah, N. 13° 30′, W. 32° —′	29.99‡	761.7‡	.....	.....	80	26.7	74	E	.....	.....	4	.....	5	.....	.....	.....	.....	Smooth	.....	Fair	
St. Louis, League Island, Pa.	30.36‡	771.1‡	.....	.....	39	3.9	91	NE	2	0.9	.. ...	.....	10	.....	W	0	0	.....	.....	Foggy	
Trenton, Villafranca, France	30.46‡	773.7‡	.....	.....	64	17.8	58	SSW	.....	.....	1	.....	2	.....	SSW	0	0	Smooth	.....	Fair	
Tuscarora, Sacrificios, Mexico	29.87‡	758.7‡	.....	.....	77	25.0	91	NNE	.....	.....	2	.....	0	.....	.....	0	0	Long	N	Clear	
Vandalia, N. 23° 40′, W. 87°? —′	30.03‡	762.7‡	.....	.....	80	26.7	91	E	.....	.....	3	.....	2	.....	E	.....	.....	Mod'ate	E	Clear	
Wabash, Boston, Mass.	30.40‡	772.1‡	.....	.....	35	1.7	82	SE	12	5.4	.....	.....	2	.....	.....	0	0	.....	.....	Foggy	
Wachusett, N. 13° —′, W 33° —′	30.07‡	763.8‡	.....	.....	80	26.7	87	ENE	.....	.....	3	.....	10?	.....	NE	.....	.....	Long	ENE	Fair?	
Wyoming, Algiers, Algeria	30.39‡	771.9‡	.....	.....	64	17.8	68	ENE	.....	.....	1	.....	2	.....	E	.....	.....	Smooth	E	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather by the Beautort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

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

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S. S. Samaria																			Capt. T. Roberts.
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitebury.
S. S. Costa Rica																			W. House & R. Lawless.
S. S. Dakota, Capt. H. G. Morse																			Capt. Connolly.
S. S. Georgia																			F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin																			Capt. A. Fuller.
S. S. Wilmington																			
S. S. Zealandia, N. 39° 06′, W. 164° 20′		29.84‡	757.9‡				S			3				NE		Light	SE	Clear	R. C. Ghest, 1st Officer.
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer N. 30° 57′, W. 172° 06′		29.94‡	760.5‡	71	21.7	66	WNW			5		5		NW		Irregular.		D. clouds	D. A. Joyce, 2nd Officer
S. S. Gaelic, Capt. Davidson N. 45° 36′, E. 177° 20′ §†		30.25‡	768.3‡	42	5.6		Var.			2		k		E	0	Mod'ate	NE	D. clouds	J. A. Thompson, C. O. J. G. Cameron.
S. S. Oceanic, Capt. J. Metcalf																			
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Pfeiffer, N. 49° 53′, W. 5° 45′		30.54‡	775.7‡				S			3		10		S	0	Mod'ate	S	Sprinkling	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 48° 34′, W. 35° 23′		30.28‡	769.1‡				NNE			4		2		N		4	NNE	Fair	Capt. G. Meyer.

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

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

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

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

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

UNITED STATES MARINE SERIES—CONTINUED.

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

NAMES OF VESSELS.	TRUE COURSE TOWARD.	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.			CHARACTER.	DIRECTION FROM—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0–10.	Up'er 0–10.	Lo'er 0–10.	Upper. From—	Lower. From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Mersey River, Eng		30.50‡	774.7‡	53	11.7	100	WNW			2	3		NW	0			Clear		Capt. R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.

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

RED STAR LINE MARINE SERIES.

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

Belgenland, N. 50° 12′, W. 20° 04′		29.88‡	758.9‡	58	14.4		SSW	40	17.9		10		SSW	12h'rs	Mod'ate	S	Rainy		Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

NOTE.—The originals give the barometer as read off; do not distinguish between upper and lower clouds; sea-swell in general terms, as published. ‡Corrections for temperature, instrumental error and elevation applied at this office.

ALLAN LINE MARINE SERIES.

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

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

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

MARINE SERIES—Miscellaneous.

Furnished by the co-operation of the Observers named.

Schooner Addie Fuller, Charleston, S. C		30.26‡	768.6‡	66	18.9	68	ESE				2k			0			Clear		Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax," N. 26° 25′, W. 67° 25′ †		30.10‡	764.5‡	75	23.9		ENE			5		2		ENE	0	Rough	E	Clear	N. B. Foss.
Schooner Harry and Fred																			Capt. George Gardner.
Haytian																			
§ Iron Cross																			Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

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

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

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

Albert J. Myer

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

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

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

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

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

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

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

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

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 9, 1879.

7:35 A. M. WASHINGTON Mean Time.

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

ALGERIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.25	768.3	68.2	20.1	81	W			1		5			0	0	Cloudy	
Nemours			30.32	770.2	68.0	20.0	74	WNW			1		0			0	0	Clear	Kesxuche.
Algiers			30.37	771.3	64.4	18.0	68	ENE			2		0			0	0	Clear	Tourillere.
La Calle			30.30	769.6	62.8	17.1	65	NNE			4		5			0.039	1.0	Cloudy	Foufrede.
Tunis																0.764	19.4		Jacques.
Sfax			30.23	767.9												0	0		Gau.
Saida																0	0		Herbin.
Tebessa			30.31	769.9	51.1	10.6	58	N			4		8			0	0	Very cloudy	Watrin.
Geriville					50.4	10.2	52	NE			1		0			0	0	Clear	Brugniuax.
Laghouat			30.18	766.5	58.6	14.8	57	NE			1		0					Clear	Bertrand.
Biskra			30.26	768.6	70.5	21.4	62	NE			4		2					Fair	Chanvaux.

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

AUSTRO-HUNGARIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	30.00	762.1	30.06	778.7	43.7	6.5	70	S			1		10			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.82	757.3	30.61	777.6	45.0	7.2	89	WSW	2.2	1.0			10			0.008	0.2		Prof. Dr. Karlinski, Dir.
Eperies	29.63	752.6	30.54	775.8	42.4	5.8	93	Calm			0		1cs			0	0		Julius Mikolik.
Gratz	29.28	743.8	30.59	776.9	45.0	7.2	74	S			2		3			0	0		Andreas Rospini.
Hermannstadt	29.10	739.2	30.09	777.2	41.2	5.1	68	E			1		1			0	0		Prof. A. Gottschling.
Kremsmünster	29.11	739.3	30.50	774.6	44.1	6.7	78	ENE			3		0			0	0		Prof. C. Wagner.
Lemberg	29.46	748.3	30.48	774.2	45.1	7.3	89	NW			2		10			Inap.	Inap.		Dr. T. Stanecki.
Pola	30.34	770.5	30.45	773.4	52.2	11.2	52	NE			3		0			0	0		I.R. Hydrographic Office.
Szathmar	30.15	765.7	30.63	778.1	42.8	6.0	70	E			2		10			0	0		Pet. Panesics.
Szegedin	30.29	769.3	30.58	776.7	45.0	7.2	80	Calm			0		10			0	0		Karl Stancel.
Trieste	30.37	771.3	30.47	773.0	51.4	10.8	46	ENE			2		0			0	0	Clear	P. Busin.
Vienna	29.83	757.6	30.58	776.6	47.8	8.8	72	E			1		3			0	0		I.R. Central Met. Ob'sy.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2:20, instead of 2:8 p. m., local time.

BELGIAN SERIES.

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

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

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

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

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

BRITISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.92	760.0	30.02	762.5	51.1	10.6	.....	SW	11	4.9	.....	.....	9	.....	.....	0.310	7.87	Gloomy	W. Boswell.
Ardrossan	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Wm.McNeil &G.Carrick
Armagh, (Observatory)	29.91	759.7	30.16	765.8	50.3	10.2	.....	SSW	14	6.3	.....	.....	.....	.....	.....	.....	.....	.....	S. Call.
Bidston (Liverpool Obs)	.....	.....	30.27	768.8	52.4	11.3	.....	SW	19	8.5	.....	.....	9	.....	.....	.....	.....	Overcast	John Hartnup.
Bolton (Sharples)	29.71	754.6	30.23	767.8	48.8	9.3	.....	SSW	.....	.....	6	.....	10	.....	.....	.....	.....	Gloomy	Thomas Mackereth.
Bradford, Yorkshire	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	J McLandsborough.
Bridgetown, Barbadoes	29.92	760 0	29.94	760.5	82	27.8	.....	NE	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	30.26	768.6	30.36	771.1	49.6	9.4	.....	S	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	H. Todd.
Cardington	.....	.....	30.35	770.9	50.0	10.0	.....	S	.....	.....	0–1	.....	10	.....	.....	.....	.....	Overcast	John McLaren.
Chatham (School M. E.)	30.26	768.6	30.39	771.9	49.1	9.5	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	J. Carmell, Sapper, R.E.
Donaghadee	30.10	764.5	30.15	765.8	51	10.6	.....	SSW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	J. Mac Gowan.
Dover	30.34	770.6	30.36	771.1	50	10.0	.....	SW	.....	.....	3	.....	7	.....	.....	.....	.....	¾ clouded	J. Costello.
Falmouth (Observatory)	30.08	764.0	30 32	770.1	53.0	11.7	.....	SSE	.....	.....	2	.....	9	.....	.....	.....	.....	Overcast	The Staff.
Fort Napier, Natal	27.62	701.5	29.85	758.2	67.0	19.4	.....	NW	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone§	29.72	754.9	29.94	760.5	87	30.6	.....	SW	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds	
Galway (Queen's College)	.....	.....	30.04	763.0	53	11.7	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Prof. A. H. Curtis.
Gibraltar, Mediterranean‖	30.12	765.0	30.18	766.6	64.2	17.9	.....	E	.....	.....	6	.....	5	.....	.....	.....	.....	D. clouds	Sergt.Wm. Allen, A. H.
Glasgow, (Observatory)	29.86	758.4	30.06	763.5	49.4	9.7	.....	SSW	.....	.....	6	.....	10	.....	.....	Blank	Blank	Overcast	D. G. Maclean. [C.
Great Yarmouth	30.37	771.4	30.38	771.6	49	9.4	.....	SW	.....	.....	1	.....	8	.....	.....	.....	.....	Misty	G. T. Watson.
Greenwich (Royal Obs'y)	30.19	766.8	30.37	771.4	49.6	9.8	.....	SSW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	The Staff, for G.B.Airy.
Guernsey	30.16	766.1	30.32	770.1	51.5	10.8	.....	ESE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds	Dr. S.E Hoskins, F.R.S.
Helston	30.44	773.2	30.56	776.2	55	12.8	.....	SE	.....	.....	2	.....	3k	.....	.....	0	0	Fair	M. P. Moyle.
Holyhead	30.17	766.3	30.21	767.3	53	11.7	.....	SW	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	John Tilston.
Jersey	30.08	764.0	30.36	771.6	52.6	11.4	.....	SE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	J. Fisher.
Kew (Observatory)	30.34	770.6	30.38	771.6	50.1	10.1	.....	SSW	11	4.9	.....	.....	10	.....	.....	.....	.....	Misty	The Met'g'l Office.
Leicester (Museum)	30.07	763.6	30.33	770.4	48.3	8.9	.....	SW	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.81	757.2	29.88	758.9	56	13.3	.....	NE	.....	.....	4	.....	8kn	.....	.....	.....	.....	Overcast	A. King.
Nairn	29.94	760.5	30.03	762.7	47	8.3	.....	NW	.....	.....	3	.....	10	.....	.....	.....	.....	Raining	W. D. Penny.
Nassau, Bahamas	.....	.....	30.11	764.8	78.0	25.6	.....	E	.....	.....	1	.....	6	.....	.....	Blank	Blank	D. clouds	C. S. Duncombe.
Nottingham (Observatory)	30.13	765.3	30.33	770.4	49.5	9.7	.....	SSW	.....	.....	3	.....	10kd	.....	SW	0	0	Overcast	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.78	756.4	30.32	770.1	47.1	8.4	.....	SSW	.....	.....	3	.....	10	.....	.....	.....	.....	Misty	Rev. Stephen J.Whitty.
Oxford (Radcliffe Obs'y)	.....	.....	30.35	770.9	49	9.4	.....	S	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	H. E. Bellamy.
Plymouth	30.25	768.8	30.32	770.1	52.0	11.1	.....	SE	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	30.13	765.3	30.23	767.8	53	11.7	.....	SSW	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	Wm. Kennedy.
St. Ann's Head	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John C. Walker.
Sandwick Manse, Orkneys	.....	.....	29.92	760.0	51	10.6	.....	WNW	25	11.2	.....	.....	10	.....	.....	.....	.....	Showery	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	30.36	771.1	30.42	772.7	52.2	11.2	.....	NE	.....	.....	2	.....	9	.....	.....	Blank	Blank	Misty	Serg't W. H. Lyne.
Sheffield	30.01	762.2	30.30	769.6	51.3	10.7	.....	SW	.....	.....	2	.....	9	.....	.....	0.03	0.8	Overcast	W. F. Cooper.
Silloth Rectory	30.13	765.3	30.16	766.1	52.0	11.1	89	SW	.....	.....	6	.....	9	.....	.....	0.342	8 69	D. clouds	Francis Redford, A. M.
Stonyhurst (Observatory)	.....	.....	30.24	768.1	49.0	9.4	.....	SSW	9	4.0	.....	.....	10	.....	.....	.....	.....	Misty	Rev. S. J. Perry.
Stratfield, Turgiss	30.16	766.1	30.38	771.6	50.7	10.4	.....	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	30.16	766.1	30.21	767.3	56	13.3	.....	SE	.....	.....	4	.....	10	.....	.....	.....	.....	Gloomy	W. Newcombe.
Valencia Observatory)	30.12	765.0	30.14	765.5	54.9	12.7	.....	S	26	11.6	.....	.....	10	.....	.....	.....	.....	D. clouds	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	30.06	763.5	30.10	764.5	66	20.0	65	SSE	19.4	8.7	.....	0	1k	.....	.....	.....	.....	.....	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.66	651.8	.....	.....	56	13.3	.....	NW	.....	.....	.....	5csn	5csn	.....	.....	.....	.....	.....	Robert Burnet.
Hobart Town, Tasmania	.....	.....	29.72	754.9	55.0	12.8	67	NE	.....	.....	3	.....	5k	.....	.....	0	0	.....	Francis Abbott, F.R.A.S.
Leith, (Restalrig Perk)	.....	.....	30.10	764.5	53.1	11.7	..	W	.....	.....	2	.....	1k	.....	.....	0.75	19.1	Cloudy	Andrew Gibb.
Mauritius (Observatory)	29.91	759.7	30.10	764.4	77.8	25.2	66	ENE	14.0	6.3	.....	0	4	.....	E	0	0	Fine	C. Meldrum.
Melbourne (Observatory)	29.85	758.2	29.94	760.5	53.6	12.0	76	SE	3	1.3	.....	.....	0	.....	.....	0	0	Very fine	R. L. J. Ellery.
Monach Lt-house, Hebrides	.....	.....	29.97	761.2	48	8.9	.....	NW	.....	.....	6	5	5	NW	.....	0.5	13.	.....	J. Youngclause.
North Unst, Shetland Is	.....	.....	29.71	754.6	.....	.....	.....	SW	.....	.....	7	3	7	SW	.....	0	0	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing, but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft., or 670 m.; Colesberg Bridge, unknown. §Observations taken 55 minutes early. ‖Observations taken 47 minutes late. Both of these errors have apparently existed for a long time.

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. Alert, Tom Bay., Patagonia	.....	.....	29.56‡	750.8‡	41	5.0	.....	WNW	.....	.....	2	.....	9	.....	.....	.....	.....	Showery	Capt.J.P. Maclear, R.N.
H. M. Sloop Gannet, S. 11° 47′, W. 77° 13′	.....	.....	29.92‡	760.0‡	66	18.9	.....	S	.....	.....	2	.....	5	.....	.....	.....	.....	Misty	Commander E. Bourke, R. N.
H. M. S. Magpie, Shanghai, China	.....	.....	30.29‡	769.4‡	44.5	6.9	.....	NW	.....	.....	3	.....	0	.....	.....	.....	.....	Blue sky	Capt. R. H. Napier, R.N.
Brig Alliance, N. 25° 30′, W. 57° 15′	.....	.....	30.11‡	764.8‡	76	24.4	.....	NNW	.....	.....	4	.....	5	.....	.....	6	N	D. clouds	Capt. W. Scott.
Barque Commewyne N. 12° 45′, W. 46° 56′	.....	.....	29.98‡	761.5‡	84	28.9	.....	E	.....	.....	6	.....	3	.....	.....	.....	.....	D. clouds	Capt. Jas. Buchan.
S. S. Ethiopia, N. 54° 25′, W. 21° 45′	.....	.....	30.35	770.9	49	9.4	.....	WNW	.....	.....	5	.....	5	.....	.....	5	W	D. clouds	Capt. Campbell.
S. S. German, Off Cape Haugklip, Cape Colony, Africa	.....	.....	30.11‡	764.8‡	65	18.3	.....	ESE	.....	.....	6	.....	1	.....	.....	.....	.....	Blue sky	Capt. O. D. Coxwell.
Barque Queen of Cambria, N. 10° 45′, E. 75° 15′	.....	.....	29.89‡	759.2‡	84	28.9	.....	Calm	.....	.....	0	.....	6	.....	.....	.....	.....	D. clouds	Capt. M. Parry.
S. S. Strathleven, Sydney, N. S. W.	.....	.....	29.84‡	757.9‡	67.5	19.7	.....	NW	.....	.....	3	.....	0	.....	.....	.....	.....	Blue sky	Capt. C. W. Pearson.
Schooner Traveller, N. 50° 45′, W. 17° 20′	.....	.....	30.20	767.1	52	11.1	.....	NNE	.....	.....	6	.....	9	.....	.....	4	Var.	Showery	.....
S. S. Gordon Castle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. V. Freeden.
German Brig "W. von Freeden"	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Greig.
Theophane	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. H. Smith.
S. S. Peruvian	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level.
‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

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

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. L'w'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
San José	26.22	666.0	29.94	760.5	68.0	20.0	86	SE			2	3s				0	0		Federico Maison.

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

DANISH SERIES.

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

Copenhagen	30.24	768.1	30.29	769.3	46.9	8.3	82	W			2		10					Foggy	
Faröe	30.25	768.3	30.27	768.8	47.8	8.8	83	WSW			4		10						
Godthaab (Greenland)																			
Stykkisholm (Iceland)																			
Thorshavn (Faröe)	29.74	755.3	29.77	756.2	42.4	5.8	75	WNW			5		6						
Vestervig	30.05	763.3	30.16	766.1	46.4	8.0	83	SW			6		10						

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

FRENCH SERIES.

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

Alençon, Normal School	29.82	757.4	30.37	771.4	51.8	11	71	NE			1		0			0	0	Clear	Colliguon, Director.
Amiens, Normal School	30.28	769.1	30.39	772.0	55.0	12.8	70	E			1		2		W	0	0	Slightly cl'dy	Vailliant, Director.
Arras, Engin'r School	30.13	765.2	30.39	771.9	51.1	10.6	55	SE			1	c	k	S		0.008	0.2		Klein, Commandant.
Avignon, Normal School	30.30	769.6	30.38	771.6	57.6	14.2	55	N			1		0			0	0	Very clear	Girand, Director.
Bar-sur-Seine	29.81	757.2	30.38	771 6	50.2	10.1	57	ESE			1		0			0	0	Clear	C. Saillard, Director
Beauvais, Normal School	30.09	764.2	30.36	771.1	50.5	10.3	68	E			1		10			0	0	Covered	Frere Eugene Marie
Besançon, Normal School	29.50	749.2	30.42	772.7	45.9	7.7	68	E			1		0			0.059	1.5	Clear	A. Carré, Director.
Bourg-en-Bresse, N. School	29.50	749.3	30.48	774.2	46.0	7.8	80	W			1		0			0	0	Clear	Marlot, Director.
Bourges, Normal School	29.78	756.5	30.35	770.9	46.0	7.8	77	NE			1	2c			NE	0	0	Slightly cl'dy	M. Gence, Director.
Brest, Naval Observatory	30.09	764.2	30.33	770.4	56.8	13.8	77	SE			1		2		SSE	0	0		Ch. de Rermaree, Dir.
Caen, Normal School	30.36	771.1			53.8	12.1	74	E			1		0			0	0	Very clear	M. Bietrin, Director.
Carcassonne, N. School	29.93	760.1	30.34	770.7	55.8	13.2	70	ESE			2		2	ESE	ESE	0	0	Slightly cl'dy	September, Director.
Châlons-sur-Marne, N. Sch'	30.11	764.7	30.43	773.0	51.8	11.0	67	SSE			1		0			0	0	Clear	Jadot, Director.
Chartres, Normal School	29.92	760.0	30.37	771.4	56.1	13.4	66	NE			1		0			0	0	Clear	Vergier, Director.
Clermont-Fd, Puy de D. Obs	28.92	734.6	30.29	769.4	53.2	11.8	56	N			1		0			0	0		Alluard, Director.
Commercy, Normal School	29.52	745.8	30.40	772.1	49.8	9.9	76	E			1		5k	E	E	0	0	Cloudy	Dr. Coullet, Director.
Commune de Gréasque*	29.30	744.1	30.44	773.1	50.2	10.1	80	NW			1		2		SW	0	0		L. Kina, Director.
Grenoble, Normal School	29.60	751.9	30.39	772.0	48.2	9	65	E			1		0			0	0	Clear	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.11	764.9	30.34	770.5	45.3	7.4	73	NNE			1		0			0	0	Clear	Mouillot, Director.
Le Mans, Normal School	30.05	763.2	30.36	771.2	48.9	9.4	73	E			1		0			0	0	Clear	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.47	748.6	30.42	772.6	46.6	8.1	67	WNW			1		0			0	0	Clear	A. Baudry, Director
Lorient, Naval Observatory	30.23	767.8	30.34	770.6	52.9	11.6	76	ESE			3		0			0	0	Clear	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.76	755.8	30.39	771.9	49.3	9.6	69	N			1		0			0	0	Clear	Ch. André, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	30.09	764.3	30.36	771.2	62.1	16.7	57	W			1		2		S	0	0		E. Stephan, Director.
Mirecourt, Normal School	29.35	745.4	30.43	773.0	41.0	5	94	S			1		kn	S	S	0	0		Barbier, Director.
Mont-Louis	25.13	638.2	30.44	773.2	46.4	8.0	63	W	22 4	10.0			6		SW	0	0		M. Cave.
Nice	30.35	770.9	30.38	771.7	61.0	16.1	69	SW			2		1	SW	SW	0	0	Clear	M. Boissieré, Director.
Nismes, Normal School	30.20	767.0	30.40	772.1	63.7	17.6	93	E			1		2		SE	0	0	Slightlycl'dy	M. Boyer, Director.
Paris, Montsouris Obs'y	30.10	764.5			51.1	10.6	70	ENE			1		0			0	0		Marie Davy, Director.
Perpignan	30.24	768.0	30.32	770.1	53.6	12.0	82	E	1.8	0.8			5		SE	0	0	Foggy	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.71	576.8			43.9	6.6		NNW			1		1		NNW	0	0	Clear	Gen'l de Nansouty.
Pic du Midi (Summit) H. P.																			M. Baylac.
Privas, Normal School	29.84	745.1	30.41	772.5	56.3	13.5	61	SE			1		n	SE	SE	0	0		Cantier, Director.
Puy de Dome (Summit) Obs	25.39	644.9			46.0	7.8	46	S			1		2			0.031	0.8	Light mist	Alluard, Director.
Rochefort, Naval Obs'y	30.32	770.0	30.35	770.8	50.7	10.4	95	NNE			1		1	NNE	NNE	0	0	Clear	Lt E. Decante, Director
Rouen, Normal School	30.30	769.5	30.38	771.7	53.8	12.1	64	SSE			2		0			0	0	Clear	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.29	769.3	30.32	770.1	55.6	13 1	67	SSE			2		0			0	0	Clear	Lt. Hercouet, Director.
Saint Maur (near Paris)	30.21	767.2	30.37	771.4	52.7	11.5	64	NE			2				E	0	0		E. Renou, Director.
Tarbes, Normal School	29.26	743.3	30.35	770.9	48.7	6.5	91	SSW			1		1	NE	W	0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.60	751.8	30.33	770.3	54.3	12.4	76	SSE			3		5			0	0	Cloudy	M. Julier Mercadier.
Tours	30.12	765.1	30.32	770.1	52.3	11.3	63	NE			1		0			0	0	Clear	Cousin-Marquet.
Versailles, Observatory	29.87	758.7	30.36	771.2	51.1	10.6	65	E			2		0			0	0	Clear	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.75	755.7	30.48	774.3	50.0	10	94	WSW			1		2			0	0	Slightlycl'dy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.94	760.4	29.97	761.1	80.6	27										0.47	12.		L'Abbé Marchési
Zi-Ka-Wei (near Shanghai)	30.27	768.8	30.29	769.4	38.5	3.6	83	WNW	7.2	3.2			0			0.063	1.6	Clear	Marc Dechevrens.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,686.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 125.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

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

STATIONS.	Barometer. Corrected for instru'tal error and temperature. Inches.	Barometer. Corrected for instru'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centrigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.60	751.7	30.45	773.4	46.0	7.8	69	E			4		3k	E		0.012	0.3		Prof. Dr. Hoh.
Berlin	30.30	769.5	30.47	774.0	50.9	10.5	72	SW			2		1n						Prof. Dr. Arndt.
Breslau	30.02	762.6	30.57	776.4	48.0	8.9	77	WSW			2		10			0	0		Royal University Obs'y.
Carlsruhe	29.98	761.5	30.42	772.7	50.7	10.4	64	NE			3		0			0	0		Albert Senz.
Cassel	29.87	758.6	30.48	774.2	49.1	9.5	64	SE			2		4	S		0	0		Dr. H. Möhl.
Emden			30.40	772.2	47.1	8.4	88	SW			0		10			0	0		Prof. Dr. Prestel.
Frankfort on the Main	30.11	764.8	30.49	774.4	50.9	10.5	53	SSE			2		0			0	0		Physical Society.
Friedrichshafen	28.97	735.8	30.46	773.8	41.0	5.0	81	SW			2		0			0	0		Chief Telegrapher Wilhelm.
Hamburg	30.34	770.6	30.41	772.4	46.8	8.2	89	SW			3		10n	SW		0	0	Foggy	Captain F. Hegemann.
Kiel	30.35	770.8	30.36	771.2	48 2	9.0	73	SW			3		10			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.22	767.6	30.31	769.8	46 8	8.2	74	W			7		6			Inap.	Inap.		Prof. E. Luther.
Köslin			30.39	771.8	45.7	7.6		SW			2		4			0	0		H. Müller.
Leipsic Observatory	30.12	765.1	30.50	776.1	48.7	9.3	61	S			1		9	SSW		0.028	0.7		Prof. Dr. Brubns, Privy Counselor.
Magdeburg	30.29	769.4	30.52	775.3	50.4	10.2	67	S			1		9ks	WSW		0	0		Dr. Assmann.
Memel	30.17	766.4	30.22	767.6	45 3	7.4	93	W			6–7		10n					Light rain	Reinbrecht & Ishermann
Munich (München)	28.60	726.5	30.59	774.6	43.0	6.1	63	E			3		0			0	0		Dr. C. Lang.
Neufahrwasser	30.35	770.8	30.36	771.2	47.7	8.7	73	WSW			4		10			0	0		A. Lothes.
Neustadt (Palatinate)	29.91	759.8	30.44	773.3	49.1	9.5	72	E			2		1	E		0	0		Reallehrer Dicknether.
Posen	30.21	767.2	30.50	774.7	49.1	9.5	77	W			5		10			0	0		Prof. Dr. Hagener.
Strassburg (in Alsace)	29.90	759.4	30.47	773.9	45.5	7.5	89	Calm			0		0			0	0		Imp. University Observatory.
Stuttgart	29.47	748.6	30.44	773.2	48.2	9.0	63	E			1		0			0	0		Prof. Dr. Schoder.
Weissenburg (Bavaria)	28.96	735.5	30.54	775.8	43.9	6.6	72	SE	9	4			2ck		E	0.091	0 8		Reallehrer J. Hopfner.
Wustrow	30.40	772.2	30.43	772.8	46.9	8.3	77	SW			4		10s			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

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

Athens	29.89	759.2	30.28	769.2	60.4	15.8		NE			2.0		10					Covered	Dr. J. F. J. Schmidt.

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

INDIAN SERIES.

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

Kurrachee	29.99	761.7	30.04	763.0	80.8	27.1	70	WSW	14	6 3			3			0	0	D. clouds	
Deesa	29.67	751.1	30.05	763.2	83.0	28.3	25	NW	5.7	2.6			0			0	0	Blue sky	
Bombay	29.92	759.8	29.95	760.8	79.8	26.6	66	NNW	21	9.4			0			0	0	Blue sky	
Poona (Yerrowda)	28.10	713.8	29.97	761.2	77.1	25.1	16	E	13	5.8			0			0	0	Blue sky	
Belgaum	27.40	696.1	29.97	761.2	72.2	22.3	37	E	5	2.2			0			0	0	Blue sky	
Lahore	29.27	743.4	30.03	762.7	71.8	22.1	50	Calm	0.3	0.1			0			0	0	Blue sky	
Roorkee	29.11	739.4	30.04	762.9	68.8	20.4	52	NW	1.0	0.4						0	0		
Agra	29.44	747.8	30.01	762.3	75.7	24.3	49	E	3.6	1.6						0	0		
Nagpur	28.93	734.9	29.99	761.7	76.7	24.8	33	E	2.7	1.2						0	0	Blue sky	
Jubbulpore	28.61	726.6	30.00	762.0	70.5	21.4	48	NE	2.1	0.9						0	0	Blue sky	
Lucknow	29.63	752.6	30.02	762.4	72.3	22.4	65	N	0.3	0.1						0	0	Blue sky	
Allahabad	29.69	754.1	30.01	762.3	68.5	20.4	69	Calm	0.9	0.4			0			0	0	Blue sky	
Patna	29.81	757.2	30.00	761.9	76.7	24.8	46	Calm	0	0			2			0	0		
Hazaribagh	27.94	709.7	30.01	762.1	66.8	19.3	51	NW	2.6	1.1			0			0	0	Blue sky	
Cuttack	29.89	759.2	29.97	761.3	73.8	23.2	71	NE	2	0.9			1			0	0	Blue sky	
Calcutta (Alipore)	29.94	760.4	29.96	760.9	73.1	22.8	75	SW	3.0	1.3			0			0	0	Blue sky	
Goalpara	29.55	750.6	29.94	760.6	77.4	25.2	66	Calm	4.9	2.2			0			0	0	Blue sky	
Chittagong	29.85	758.1	29.94	760.4	77.9	25.5	66	NW	2.5	1.1			0			0	0		
Sibsagar	29.66	753.4	30.01	762.2	75.1	22.8	81	E	0.9	0.4			0			0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

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

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

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	30.09	764.2	30.51	774.9	51.1	10.6	49	E	3.1	1.4			0						Prof. Giovanni Clodig.
Milan	29.97	761.3	30.51	774.9	50.9	10.5	53	W			1		0						Prof. Schiaparelli.
Padua	30.43	772.8	30.54	775.6	52.5	11.4	45	NE	9.4	4.2			0						Prof. Dott. Lorenzoni.
Moncalieri	29.68	761.3	30.51	774 9	50.7	10.4	64	SSW	0.7	0.3			1	NE					Prof. P. F. Denza.
Genoa	30.24	768.1	30.43	773.0	50.9	10.5	53	N	14.3	6.4			0						Prof. G. M. Garibaldi.
Mondovi	28.54	725.0	30.49	774.4	45.3	7.4	53	NNE			2		0						Prof. D. C. Bruno.
Pesaro	30.38	771.7	30.43	773.0	55.9	13.3	47	NE	8.8	1.7			0						Prof. Luigi Guidi.
Florence	30.15	765.9	30.42	772.6	54.5	12.5	43	NE	10.3	4.6			0						Cav. F. Meucci.
Leghorn	30.32	770.0	30.40	772 2	54.3	12.4	45	NE	18.0	8.8			0						Prof. P. Monte.
Rome	30.07	763.6	30.24	768.1	61.2	16.2	29	N	15.0	6.7			2						Prof. P. S. Ferrari.
Lecce																			Prof. C. De Giorgi.
Cosenza	29.19	741.4	30.08	764.1	55.4	13.0	73	NE	3.8	1.7			9			0.130	3.3		Prof. D. Conti.
Cagliari	30.06	763.5	30.25	768.4	58.6	14.8	22	NW			2		0			0	0		Prof. A. Pacinotti.
Palermo	29.79	756.6	30.04	763.0	66.3	18.5	81	NE	22.4	10.0			10			0.189	4.8		Prof. G. Ciacciatore.
Syracuse	29.85	758.2	29.93	760.1	61.7	16.5	75	E	15.0	6.7			10	NE		0.335	8.5		Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.67	753.7	30.22	767.5	54.1	12.3	56	WNW	6.9	3.1			7			0	0		Prof. F. Brioschi.

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

JAPANESE SERIES.

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

Hiroshima, I. M. Obs'y	29.73	755.1	29.74	755.4	49.7	9.8	92	WSW	2.1	0.9			8s			0.041	1.05	Clear.	K. Sasaki.
Nagasaki, I. M. Obs'y	29.67	753.6	29.87	758.7	52.6	11.4	64	NW	11.8	5.3			6s			0.080	2.03		S. Takehayashi.
Tokei, (Yeddo) Observatory.	29.71	754.6	29.78	756.4	50.5	10.3	81	NNE	4 0	1.8			10n			0.590	14.99	Light rain	The Staff.
Wakayama	29.67	753.6	29.72	754.9	51.2	10.7	95	ENE	2.9	1.3			10n			0.415	10.54	Raining	

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

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

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

Colima																			R. Banda, C. E.
Guadalajara	25.15	638.8	30.29	769.3	48 2	9.0	65	SW			1		2			0	0	Clear	Prof. L. Perez.
Leon	24.47	621.6	30.19	766.9	56.5	13.8	83	N			3	0	0			0	0	Fine	Prof. M. Leal.
Mazatlan	29.74	755.3	29.99	761.3	74.8	23.8	91	E			2	1c	1k			0	0	Clear	I. Guerrero, C. E.
Mexico, Central Observatory	23.10	586.7	30.21	767.3	48.4	9.1	67	Calm	0	0		2c	0			0	0	Clear	The Staff.
Pabellon (Aguascalientes)					50.9	10.5	83	Calm			0	1cs	0			0	0	Fine	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.56	598.5	30.48	774.3	46.0	7.8	41	Calm	0	0		0	0			0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.19	614.3	30.20	767.1	54.0	12.2	79	S			1	2	0	W		0	0	Clear	G. Barroeta, M. D.
Tlacotalpam	29.89	759.1	29.90	759.4	74.6	23 8	93	S			1	0	0			0	0	Clear	Prof. M. M. Chazaro.
Vera-Cruz																			Prof. J. Rossell.
Zacatecas	22.54	572.4	30.19	766.7	51.4	10 8	70	Calm			0	0	0			0	0	Pleasant	A. Nuñez.

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

NETHERLANDS SERIES.

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

Flushing	30.44	773.2	30.44	773.2	52.9	11.6		SSE			2					0	0		
Groningen	30.37	771.5	30.43	772.9	47.8	8.8		SW								0.020	0.5		
Helder	30.40	772.1	30.40	772.1	48.9	9.4		S			2					0	0		
Hellevoetsluis	30.43	772.9	30.43	772.9	51 4	10.8	82	ESE			1					0	0		
Utrecht	30.40	772.1	30.41	773 3	51.6	10.9	64	WSW			2		8			0	0	Very cloudy	H. v. d. Brink.

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

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instru'm'tal error and temperature. Inches.	Barometer. Corrected for instru'm'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.79	756.6	29.84	758.0	46.4	8.0	100	S	21.3	9.5	.....	.....	10	.....	.....	1.315	33.4	Heavy rain.	
Brönö	29.17	741.0	29.21	742.0	43.2	6.2	94	SW	22	10	.....	.....	10	.....	.....	1.622	41.2	Raining.....	
Christiana	29.65	753.0	29.80	756.8	45.1	7.3	69	S	16	7	.....	.....	7	.....	.....	0	0	.....	
Tromsö	29.16	740.7	29.21	741.8	26.6	— 3.0	68	S	9	4	.....	.....	10	.....	.....	0.343	8.7	.....	

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

PORTUGUESE SERIES.

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

Angra (Azores)	29.80	757.0	29.99	761.8	65.5	18.6	86	N	8.7	3.9	.....	.....	6	.....	.....	0.236	6.0	.....	Dr. J. A. Sampaio.
Campo Major	29.25	743.0	30.28	769.0	62.6	17.0	61	ENE	4.9	2.2	.....	.....	2	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	30.01	762.3	30.10	764.5	73.4	23.0	82	SW	8.1	3.6	.....	.....	5	.....	.....	0.020	0.5	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.91	759.7	30.27	768.8	61.0	16.1	68	NE	9.8	4.4	.....	.....	6	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	29.80	756.8	29.87	758.6	68.0	20.0	89	NNE	18.6	8 3	.....	.....	3	.....	.....	2 56	65.0	.....	

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

PORTUGUESE NAVAL SERIES. VESSELS.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias				A. G. da Silva Costa, Com'd't.
D. Fernando				A. M. de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.				J. C. M. Cabrate, 1st Lt.
Mindello				J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos				H. de C. C. e Athayde.
Rio Duro				J. T. d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa, Porto Praya, Cape Verd I'ds.			D. clouds....	A. A. A. Loureiro.
Sà da Bandeira				F. Teixeira da Silva, Com'd't.
Sado, Capt. J. A de Brito Capello, St. Paul de Loando			D. clouds....	R. Mecudoneo, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes, Macao, China			Raining, 14 hr's rain-fall.]	J. G. Felgo, 2nd Lieut.

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

RUSSIAN SERIES.

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

Archangel	29.76	755.9	29.78	756.4	19.4	— 7.0	92	NW	18	8	.....	.....	1cs	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Astrakhan	30.10	764.6	30.02	762.5	48.9	9.4	56	SW	11	5	.....	.....	7ks	.....	.....	.....	.....	.....	Capt. Wisganow.
Barnaul	29.69	754.1	30.23	767.8	17.4	— 8.1	91	NE	0	0	.....	.....	5	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Dorpat	29.77	756.1	30.02	762.5	33.8	1.0	98	SSE	4	2	.....	.....	10n	.....	.....	.....	.....	Light rain...	Prof. Dr. Weihrauch.
Ekaterinburg	28.80	731.5	29.82	757.3	20.1	— 6.6	81	S	4	2	.....	.....	4	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk																			
Kasan	29.14	740.1	29.41	747.1	30.4	— 0.9	94	S	7	3	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch																			Lagorio.
Kieff	29.65	753.0	30.31	769.8	40.3	4.6	55	NW	11	5	.....	clr	6cs;ks	.....	.....	.....	.....	.....	Physical Cabinet.
Krotkowo*	29.02	737.1	29.50	749.4	30.6	— 0.8	87	SW	2	1	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	29.83	757.6	30.04	762.9	37.8	3.2	70	WNW	31	14	.....	.....	10	.....	.....	Blan'k	Blank	.....	Meteorological Obs.
Moscow	29.37	746.0	29.95	760.7	25.5	— 3.6	65	N	13	6	.....	.....	5s	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	27.86	707.6	30.34	770.6	12.6	—10.5	86	Calm	0	0	.....	.....	2	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Nikolaiev	30.36	771.2	30.43	773.0	42.3	5.7	74	NW	13	6	.....	6c	.....	.....	.....	.....	.....	Light clouds	Kurdakof.
Nukuss	29.92	759.9	30.16	766.0	37.6	3.1	61	NNW	9	4	.....	.....	8ks	.....	.....	.....	.....	.....	
Orenberg																			
Pekin (China)	30.15	765.8	30.29	769.4	43.9	6.6	46	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	30.02	762.6	30.04	763.0	27.9	— 2.3	81	N	4	2	.....	.....	10ns	.....	.....	.....	.....	.....	Central Physical Obs.
Tashkend	28.44	722.4	29.98	761.6	65.1	18.4	31	W	65	29	.....	.....	10	.....	.....	Blank	Blank	.....	Teich, A. M.
Tiflis	28.78	731.0	30.21	767.2	56.3	13.5	37	N	9	4	.....	.....	3k	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock																			
Warsaw	30.03	762.8	30.47	774.0	44.2	6.8	84	W	13	6	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.84	757.8	30.27	768.9	39.9	4.4	97	SW	4	2	.....	.....	10	.....	.....	.....	.....	Heavy clouds...	Astronomical Obs.
Yenisiesk	30.22	767.6	30.53	775.5	16.7	— 8.5	70	S	4	2	.....	.....	0	.....	.....	.....	.....	.....	Marks.

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

SPANISH SERIES.

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

Barcelona, Met. Obs'y	30.24	768.1	30.35	770.8	59.0	15	72	ENE	2.2	0.97	.....	.....	10	.....	.....	0	0	Almost cov'd	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.21	767.3	30.26	768.7	64.8	18.2	54	W	1.8	0.82	.....	0	0	.....	.....	0	0	Clear...	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.32	694.0	.....	.....	55.0	12.8	52	NE	1.9	0.86	.....	0	0	.....	.....	0	0	Clear.....	Domingo Martin y Perez.
Madrid, Royal Observatory.	28.07	713.0	30.33	770.4	55.8	13.2	68	NE	4.5	2.00	.....	0	1	.....	.....	0	0	Almost clear	The Staff.
Murcia, Met. Obs'y	30.17	766.2	30.32	770.0	66.7	19.3	70	ENE	4.6	2.08	.....	1	3	SW	.....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.35	745.4	30.23	767.9	66.2	19.0	58	NE	0	0	.....	1	0	.....	.....	0	0	Almost clear	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	29.99	761.8	30.06	763.4	74.1	23.4	88	ENE	1.8	0.8	.....	1c	0	WSW	.....	0	0	Hazy.....	Benito Vines, S. J.
Manilla, Philippine Islands	29.63	752.5	29.67	753.8	80.6	27.0	.....	SW	23.5	10.5	.....	.....	10	.....	W	0.087	2.2	Raining...	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.14	765.5	30.24	765.0	68.9	20.5	57	ESE	16.7	7.4	.....	0	1	.....	E	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I	29.91	759.8	30.00	762.1	77.7	25.4	86	SW	0	0	.....	6ck	5kn	SW	SW	0	0	Cloudy.....	Enrique Gadea, Chief Eng'r

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

SWEDISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.65	753.2	29.69	754.2	22.6	— 5.2	.....	SE	.....	.....	6	.....	10	.....	.....	.....	.....	Snowing.....	
Umea	29.49	749.1	29.54	750.4	35.6	2.0	100	SW	.....	.....	2	.....	10	.....	.....	0	0	.....	
Hernosand	29.51	749.6	29.56	750.9	38.1	3.4	93	SSW	.....	.....	2	.....	10	.....	.....	0.043	1.1	.....	
Stockholm	29.74	755.5	29.94	760.5	44.6	7.0	71	W	.....	.....	4	.....	10	.....	.....	0	0	.....	
Wisby	29.92	760.0	29.98	761.5	45.7	7.6	83	W	.....	.....	6	.....	7	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.71	754.7	29.80	756.9	43.9	6.6	81	SW	17.9	8.0	.....	.....	10	.....	WSW	0	0	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

SWISS SERIES.

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

Geneva	29.01	736.9	30.48	774.2	40.1	4.5	77	N	.....	.....	2	.....	10	.....	.....	0	0	Foggy	The Observatory.
Zurich	28.78	731.0	30.48	774.1	37.4	3.0	82	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +10.7 mm.; Thermometer, −3.6 Cent.; Relative Humidity, +1 per cent.

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

TURKISH SERIES.

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

Constantinople	.....	.....	30.46	773.7	52.0	11.1	80	NNE	19	8.5	.....	.....	10	.....	NE	0	0	....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.24	768.2	61.0	16.1	.....	NE	.....	.....	1	.....	10	.....	.....	0	0	Covered.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obsy	29.97	761.2	30.09	764.2	73.2	22.9	60	N	.....	.....	1	.....	0	.....	.....	0	0	Blue sky.....	Prof. C. V. A. van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon J. Ferguson.
Brockville, Ontario	30.20	767.1	30.24	768.1	41.0	5.0	96	SW	2	0.9	.....	.....	Fog	.....	.....	0.02	0.5	Foggy	W. R. Bigg.
Chatham, N. B	30.19	766.8	30.25	768.3	40.3	4.6	95	SW	1	0.4	.....	2k	8kε	.....	.....	0.02	0.5	Cloudy.....	G. A. Blair.
Charlottetown, P. E. Island	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. J. Cundall, C. E.
Cornwall, Ontario	29.77	756.1	29.96	761.0	43.5	6.4	93	SE	.....	.....	1	.....	10s	.....	.....	0	0	Cloudy.....	James Smith, M. A.
Dalhousie, N. B	30.02	762.5	30.19	766.8	36.6	2.6	.....	S	.....	.....	1	.....	10s	.....	.....	0.03	0.8	Gloomy.....	H. A. Johnson.
Father Point, Quebec	30.08	764.0	30.10	764.5	36.7	2.6	85	SW	3	1.3	.....	Sm'e	Sm'e	.....	.....	0	0	Smoky.....	J. McWilliams.
Fredericton, N. B	30.17	766.3	30.23	767.8	40.6	4.8	88	E	2	0.9	.....	10ck	0	.....	.....	0	0	Cloudy.....	Prof. Harrison.
Fort Garry, Manitoba	29.02	737.1	29.88	758.9	24.5	— 4.2	94	W	3	1.3	.....	5k	5u	W	.....	0	0	Cloudy.....	James Stewart.
Granton, Ontario	28.71	729.2	29.78	756.4	57	13.9	.....	S	.....	.....	3	6cs	0	.....	.....	0	0	Fair.....	James Grant.
Halifax, N. S	30.18	766.6	30.31	769.9	43.1	6.2	93	W	4	1.8	.....	.....	8n	.....	.....	0	0	Cloudy.....	A. Allison, M. A.
Hamilton, Ontario	29.42	747.3	29.77	756.1	61.5	16.4	95	SW	.....	.....	5	.....	10cs	.....	SW	0	0	Cloudy.....	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.62	752.3	29.95	760.7	55.1	12.8	89	S	18	8.0	.....	10c	0	.....	.....	0	0	Cloudy.....	S. Woods, M. A.
Little Glace Bay, N. S	30.19	766.8	30.23	767.8	42.2	5.7	94	S	8	3.6	.....	.....	10n	.....	.....	6	0	Overcast.....	C. H. Rigby.
Montreal, Quebec	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. H. McLeod, C. E.
Moose Factory, Ontario	29.25	742.9	29.28	743.7	44.7	7.1	97	SW	.....	.....	6	.....	10	.....	.....	0.41	10.4	Cloudy.....	J. R. Nason.
Norwood	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. R. Mosley.
Peterboro, Ontario	29.13	739.9	29.87	758.7	51.7	10.9	93	W	.....	.....	1	.....	10n	.....	.....	.....	.....	Raining.....	J. F. Jeffers, B. A.
Port Dover, Ontario	29.19	741.4	29.88	758.9	54.1	12.3	83	SW	15	6.7	.....	.....	10n	.....	SW	0.07	1.8	Light rain...	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.24	742.7	29.87	758.7	54.3	12.4	88	SW	16	7.2	.....	2k	5n	SW	SW	0.05	1.3	Clearing.....	M. Payne.
Quebec, Quebec	29.79	756.7	30.12	765.0	40	4.4	56	Calm	.....	.....	0	10k	2s	.....	.....	0.07	1.8	Clearing.....	Capt. Ashe, R. N.
Rockcliffe, Ontario	29.35	745.5	29.81	757.2	50.1	10.1	82	SE	6	2.7	.....	.....	9s	.....	W	.....	.....	Light rain...	W. H. McIntyre.
St. Andrews, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Gove.
St. John, N. B	30.08	764.0	30.24	768.1	45	7.2	92	SW	8	3.6	.....	.....	10ks	.....	.....	0	0	Overcast.....	G. Murdock, C. E.
Saugeen, Ontario	29.00	736.6	29.70	754.4	59.1	15.1	75	S	30	13.4	.....	3k	5n	S	.....	0.11	2.8	Cloudy.....	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.53	724.6	29.77	756.1	56.9	13.8	87	SW	26	11.6	.....	.....	10n	.....	.....	0.178	4.52	Light rain .	C. J. MacGregor, M. A.
Sydney, C. B	30.21	767.3	30.25	768.3	40.6	4.8	92	SW	8	3.6	.....	.....	10n	.....	.....	0	0	Overcast.....	T. C. Hill, C. E.
Toronto, Ontario	29.48	748.8	29.86	758.4	51.3	10.7	93	S	11	4.9	.....	.....	10ks	.....	.....	0.06	1.5	Cloudy.....	Magnetic Observatory.
Windsor, N. S	30.18	766.6	30.27	768.8	42.0	5.6	96	SW	6	2.7	.....	.....	10n	.....	.....	0	0	Overcast.....	Prof. John E. Oram.
Woodstock, Ontario	28.78	731.0	29.82	757.4	58.2	14.6	95	S	31	13.9	.....	0	10s	.....	SW	0.14	3.6	Cloudy.....	Prof. J. Montgomery.
Yarmouth, N. S	30.23?	767.8?	30.30	769.6	48.1	8.9	93	SW	.....	.....	1	.....	Haze	.....	.....	0	0	Hazy.....	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	30.13	765.3	30.39	771.9	34.0	1.1	90	Calm	.....	.....	.....	.....	10	.....	.....	Inap.	Inap.	Cloudy.....	John Delany.
St. Pierre, N. F	.....	.....	30.16	766.1	41.9	5.5	.....	SW	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	l'Hopital Maritime.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10, except Yarmouth and St. Johns on scale 0 to 20. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

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

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.98	761.5	30.21	767.3	54	12.2	80	S	12	5.4	.....	2c	5ks	W	W	0	0	Fair	
Alpena, Michigan	28.90	734.0	29.52	749.8	55	12.8	87	SW	19	8.5	.....	.....	10s	.....	SW	0.12	3.0	Cloudy	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	29.06	738.1	30.20	767.1	63	17.2	94	SE	4	1.8	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy	
Atlantic City, New Jersey	30.33	770.4	30.34	770.6	56	13.3	94	S	9	4.0	.....	10k	0	SW	.....	0	0	Cloudy	
Augusta, Georgia	30.05	763.3	30.26	768.6	68	20.0	79	Calm	0	0	.....	.....	10s	.....	SW	Inap.	Inap.	Cloudy	
Baltimore, Maryland	30.27	768.8	30.32	770.1	56	13.3	94	S	1	0.4	.....	.....	10s;fg	.....	sw;Calm	0.01	0.3	Cloudy	
Barnegat, New Jersey	30.32	770.1	30.34	770.6	55	12.8	93	S	12	5.4	.....	2k	8s	W	W	0	0	Cloudy	
Bismarck, Dakota	28.01	711.4	29.87	758.7	23	— 5.0	86	E	6	2.7	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy	
Boerne, Texas	28.48	723.4	29.76	755.9	66	18.9	100	S	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Boise City, Idaho	26.82	681.2	29.78	756.4	38	3.3	72	E	8	3.6	.....	0	5s	.....	SW	0	0	Fair	
Boston, Massachusetts	30.14	765.5	30.30	769.6	55	12.8	74	SW	10	4.5	.....	.....	10ks	.....	SW	0	0	Cloudy	
Brackettville, Texas	28.71	729.2	29.74	755.4	61	16.1	94	E	8	3.6	.....	0	0	.....	.....	0.01	0.3	Clear	
Breckenridge, Minnesota	28.91	734.3	29.95	760.7	22	— 5.6	86	W	6	2.7	.....	10cs	0	Calm	.....	0	0	Cloudy	
Brownsville, Texas	29.84	757.9	29.89	759.2	78	25.6	91	S	8	3.6	.....	.....	10s	.....	S	0	0	Cloudy	
Buffalo, New York	29.21	741.9	29.89	759.2	61	16.1	71	S	21	9.4	.....	.....	10n	.....	SW	0.03	0.8	Light rain	
Burkes, Arizona	.....	.....	.....	.....	54	12.2	74	W	.....	.....	1	.....	10s	.....	Calm	0	0	Cloudy	
Burlington, Vermont	29.72	757.4	30.11	764.8	53	11.7	80	S	20	8.9	.....	5ck	2ks	W	W	0	0	Fair	
Cairo, Illinois	29.61	751.8	29.87	761.2	66	18.9	89	S	8	3.6	.....	.....	10s	.....	S	0.45	11.4	Cloudy	
Campo, California	27.22	691.4	29.79	756.7	42	5.6	91	Calm	0	0	.....	.....	10n	.....	Calm	0.05	1.3	Light rain	
Cape Hatteras, N. Carolina	30.37	771.4	30.38	771.6	63	17.2	89	SE	6	2.7	.....	8cs	0	NW	.....	0	0	Cloudy	
Cape Henry, Virginia	30.36	771.1	30.37	771.4	62	16.7	77	S	10	4.5	.....	2cs	2ks;hz	SW	Calm	0	0	Fair	
Cape Lookout, N. Carolina	30.34	770.6	30.36	771.1	65	18.3	84	S	8	3.6	.....	5c	Haze	NW	Calm	0	0	Dense haze	
Cape May, New Jersey	30.32	770.1	30.35	770.9	59	15.0	82	S	17	7.6	.....	.....	10s	.....	S	0	0	Cloudy	
Castroville, Texas	29.14	739.9	29.81	757.2	70	21.1	90	SE	8	3.6	.....	.....	10s	.....	SE	0	0	Threatening	
Cedar Keys, Florida	30.14	765.5	.....	.....	.....	.....	.....	E	.....	.....	1	0	9s	.....	SE	Blank	Blank	Cloudy	
Charleston, South Carolina	30.23	767.8	30.29	769.4	66	18.9	84	SE	4	1.8	.....	5k	0	W	.....	0	0	Fair	
Charlotte, North Carolina	29.46	748.3	30.27	768.8	62	16.7	94	SE	6	2.7	.....	.....	10s	.....	SE	0	0	Cloudy	
Chattanooga, Tennessee	29.37	746.0	30.16	766.1	65	18.3	94	SW	6	2.7	.....	.....	10s	.....	S	0.01	0.3	Cloudy	
Cheyenne, Wyoming	23.86	606.0	29.81	756.9	19	— 7.2	85	SW	4	1.8	.....	0	0	.....	.....	0.02	0.5	Clear	
Chicago, Illinois	29.15	740.4	29.83	757.7	49	9.4	71	NW	4	1.8	.....	.....	10s	.....	Calm	0.25	6.3	Cloudy	
Cincinnati, Ohio	29.35	745.5	29.98	761.5	65	18.3	84	SE	8	3.6	.....	.....	10n	.....	SW	0.14	3.6	Light rain	
Cleveland, Ohio	29.18	741.1	29.87	758.7	66	18.9	69	S	24	10.7	.....	.....	10n	.....	SW	0.03	0.8	Light rain	
Coleman City, Texas	28.14	714.7	29.83	757.7	45	7.2	61	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Columbus, Ohio	29.14	740.1	29.95	760.7	63	17.2	78	S	10	4.5	.....	.....	10n	.....	S	0.01	0.3	Light rain	
Concho, Texas	28.05	712.5	29.74	755.4	46	7.8	69	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.45	748.0	29.91	759.7	64	17.8	67	SW	2	0.9	.....	.....	10ks	.....	SW	0.07	1.8	Cloudy	
Davenport, Iowa	29.29	744.0	29.94	760.5	41	5.0	82	W	6	2.7	.....	.....	10s	.....	W	0.34	8.6	Cloudy	
Deadwood, Dakota	25.11	637.8	.....	.....	25	— 3.9	62	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas	28.86	733.0	30.02	762.5	60	15.6	55	NE	8	3.6	.....	8k	0	NW	.....	0	0	Cloudy	
Denison, Texas	29.19	741.4	30.00	762.0	46	7.8	74	N	6	2.7	.....	.....	10s	.....	SW	0.30	7.6	Cloudy	
Denver, Colorado	24.66	626.4	29.88	758.9	31	— 0.6	89	SW	2	0.9	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Des Moines, Iowa	29.10	739.1	30.00	762.0	38	3.3	72	Calm	0	0	.....	.....	10s	.....	NW	1.83	46.5	Cloudy	
Detroit, Michigan	29.15	740.4	29.80	756.9	57	13.9	81	SW	14	6.3	.....	0	2s	.....	Calm	0.25	6.3	Clear	
Dodge City, Kansas	27.40	696.0	29.79	756.7	28	— 2.2	54	Calm	0	0	.....	0	5s	.....	Calm	0	0	Fair	
Dubuque, Iowa	29.25	742.9	29.97	761.2	36	2.2	71	W	3	1.3	.....	5ck	5ks	W	SW	1.40	35.6	Cloudy	
Duluth, Minnesota	29.14	740.1	29.83	757.7	33	0.6	70	W	2	0.9	.....	.....	10s	.....	W	0	0	Cloudy	
Eagle Pass, Texas	29.12	739.6	29.85	758.2	57	13.9	87	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	30.16	766.1	30.22	767.6	46	7.8	92	S	4	1.8	.....	8c;ck	0	W	.....	0	0	Fair	
Edinburg, Texas	.....	.....	.....	.....	73	22.8	76	S	.....	.....	1	.....	10s	.....	Calm	0	0	Cloudy	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.20	741.7	29.89	759.2	63	17.2	72	S	22	9.8	.....	.....	10s	.....	SW	0.05	1.2	Cloudy	
Escanaba, Michigan	29.11	739.4	29.76	755.9	39	3.9	82	NW	4	1.8	.....	.....	10ks	.....	NW	0.65	16.5	Cloudy	
Florence, Arizona	28.33	719.6	29.93	760.2	56	13.3	51	Calm	0	0	.....	.....	10s	.....	SW	0	0	Cloudy	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.69	703.3	29.57	751.1	24	— 4.4	87	SE	3	1.3	.....	10c	0	Calm	.....	0.03	0.8	Cloudy	
Fort Custer, Montana	26.60	675.6	.....	.....	27	— 2.8	64	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.15	638.8	30.11	764.8	42	5.6	58	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.45	748.5	30.02	762.5	48	8.9	85	NW	2	0.9	.....	.....	10s	.....	N	0.56	14.2	Cloudy	
Fort Grant, Arizona	25.10	637.5	29.90	759.4	53	11.7	38	S	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Griffin, Texas	28.71	729.2	30.01	762.2	44	6.7	76	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.16	689.8	.....	.....	25	— 3.9	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	27.70	703.6	29.60	751.8	55	12.8	87	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.76	730.5	29.90	759.4	38	3.3	81	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	27.97	710.4	.....	.....	23	— 5.0	73	W	4	1.8	.....	5c	0	W	.....	0.01	0.3	Fair	
Fort Verde, Arizona	.....	.....	.....	.....	41	5.0	82	S	.....	.....	1	.....	10s	.....	S	0	0	Cloudy	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.14	714.7	29.67	753.6	60	15.6	49	S	.....	.....	.....	0	5ks	.....	S	0	0	Fair	
Galveston, Texas	29.95	760.7	29.99	761.7	73	22.8	95	S	6	2.7	.....	.....	10ks	.....	S	0.02	0.5	Threatening	
Graham, Texas	28.91	734.3	29.99	761.7	43	6.1	75	N	3	1.3	.....	5c	0	SW	.....	0	0	Fair	
Grand Haven, Michigan	29.21	741.9	29.85	758.2	49	9.4	85	N	16	7.2	.....	.....	10s	.....	S	0.02	0.5	Cloudy	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Indianapolis, Indiana	29.13	739.9	29.88	758.9	62	16.7	88	S	2	0.9	.....	.....	10s	.....	S	0.66	16.8	Threatening	
Indianola, Texas	29.95	760.7	29.97	761.2	73	22.8	95	S	3	1.3	.....	.....	10s	.....	S	0.04	1.0	Cloudy	
Jacksboro, Texas	28.84	732.5	29.99	761.7	47	8.3	77	N	4	1.8	.....	.....	10s	.....	N	0	0	Cloudy	
Jacksonville, Florida	30.19	766.8	30.21	767.3	71	21.7	90	SE	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Keokuk, Iowa	29.30	744.2	29.93	760.2	42	5.6	74	NW	7	3.1	.....	1cs	5s	Calm	SW	0.58	14.7	Fair	
Key West, Florida	30.03	762.7	30.06	763.5	76	24.4	91	SE	7	3.1	.....	2k	5s	SE	SE	1.03	26.2	Cloudy	
Kittyhawk, North Carolina	30.38	771.6	30.40	772.1	59	15.0	94	SE	8	3.6	.....	2c	Fog	Calm	Calm	0	0	Fair	
Knoxville, Tennessee	29.20	741.7	30.20	767.1	60	15.6	82	SW	2	0.9	.....	.....	10ks	.....	SW	Inap.	Inap.	Cloudy	
La Crosse, Wisconsin	29.13	739.9	29.88	758.9	37	2.8	71	NW	1	0.4	.....	10k	0	NW	.....	1.50	38.1	Cloudy	
La Mesilla, New Mexico	25.98	659.9	30.13	765.3	38	3.3	54	Calm	0	0	.....	2c	5s	Calm	Calm	0	0	Cloudy	
Laredo, Texas	29.44	747.8	29.77	756.1	72	22.2	71	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.17	740.9	30.03	762.7	40	4.4	82	NW	2	0.9	.....	0	0	.....	.....	2.56	65.0	Clear	
Little Rock, Arkansas	29.64	752.8	29.99	761.7	64	17.8	74	NW	2	0.9	.....	.....	10s	.....	NW	0.60	15.2	Cloudy	
Los Angeles, California	29.44	747.8	29.77	756.1	52.0	11.1	89	E	11	4.9	.....	.....	10n	.....	Calm	0.25	6.3	Light rain	
Louisville, Kentucky	29.41	747.0	29.95	760.7	66	18.9	84	S	10	4.5	.....	.....	10n	.....	Calm	0.23	5.8	Light rain	
Lynchburg, Virginia	29.62	752.3	30.31	769.9	56	13.3	94	Calm	0	0	.....	.....	10n	.....	Calm	0.19	4.8	Light rain	
Madison, Wisconsin	28.87	733.3	29.87	758.7	37	2.8	81	W	1	0.4	.....	0	8s	.....	SW	1.40	35.6	Cloudy	
Marquette, Michigan	29.06	738.1	29.77	756.1	38	3.3	92	NW	19	8.5	.....	.....	10s	.....	NW	0.85	21.6	Cloudy	
Mason, Texas	28.24	718.0	30.04	763.0	50	10.0	86	NW	1	0.4	.....	0	1s	.....	S	0	0	Clear	
Memphis, Tennessee	29.67	753.6	30.00	762.0	66	18.9	94	S	4	1.8	.....	0	5s	.....	SW	1.23	31.2	Fair	
Milwaukee, Wisconsin	29.08	738.6	29.81	757.2	40	4.4	73	W	12	5.4	.....	2ck	1s	W	Calm	0.01	0.3	Fair	
Mobile, Alabama	30.09	764.3	30.13	765.3	69	20.6	95	SE	4	1.8	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Montgomery, Alabama	29.96	761.0	30.20	767.1	68	20.0	94	SE	3	1.3	.....	.....	10s	.....	SE	0	0	Cloudy	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Morgantown, West Virginia	29.11	739.4	30.07	763.8	67	19.4	60	SW	8	3.6	.....	.....	10ks	.....	SW	0	0	Cloudy	
Mt. Washington, N. H.	23.94	608.1	30.30	769.6	39	3.9	100	NW	45	20.1	.....	.....	Fog	.....	NW	0.05	1.3	Foggy	
Nashville, Tennessee	29.55	750.6	30.06	763.5	70	21.1	90	S	8	3.6	.....	.....	10n	.....	S	0.08	2.0	Light rain	
New Haven, Connecticut	30.21	767.3	30.33	770.4	54	12.2	87	S	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
New London, Connecticut	30.30	769.6	30.35	770.9	55	12.8	87	S	4	1.8	.....	.....	10s	.....	SW	0	0	Cloudy	
New Orleans, Louisiana	30.03	762.7	30.09	764.3	70	21.1	100	SE	8	3.6	.....	.....	Fog	.....	Calm	0	0	Foggy	
Newport, Rhode Island	30.30	769.6	30.35	770.9	33.5	0.8	90	SW	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
New York, New York	30.16	766.1	30.34	770.6	56	13.3	87	SW	6	2.7	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Norfolk, Virginia	30.32	770.1	30.37	771.4	60	15.6	88	S	8	3.6	.....	2ks	0	W	.....	0	0	Fair	
North Platte, Nebraska	27.05	686.9	29.68	753.9	26	— 3.3	75	N	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Olympia, Washington Ter.	29.44	747.8	29.48	748.8	43.5	6.4	92	N	2	0.9	.....	.....	10n	.....	Calm	0.14	3.6	Light rain	
Omaha, Nebraska	28.86	733.0	29.98	761.5	39	3.9	55	Calm	0	0	.....	5k	0	SW	.....	0.43	10.9	Fair	
Oswego, New York	29.70	754.4	30.01	762.2	59	15.0	76	S	16	7.2	.....	0	8s	.....	SW	0	0	Fair	
Pembina, Dakota	28.99	736.3	29.87	758.7	17	— 8.3	100	NW	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Pensacola, Florida	30.14	765.5	30.17	766.3	67	19.4	95	E	.....	.....	1	1k	0	SE	.....	0	0	Clear	
Philadelphia, Pennsylvania	30.27	768.8	30.32	770.1	58	14.4	88	S	.....	.....	1	.....	10n	.....	Calm	0.02	0.5	Light rain	
Phœnix, Arizona	28.63	727.2	30.42	772.6	53	11.7	48	E	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Pike's Peak, Colorado	17.42	443.0	29.63	752.6	1	—17.2	71	SW	56	25.0	.....	5cs	2s	Calm	SW	0.08	2.0	Cloudy.	
Pilot Point, Texas	29.24	742.7	30.03	762.7	54	12.2	89	N	6	2.7	.....	8k	2s	NE	N	0	0	Cloudy	
Ploche, Nevada	.....	.....	.....	.....	32	0.0	59	SE	10	4.5	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy	
Pittsburg, Pennsylvania	29.26	743.2	30.04	763.0	65	18.3	63	SW	8	3.6	.....	0	7s	.....	SW	Inap.	Inap.	Fair	
Port Huron, Michigan	29.12	739.6	29.76	755.6	57	13.9	87	S	19	8.5	.....	0	5ks	.....	SW	0.65	16.5	Fair	
Portland, Maine	30.19	766.8	30.24	768.1	47	8.3	85	SW	8	3.6	.....	10k	0	Calm	.....	0	0	Cloudy	
Portland, Oregon	29.49	747.3	29.50	749.3	44.0	6.7	88	Calm	0	0	.....	.....	10n	.....	.....	0.24	6.1	Light rain	
Portsmouth, N. Hampshire	.....	.....	.....	.....	65	18.3	84	SE	9	4.0	.....	2c	0	SE	.....	0	0	Fair	
Prescott, Arizona	24.55	623.6	29.91	759.7	40	4.4	51	Calm	.....	.....	0	.....	10s	.....	Calm	0	0	Threatening	
Punta Rassa, Florida	30.08	764.0	30.10	764.5	74	23.3	86	NE	10	4.5	.....	5c	0	W	.....	0.03	0.8	Fair	
Red Bluff, California	29.17	740.9	29.52	749.8	48	8.9	85	SE	11	4.9	.....	.....	10n	.....	S	0.17	4.3	Light rain	
Rio Grande City, Texas	29.70	754.4	29.91	759.7	71	21.7	90	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Rochester, New York	29.35	745.5	29.95	760.7	61	16.1	71	SW	3	1.3	.....	1k	8s	SW	SW	0	0	Cloudy	
Roseburg, Oregon	28.92	734.6	29.48	748.8	43	6.1	92	Calm	0	0	.....	.....	10n	.....	Calm	0.17	4.3	Light rain	
Sacramento, California	29.39	746.5	29.47	748.5	50	10.0	82	SE	8	3.6	.....	.....	10n	.....	Calm	0.10	2.5	Light rain	
St. Louis, Missouri	29.37	746.0	29.94	760.5	54	12.2	87	W	6	2.7	.....	.....	10s	.....	W	0.63	16.0	Threatening	
St. Paul, Minnesota	29.04	737.6	29.90	759.4	80	— 1.1	68	SW	10	4.5	.....	8cs	0	Calm	.....	Inap.	Inap.	Fair	
Salt Lake City, Utah	25.42	645.7	29.75	755.6	34	1.1	61	SE	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
San Antonio, Texas	29.22	742.2	29.78	756.4	73	22.8	85	SE	3	1.3	.....	.....	10s	.....	SE	0	0	Cloudy	
San Diego, California	29.78	756.4	29.85	758.2	55	12.8	93	E	9	4.0	.....	.....	10n	.....	SE	0.10	2.5	Light rain	
Sandusky, Ohio	29.25	742.9	29.90	759.4	61	16.1	71	S	21	9.4	.....	5ck	5s	W	Calm	0.16	4.1	Cloudy	
Sandy Hook, New Jersey	30.27	768.8	30.30	769.6	59	15.0	70	S	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
San Francisco, California	29.34	745.2	29.40	746.7	52	11.1	93	SE	28	12.5	.....	.....	10n	.....	Calm	0.59	15.0	Light rain	
Santa Fé, New Mexico	23.14	587.8	29.68	753.9	31	— 0.6	69	NE	3	1.3	.....	1k	0	Calm	.....	0.04	1.0	Clear	
Savannah, Georgia	30.17	766.3	30.27	768.8	65	18.3	94	SE	3	1.3	.....	10ks	0	SW	.....	0	0	Cloudy	
Shreveport, Louisiana	29.73	755.1	29.94	760.5	71	21.7	95	S	3	1.3	.....	0	5s	.....	Calm	0.91	23.1	Fair	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.32	770.1	30.36	771.1	63	17.2	94	E	7	3.1	.....	2cs	8ks	N	Calm	0.02	0.5	Cloudy	
Socorro, New Mexico	25.31	642.9	29.37	746.0	40	4.4	56	N	1	0.4	.....	0	10s	.....	SW	0	0	Clear.	
Springfield, Illinois	29.27	743.4	29.94	760.5	49	9.4	85	NW	7	3.1	.....	.....	10s	.....	NW	0.44	11.2	Cloudy	
Springfield, Massachusetts	30.15	765.8	30.28	769.1	54	12.2	80	S	6	2.7	.....	0	8ks	.....	SW	0	0	Cloudy	
Stockton, Texas	27.00	685.8	30.00	762.0	47	8.3	48	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Thatcher's Island, Mass.	30.22	767.6	30.28	769.1	53	11.7	80	SW	11	4.9	.....	2k	2s	W	SW	0	0	Fair	
Toledo, Ohio	29.20	741.7	29.86	758.4	58	14.4	82	S	14	6.3	.....	0	2s	.....	SW	0.12	3.0	Clear	
Tucson, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon	29.30	744.2	29.79	756.7	42.0	5.6	74	E	8	3.6	.....	.....	10s	.....	W	0	0	Cloudy	
Uvalde, Texas	29.02	737.1	29.82	757.4	64	17.8	94	NE	5	2.2	.....	.....	Fog	.....	SE	0	0	Dense fog	
Vicksburg, Mississippi	29.81	757.2	30.06	763.5	72	22.2	90	SE	5	2.2	.....	.....	10s	.....	S	0	0	Cloudy	
Virginia City, Montana	23.93	607.6	29.40	746.7	19	— 7.2	54	Calm	0	0	.....	10os	0	W	.....	0	0	Cloudy	
Visalia, California	29.26	743.2	29.62	752.3	47	8.3	77	SE	4	1.8	.....	.....	10n	.....	Calm	0.03	0.8	Light rain	
Washington, D. C.	30.20	767.1	30.31	769.9	57	13.9	87	S	3	1.3	.....	1k	8s	Calm	SW	Inap.	Inap.	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	45	7.2	61	SW	.....	.....	1	.....	10s	.....	Calm	0	0	Cloudy	
Wilmington, North Carolina	30.26	768.6	30.34	770.6	65	18.3	84	SE	5	2.2	.....	8cs	0	Calm	.....	0.16	4.1	Fair	
Winnemucca, Nevada	25.23	640.8	29.59	751.6	31	— 0.6	89	NE	7	3.1	.....	.....	10s	.....	Calm	0.10	2.5	Cloudy	
Wood's Holl, Massachusetts	30.30	769.6	30.34	770.6	54	12.2	86	SW	12	5.4	.....	.....	10ks	.....	SW	0	0	Cloudy	
Yankton, Dakota	28.69	728.7	29.93	760.2	31	— 0.6	79	W	1	0.4	.....	5k	0	SW	.....	0	0	Fair	
Yuma, Arizona	29.63	752.6	29.79	756.7	58	14.4	58	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	29.95	760.7	30.00	762.0	77	25.0	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.13	765.3	30.14	765.5	77	25.0	87	Calm	0	0	.....	8c	2cs	Calm	.....	0	0	Fair	James Gall.
Medellin, Colombia, S. A.*	25.20	640.1	.....	.....	67.0	19.4	85	Calm	.....	.....	0	6cs	2ks	.....	.....	0	0	.....	Thomas Herran.
Navassa, W. I.	29.89	759.2	29.97	761.2	80	26.7	.....	F	7.5	3.4	.....	0	2s	.....	E	0	0	Clear	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.96	761.0	29.96	761.0	85	29.4	72	NE	.....	.....	2	4k	5ks	E	.....	0.170	4.32	⅝ cloudy	C. J. Hering.
Santiago de Cuba, W. I.	29.98	761.5	30.00	762.0	79	26.1	78	Calm	0	0	.....	4c	0	.....	.....	0	0	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	30.10	764.5	30.16	766.0	10.0	—12.2	90	N	14	6.3	.....	4c	0	NW	.....	0	0	Fair	J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Medellin, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,325.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm. *The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

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

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

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.09‡	764.3‡	.....	.....	68	20.0	100	NNE	4	1.8	.....	.....	2	.....	SE	0	0	.....	.....	Fair	
Navy Yard, Portsmouth, N.H.	30.04‡	763.0‡	.....	.....	40	4.4	83	SW	2	0.9	....	.....	2	.....	.....	0	0	.....	.....	Clear	
Naval Hospital, Yokohama, Japan	29.84‡	757.9‡	.....	.....	52	11.1	79	Calm	.....	.....	0	.....	10n	.....	W	Slight	Slight	.....	.....	Light rain	
Adams, Mare I'd., Navy Yard, Cal.	29.69‡	754.1‡	.....	.....	53	11.7	93	E	.....	.....	4	.....	10	.....	E	.....	.....	.....	.....	Cloudy	
Alaska, S. 19° 50′, W. 70° 16.′..*	29.97‡	761.2‡	.....	.....	62	16.7	88	S	.....	....	1	.....	8	.....	N	.....	.....	.....	.....	Hazy	
Alliance, N. 25° 19′, W. 25° 17′.....	30.15‡	765.8‡	.....	.....	74	23.3	81	NE	.....	.....	1	.....	8	.....	NE	.....	.....	Smooth	NE	D. clouds	
Colorado, New York, . Y.	30.18‡	766.6‡	.....	.....	59	15.0	82	SW	5	2.2	.....	.....	2	.....	.....	0.01	0.3	.....	.....	Misty	
Constitution, Navy Yard, Norfolk, Va.	30.41‡	772.4‡	.....	.....	58	14.4	100	S	5	2.2	.....	.....	8	.....	Calm	.....	.....	.....	.....	Pleasant	
Enterprise, N. 33° 17′, E. 17° 59′.....	29.92‡	760.0‡	.....	.....	61	16.1	77	SSW	.....	.....	6	.....	10	.....	SW	.....	.....	Long	.....	Cloudy	
Franklin, Off Navy Yard, Norfolk, Va.	30.37‡	771.4‡	.....	.....	61	16.1	77	S	9	4.0	.....	.....	8	.....	.....	0	0	.....	.....	Fair	
Hartford. N. 30° 18′, W. 17° 30′.....	30.31‡	769 9‡	.....	.....	74	23.3	68	ENE	.....	.....	6	.....	8	.....	NE	0	0	Mod'ate	NE	Cloudy	
Independence, Mare I'd, Navy Yard, Cal.	29.46‡	748.3‡	.....	.....	56	13.3	87	SE	6.0	2.7	.....	.....	10	.....	SE	0.4	10.	.....	.....	Rainy	
Kearsage, Norfolk, Va	30.10‡	764.5‡	.....	.....	53	11.7	80	Calm	.....	.....	0	.....	2	.....	SE	0	0	.....	.....	Clear.	
Lackawana, N. 20° 00′. E. 177° 50′...†.	29.99‡	761.7‡	.....	.....	79	26.1	82	ENE	....	.....	2–4	.....	2	.....	ENE	.....	.....	Mod'ate	ENE	Fair	
Marion, Off Norfolk, Va.	30.38‡	771.6‡	.....	.....	60	15.6	82	S	.....	.....	1	.....	2	.....	SSW	.....	.....	Smooth	.....	Clear	
Michigan, Erie, Pa.....	29.83‡	757.7‡	.....	.....	64	17.8	68	SSW	.....	.. ..	7	.....	10	.....	WSW	.....	.....	.....	.....	Cloudy	
Monocacy, Shanghai, China..	30.33‡	770.4‡	.....	.....	42	5.6	83	NW	.....	.....	1	.....	0	.....	.....	.. ..	.....	.....	.....	Fair?	
New Hampshire, Port Royal, S. C.	30.27‡	768.8‡	.....	.....	70	21.1	85	SE	10	4.5	.....	.....	7	.....	W	0	0	.....	.....	Cloudy	
Onward, Callao, Peru ....†	29.95‡	760.7‡	.....	.....	64	17.8	59	SSE	.....	.....	2	.....	10	.....	.....	.....	.....	Long	W	Misty	
Palos, Shawelshau Lt., near Shanghai, China	30.19‡	766.8‡	.....	.....	56	13.3	100	NNW	.....	.....	3	.....	5	.....	.....	.....	.....	.....	.....	Fair	
Passaic, Washington, D. C.	30.33‡	770.4‡	.....	.....	59	15.0	94	Calm	....	....	0	.....	8	.....	.....	0	0	.....	.....	Cloudy	
Pensacola, Callao, Peru	29.94‡	760.5‡	.....	.....	64	17.8	94	SSE	.....	.....	1	.....	10	.....	.....	.....	.....	Smooth	.....	Misty	
Portsmouth, Lower Cedar Point, Potomac river.	30.33‡	770.4‡	.....	.....	58	14.4	82	SSE	.....	.....	2	.....	5?	.....	S	0	0	....	.....	Clear?	
Powhatan, Norfolk, Va.	30.37‡	771.4‡	.....	.....	59	15 0	94	SE	....	.....	1	.....	5	.....	.....	0	0	.....	.....	Fair	
Quinnebaug, Leghorn, Italy	30.38‡	771.6‡	.....	.....	58	14.4	53	ENE	.....	.....	4	.....	0	.. ....	.....	.....	.....	.....	.....	Clear	
Ranger, N. 37° 10′, E. 148° 24′.....	29.76‡	755.9‡	.....	.....	56	13.3	81	NNW	.....	.....	2	.....	5	.....	NW	.....	.....	Long	NW	Fair	
Richmond, Shanghai, China.....	30.30‡	769.6‡	.....	.....	44	6.7	92	NW	.....	.....	3	.....	0	.....	.....	0.08	2.0	Smooth	.....	Clear	
Rio Bravo, Brownsville, Texas... †.	30.00‡	762.0‡	.....	.....	75	23.9	100	SSE	4	1.8	... ..	8	8	Calm	SSE	0	0	.....	.....	Cloudy	
Santee, Annapolis, Md	30.34‡	770.6‡	.....	.....	57	13.9	100	S	....	.....	2	.....	10	.....	SW	0	0	.....	.....	Overcast	
Shenandoah, N. 11° 00′, W. 31° —′.. ..	30.00‡	762.0‡	.....	.....	82	27.8	79	E	.....	.....	4	.....	5	.....	.....	.....	.....	Smooth	.....	Fair	
St. Louis, League Island, Pa.	30.30‡	769.6‡	.....	.....	56	13 3	87	SW	10	4.5	.....	.....	10	.....	SW	.....	.....	.....	.....	Raining	
Trenton, Villafranca, France	30.39‡	771.9‡	....	.....	63	17.2	62	S	.....	.....	1	.....	0	.....	.....	0	0	Smooth	.....	Clear	
Tuscarora, Sacrificios, Mexico	29.92‡	760.0‡	.....	.....	79	26.1	82	Calm	.....	.....	0	.....	0	.....	.....	0	0	Long	S	Clear	
Vandalia, N. 24° 36′, W. 86°/ —′	30.06‡	763.5‡	.....	.....	79	26.1	86	E	.....	.....	3	.....	2	.....	E	.....	.....	.....	.....	Clear	
Wabash, Boston, Mass.	30.22‡	767.6‡	.....	.....	51	10.6	79	SW	9	4.0	.....	.....	8	.....	.....	0	0	.....	.....	Cloudy	
Wachusett, N. 12° —′, W 33° —′.....	30.09‡	764.3‡	.....	.....	81	27.2	83	E	.....	.....	5	.....	2	.....	E	.....	.....	Mod'ate	E	Fair	
Wyoming, Algiers, Algeria.....	30.34‡	770.6‡	.....	.....	64	17.8	53	NE	.....	.....	2	.....	5	.....	NE	.....	....	Smooth	NE	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

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

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

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

CUNARD LINE MARINE SERIES.

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

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'er 0—10.	Upper. From—	Lower. From—					
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitebury.
S. S. Costa Rica																			W. House & R. Lawless.
S. S. Dakota, Capt. H. G. Morse																			Capt. Connolly.
S. S. Georgia																			F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin																			Capt. A. Fuller.
S. S. Wilmington																			
S. S. Zealandia, S. 1° 45′, W. 166° 06′		29.78‡	756.4‡				E			5				E		Light	SE	Clear	R. C. Ghest, 1st Officer.

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

WHITE STAR LINE MARINE SERIES.

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

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'er 0—10.	Upper. From—	Lower. From—					
S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

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

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

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

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'er 0—10.	Upper. From—	Lower. From—					
S. S. Belgic, Capt. L. Meyer N. 36° 45′, W. 167° 51′		30.13‡	765.3‡	70	21.1	61	Var.			2		2		N		Irregular.		D. clouds	D. A. Joyce, 2nd Officer J. A. Thompson, C. O.
S. S. Gaelic, Capt. Davidson N. 46° 07′, W. 179° 07′ §†		30.30‡	769.6‡	46	7.8		ESE			3		ks		SE	0	Mod'ate	NE	D. clouds	J. G. Cameron.
S. S. Oceanic, Capt. J. Metcalf																			

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

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES

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

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'er 0—10.	Upper. From—	Lower. From—					
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undutsch.
S. S. Leipzig, Capt. F. Pfeiffer, N. 49° 52′, W. 12° 30′		30.16‡	766.1‡	56.5	13.6	94	SW			4		8		WSW	0	Mod'ate	SW	Cloudy	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 49° 29′, W. 29° 32′		30.43‡	772.9‡				NNE			2		8		E		S	NNE	Cloudy	Capt. G. Meyer.

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

UNITED STATES MARINE SERIES—CONTINUED.

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

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, St. George's Channel, Eng.		30.33‡	770.4‡	55	12.8	93	SSW			6		8		W	0			Cloudy	Capt. R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.

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

RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents.																			
Belgenland, N. 49° 05', W. 13° 11'		30.08‡	764.0‡	58	14.4		S	24	10.7		10		S	3 h'rs	l ght	S	Hazy		Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

NOTE.—The originals give the barometer as read off; do not distinguish between upper and lower clouds; sea-swell in general terms, as published. ‡Corrections for temperature, instrumental error and elevation applied at this office.

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

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

MARINE SERIES—Miscellaneous.																			
Furnished by the co-operation of the Observers named.																			
Schooner Addie Fuller, Charleston, S. C.		30.27‡	768.8‡	68	20.0	79	SE				5c; ck				0			Clear?	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax," N. 23° 47', W. 66° 00'...†		30.04‡	763.0‡	78	25.6		ENE			5		8		ENE	0	Rough	ENE	Cloudy	N. B. Foss.
Schooner Harry and Fred																			Capt. George Gardner.
Haytian.																			
§ Iron Cross																			Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

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

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

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

Albert J. Myer

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

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

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

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

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

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

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

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

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 10, 1879.

7:35 A. M. WASHINGTON Mean Time.

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

ALGERIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.25	768.3	69.1	20.6	76	SW	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	
Nemours	.....	.....	30.30	769.5	68.0	20.0	81	NNW	.....	.....	1	.....	2	.....	.....	0	0	Fair	Kesxuche.
Algiers	.....	.....	30.32	770.0	65.1	18.4	52	ENE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Touriliere.
La Calle	.....	.....	30.29	769.4	60.4	15.8	79	NNW	.....	.....	3	.....	10	.....	.....	0.098	2.5	Covered	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.091	2.3	.....	Jacques.
Sfax	.....	.....	30.28	769.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Herbin.
Tebessa	.....	.....	30.32	770.2	54.1	12 3	59	NNW	.....	.....	2	.....	10	.....	.....	0	0	Covered	Watrin.
Geriville	.....	.....	.....	.....	57.7	14.3	55	NNW	.....	.....	3	.....	0	.....	.....	0	0	Clear	Brugniuax.
Laghouat	.....	.....	30.24	768.2	57.9	14.4	69	SW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	30.24	768 0	68 4	20.2	64	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Chauvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

AUSTRO-HUNGARIAN SERIES.

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

Agram	29.77	756.2	30.34	770.7	43.9	6.6	70	E	.....	.....	3	.....	0	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.50	749.3	30.29	769.4	43.9	6.6	71	WSW	2.2	1.0	.....	.....	0	.....	.....	0	0	.....	Prof. Dr. Karlinski, Dir.
Eperies	29.42	747.3	30.34	770.6	37.9	3.3	98	S	.....	.....	5	.....	9	.....	.....	0	0	.....	Julius Mikolik.
Gratz	29.07	738.3	30.37	771.4	41.0	5.0	75	S	.....	.....	2	.....	0	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.92	734.5	30.41	772 3	39.9	4.4	73	E	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.89	733 8	30.30	769.5	33.6	0.9	93	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	29.20	741.7	30.21	767.4	45.3	7.4	74	SW	.....	.....	2	.....	0	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	30.18	766.6	30.30	769.5	52.9	11.6	57	WNW	.....	.....	2	.....	0	.....	.....	0	0	.....	I.R.Hydrographic Office.
Szathmar	29.97	761.2	30.45	773.4	45.0	7.2	66	S	.....	.....	2	.....	0	.....	.....	0	0	.....	Pet. Panesics.
Szegedin	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Karl Stancel.
Trieste	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Busin.
Vienna	30.22	767.5	30.32	770.1	52.3	11.3	61	Calm	.....	.....	0	.....	0	.....	.....	0	0	Clear	I.R.Central Met. Ob'sy.
.....	29.56	750.9	30.30	769.5	43.5	6.4	79	NE	.....	.....	1	.....	0	.....	.....	0	0	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2:20, instead of 2:8 p. m., local time.

BELGIAN SERIES.

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

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

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

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

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

BRITISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.05	763.3	30.15	765.8	45.0	7.2	.....	W	9	4.0	.....	.....	1	.....	.....	Blank	Blank	Blue sky	W. Boswell.
Ardrossan	30.22	767.6	30.24	768.1	47	8.3	.....	NW	.....	.....	1	.....	3	.....	.....	.....	.....	Blue sky	Wm.McNeil&G.Carrick
Armagh, (Observatory)	30.07	763.8	30.32	770.1	45.9	7.7	.....	NW	6	2.7	.....	.....	0	.....	.....	.....	.....	Blue sky	S. Call.
Bidston (Liverpool Obs)	.....	.....	30.22	767.6	46.3	7.9	.....	NNW	13	5.8	.....	.....	9	.....	.....	.....	.....	Overcast	John Hartnup.
Bolton (Sharples)	29.66	753.4	30.18	766.6	44.8	7.1	.....	NW	6	2.7	.....	.....	10	.....	.....	.....	.....	Overcast	Thomas Mackereth.
Bradford, Yorkshire	29.80	756.9	30.20	767.1	46.4	8.0	.....	N	.....	.....	3	.....	10	.....	.....	0.14	3.6	Overcast	J McLandsborough.
Bridgetown, Barbadoes	29.91	759.7	29.94	760.5	82.5	28.1	.....	NE	.....	.....	2	.....	6	.....	.....	.....	.....	Gloomy	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	30.02	762.5	30.12	765.0	50.0	10.0	.....	NW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	H. Todd.
Cardington	.....	.....	30.10	764.5	50.0	10.0	.....	W	.....	.....	0–1	.....	10	.....	.....	.....	.....	Overcast	John McLaren.
Chatham (School M. E.)	30.02	762.5	30.15	765.8	49.1	9.5	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Misty	J. Carmell, Sapper, R.E.
Donaghadee	30.24	768.1	30.28	769.1	48	8.9	.....	NNE	.....	.....	4	.....	3	.....	.....	.....	.....	D clouds	J. Mac Gowan.
Dover	30.10	764.5	30.13	765.3	50	10.0	.....	W	.....	.....	1	.....	10	.....	.....	.....	.....	Misty	J. Costello.
Falmouth (Observatory)	29.98	761.5	30.21	767.3	51.9	11.1	.....	NNW	.....	.....	5	.....	5	.....	.....	.....	.....	Squally	The Staff.
Fort Napier, Natal	27.73	704.3	29.95	760.7	68.2	20.1	.....	NE	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone§	29.74	755.4	29.97	761.2	88	31.1	.....	W	.....	.....	0	.....	3	.....	.....	.....	.....	D. clouds	
Galway (Queen's College)	.....	.....	30.31	769.9	50	10.0	.....	NW	.....	.....	1	.....	4	.....	.....	.....	.....	Blue sky	Prof. A. H. Curtis.
Gibraltar, Mediterranean‖	30.17	766.3	30.22	767.6	63.1	17.3	.....	E	.....	.....	3	.....	7	.....	.....	.....	.....	D. clouds	Sergt.Wm. Allen, A. H.
Glasgow, (Observatory)	30.01	762.2	30.22	767.6	45.4	7.4	.....	W	.....	.....	2	c	.....	.....	.....	.....	.....	Blue sky	D. G. Maclean. [C.
Great Yarmouth	30.08	764.0	30.08	764.0	47	8.3	.....	W	.....	.....	1	.....	10	.....	.....	.....	.....	Foggy	G. T. Watson.
Greenwich (Royal Obs'y)	29.97	761.2	30.14	765.5	49.4	9.7	.....	WSW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	The Staff, for G.B.Airy.
Guernsey	29.97	761.2	30.19	766.8	55	12.8	.....	WNW	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds	Dr.S.E Hoskins, F.R.S.
Helston	30.37	771.4	30.50	774 7	52	11.1	.....	N	.....	.....	1	.....	4k	.....	.....	0.11	2.8	Fair	M. P. Moyle.
Holyhead	30.22	767.6	30.26	768.6	48	8.9	.....	NNE	.....	.....	4	.....	1	.....	.....	.....	.....	Blue sky	John Tilston.
Jersey	29 93	760.2	30.23	767.8	52.3	11.3	.....	WSW	.....	.....	3	.....	10	.....	.....	Blank	Blank	Overcast	J. Fisher.
Kew (Observatory)	30.10	764.5	30.14	765.5	50.5	10.3	.....	SSW	6	2.7	.....	.....	10	.....	.....	.....	.....	Misty	The Met'g'l Office.
Leicester (Museum)	29.90	759.4	30.16	766.1	46.5	8.1	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	29.90	759.4	29.98	761.5	63.2	17.3	.....	NE	.....	.....	5	.....	4n	.....	.....	.....	.....	D. clouds	A. King.
Nairn	30.04	763.0	30.14	765.5	44	6.7	.....	SW	.....	.....	1	.....	2	.....	.....	.....	.....	⅛ clouded	W. D. Penny.
Nassau, Bahamas	.....	.....	30.16	766.1	77.5	25.3	.....	NE	.....	.....	3	.....	4	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham (Observatory)	30.00	762.0	30.20	767.1	46.8	8.2	.....	N	.....	.....	2	.....	10k	.....	N	0.008	0.20	Overcast	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.64	752.8	30.17	766.3	45.4	7.4	.....	NNW	.....	.....	2	.....	10	.....	.....	.....	.....	Raining	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)	.....	.....	30.15	765.8	50	10.0	.....	W	.....	.....	1	.....	10	.....	.....	.....	.....	Threatening	H. E. Bellamy.
Plymouth	30.10	764.5	30.17	766.3	54.7	12.6	.....	NW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	30.27	768 8	30.36	771.1	48	8.9	.....	N	.....	.....	4	.....	2	.....	.....	.....	.....	¼ clouded	Wm. Kennedy.
St. Ann's Head	30.08	764.0	30.25	768.3	50	10.0	.....	N	.....	.....	4	.....	2	.....	.....	.....	.....	.....	John C. Walker.
Sandwick Manse, Orkneys	.....	.....	30.03	762.7	46	7.8	.....	WSW	29	13.0	.....	.....	5	.....	.....	.....	.....	Showery	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	30.21	767.3	30.27	768.8	56.6	13.7	.....	ENE	.....	.....	2	.....	1	.....	.....	.....	.....	Blue sky	Serg't W. H. Lyne.
Sheffield	29.92	760.0	30.20	767.1	47.2	8.4	.....	NNW	.....	.....	2	.....	10	.....	.....	0	0	Overcast	W. F. Cooper.
Silloth Rectory	30.18	766.6	30.21	767.3	49.5	9.7	78	SW	.....	.....	1	.....	0	.....	.....	0	0	Blue sky	Rev. S. J. Perry.
Stonyhurst (Observatory)	.....	.....	30.18	766.6	46.8	8.2	.....	NNW	1	0.4	.....	.....	5	.....	.....	.....	.....	D. clouds	
Straffield, Turgiss	29.96	761.0	30.19	766.8	47.3	8.5	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Drizzling	Rev.C.H.Griffith, F.M.S
Truro (Royal Institution)	30.18	766.6	30.23	767.8	55	12.8	.....	N	.....	.....	6	.....	4	.....	.....	.....	.....	D. clouds	W. Newcombe.
Valencia Observatory)	30.46	773.7	30.49	774.4	50.3	10.2	.....	N	9	4.0	.....	.....	6	.....	.....	.....	.....	D. clouds	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	30.04	763.0	30.08	764.0	76.4	24.7	48	S	6.6	3.0	.....	1c	2ks	.....	.....	.....	.....	.....	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.60	650.2	.....	.....	79	26.1	.....	W	.....	.....	.....	0	0	.....	.....	.....	.....	.....	Robert Burnet.
Hobart Town, Tasmania	.....	.....	29.52	749.8	65.0	18.3	73	Calm	.....	.....	0	.....	4k	.....	.....	1.20	30.5	.....	Francis Abbott, F.R.A.S
Leith, (Restalrig Perk)	.....	.....	30.21	767.3	49.1	9.5	.....	NW	.....	.....	2	.....	.....	.....	.....	0.02	0.5	Fine	Andrew Gibb.
Mauritius (Observatory)	29.86	758.4	30.05	763.3	77.0	25.0	60	ENE	14.5	6.5	.....	4	1	.....	.....	0	0	Fine	C. Melddrum.
Melbourne (Observatory)	29.29	743.9	29.38	746.2	68.7	20.4	44	ENE	5	2.2	.....	.....	10	.....	.....	0	0	Dull	R. L. J. Ellery.
Monach Lt-house, Hebrides	.....	.....	30.11	764.8	51	10.6	.....	W	.....	.....	7	5	10	NW	.....	0.1	3.	.....	J. Youngclause.
North Unst, Shetland Is	.....	.....	29.83	757.7	.....	.....	.....	W	.....	.....	6	5	5	SW	.....	Blank	Blank	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing, but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft., or 670 m.; Colesberg Bridge, unknown. §Observations taken 55 minutes early. ‖Observations taken 47 minutes late. Both of these errors have apparently existed for a long time.

British Marine Series, Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. 0—10.	Clouds. Direction. From—	Sea or swell. Height, scale 0—9.	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. Alert, Tom Bay., Patagonia	.....	.....	29.67‡	753.6‡	41.5	5.3	.....	N	.....	.....	2	.....	10	.....	.....	Raining	Capt.J.P. Maclear, R.N.
H. M. Sloop Gannet, S. 11° 47′, W. 77° 13′	.....	.....	29.99‡	761.7‡	65	18.3	.....	NW	.....	.....	2	.....	6	.....	.....	Foggy	Commander E. Bourke, R. N.
H. M. S. Magpie, Shanghai, China	.....	.....	30.20‡	767.1‡	47	8.3	.....	WNW	.....	.....	2	.....	0	.....	.....	Misty	Capt. R. H. Napier, R.N.
Brig Alliance, N. 25° 55′, W. 57° 05′	.....	.....	30.12‡	765.0‡	75.8	24.3	.....	NNE	.....	.....	4	.....	4	.....	.....	D. clouds	Capt. W. Scott.
Barque Commewyne N. 11° 10′, W. 48° 20′	.....	.....	30.01‡	762.2‡	81.8	27.7	.....	ESE	.....	.....	2	.....	6	.....	.....	D. clouds	Capt. Jas. Buchan.
S. S. Ethiopia, N. 53° 15′, W. 27° 47′	.....	.....	30.19	766.8	52	11.1	.....	WSW	.....	.....	6	.....	10	.....	.....	Raining	Capt. Campbell.
S. S. German, Cape Town, Cape Colony	.....	.....	30.08‡	764.0‡	70	21.1	.....	W	.....	.....	4	.....	7	.....	.....	Squally	Capt. O. D. Coxwell.
Barque Queen of Cambria, N. 11° 40′, E. 75° 05′	.....	.....	29.88‡	758.9‡	84.5	29.2	.....	W	.....	.....	2	.....	0	.....	.....	Blue sky	Capt. M. Parry.
S. S. Strathleven, Sydney, N. S. W.	.....	.....	29.79‡	756.7‡	65.5	18.6	.....	SSE	.....	.....	3	.....	2	.....	.....	Blue sky	Capt. C. W. Pearson.
Schooner Traveller, N. 50° 30′, W. 14° 20′	.....	.....	30.44	773.2	52	11.1	.....	Var.	.....	.....	2	.....	10	4	NNE	Overcast	.....
S. S. Gordon Castle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	WNW	.....	.....
German Brig "W. von Freeden"	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. V. Freeden.
Theophane	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Greig.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
S. S. Peruvian	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. H. Smith.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

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

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. L'w'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
San José	26.22	666.0	29.94	760.5	68.0	20.0	91	S	.....	.....	2	.....	7d	.....	.....	0	0	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

DANISH SERIES.

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

Copenhagen	29.87	758.8	29.92	760.0	45.9	7.7	91	W	.....	.....	2	.....	10	.....	.....	.....	.....	Rain and fog	
Fanöe	29.93	760.3	29.95	760.8	44 8	7.1	99	N	.....	.....	4	.....	9	.....	.....	.....	.....	Raining	
Godthaab (Greenland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Stykkisholm (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Thorshavn (Farõe)	29.77	756.2	29.81	757.1	41.0	5.0	83	W	.....	.....	4	.....	5	.....	.....	.....	.....	.....	
Vestervig	29.84	758.0	29.95	760.8	42.8	6.0	94	W	.....	.....	2	.....	10	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

FRENCH SERIES.

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

Alençon, Normal School	29.69	754.0	30.24	768.0	48.2	9	86	SE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Collignon, Director.
Amiens, Normal School	30.01	762.3	30.13	765.2	47.5	8.6	94	E	.....	.....	1	.....	8	.....	Calm	0	0	Very cloudy	Vaillant, Director.
Arras, Engin'r School	29.88	759.0	30.15	765.8	43.9	6.6	90	WSW	.....	.....	1	.....	.....	.....	.....	0	0	.....	Klein, Commandant.
Avignon, Normal School	30.28	769.0	30.35	771.0	56.1	13.4	69	NNE	.....	.....	1	.....	0	.....	.....	0	0	Very cl ar	Giraud, Director.
Bar-sur-Seine	29.68	753.9	30.24	768.2	53.1	11.7	59	SW	.....	.....	1	.....	5cn	.....	SW	0	0	Cloudy	C. Saillard, Director
Beauvais, Normal School	29.94	760.4	30.21	767.3	46.0	7.8	84	W	.....	.....	1	.....	10	.....	WNW	0	0	Covered	Frere Eugene Marie
Besançon, Normal School	29.40	746.8	30.31	769.8	50.4	10.2	73	S	.....	.....	2	.....	0	.....	.....	0	0	Clear	A. Carré, Director.
Bourg-en-Bresse, N. School	29.47	748.6	30.47	774.0	53.6	12	67	S	.....	.....	4	.....	0	.....	.....	0	0	Clear	Marlot, Director.
Bourges, Normal School	29.71	754.6	30.27	768.8	54.3	12.4	81	W	.....	.....	1	.....	5kn	.....	W	0	0	Cloudy	M. Gence, Director.
Brest, Naval Observatory	30.01	762.2	30.25	768.4	56.8	13.8	86	W	.....	.....	1	.....	10	.....	W	0	0	.....	Ch. de Rermaree, Dir.
Caen, Normal School	30.21	767.2	.....	.....	50.9	10.5	89	W	.....	.....	.....	.....	8	.....	W	0	0	Very cloudy	M. Bietrin, Director.
Carcassonne, N. School	29.89	759.3	30.31	769.9	58.8	14.9	70	E	.....	.....	2	.....	2	.....	ESE	0	0	Slightly cl'dy	September, Director.
Châlons-sur-Marne, N. Sch'	29.93	760.2	30.25	768.4	50.9	10.5	74	SSW	.....	.....	1	.....	8	SSE	SSE	.....	.....	Very cloudy	Jadot, Director.
Chartres, Normal School	29.64	752.9	30.22	767.6	45.5	7.5	88	SW	.....	.....	1	.....	10	.....	NW	0	0	Covered	Vergier, Director.
Clermont-Fd, Puy de D. Obs	28.90	734.0	30.25	768.4	58.6	14.8	47	N	.....	.....	1	.....	2	.....	.....	0	0	Solar halo	Alluard, Director.
Commercy, Normal School	29.33	745.0	30.20	767.0	53.6	12	74	WSW	.....	.....	1	5ck	.....	WSW	WSW	0	0	Cloudy	Dr. Coullet, Director.
Commune de Gréasque*	29.26	743.2	30.40	772.2	56.7	13.7	50	N	.....	.....	2	.....	0	.....	.....	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.56	750.8	30.36	771.2	39.9	4.4	80	NE	.....	.....	1	.....	.....	.....	.....	0	0	Foggy	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.05	763.3	30.27	768.8	53.2	11.8	97	ESE	.....	.....	1	.....	8	.....	W	0	0	Very cloudy	Mouillot, Director.
Le Mans, Normal School	29.97	761.1	30.28	769.1	46.4	8	86	S	.....	.....	1	.....	8	.....	SW	0	0	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.38	746.3	30.32	770.2	51.3	10.7	72	SW	.....	.....	3	.....	0	.....	.....	0	0	Clear	A. Baudry, Director
Lorient, Naval Observatory	30.15	765.9	30.26	768.7	56.1	13.4	80	WNW	.....	.....	1	.....	.....	W	NW	0	0	.....	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.67	753.6	30.30	769.5	56.8	13.8	62	S	.....	.....	1	.....	.....	.....	.....	0	0	.....	Ch. André, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	30.06	763.5	30.33	770.4	60.3	15.7	50	WSW	.....	.....	1	.....	.....	.....	.....	0	0	.....	E. Stephan, Director.
Mirecourt, Normal School	29.18	741.1	30.24	768.2	47.8	8.8	76	SW	.....	.....	1	.....	k	SW	SW	0 08	2.	.....	Barbier, Director.
Mont-Louis	25.68	647.0	30.41	772.3	45.5	7.5	64	WSW	24.2	10.8	.....	.....	3	.....	NW	0	0	.....	M. Cave.
Nice	30.32	770.0	30.35	770.9	60.8	16.0	67	W	.....	.....	3	.....	1	W	W	0	0	Clear	M. Boissieré, Director.
Nismes, Normal School	30.21	767.2	30.41	772.4	62.2	16.8	72	E	.....	.....	1	.....	5	.....	SW	0	0	Cloudy	M. Boyer, Director.
Paris, Montsouris Obs'y	29.94	760.5	.....	.....	49.6	9.8	76	SW	.....	.....	1	.....	10	.....	.....	0.004	0.1	.....	Marie Davy, Director.
Perpignan	30.22	767.5	30.32	770.1	57.6	14.2	76	SE	3.8	1.7	.....	.....	5	.....	NW	0	0	Hazy	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.71	576.8	.....	.....	38.8	3.8	.....	NNW	.....	.....	1	.....	1	.....	NNW	0	0	Clear	Gen'l de Nansouty.
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Privas, Normal School	29.24	742.8	30.32	770.0	58.1	14.5	64	SW	.....	.....	1	.....	n	SW	SW	0	0	.....	Cantier, Director.
Puy de Dome (Summit) Obs	25.33	643.4	.....	.....	38.8	3.8	78	W	.....	.....	3	.....	5	.....	.....	0	0	½ covered	Alluard, Director.
Rochefort, Naval Obs'y	30.24	768.1	30.27	768.9	54.0	12.2	86	E	.....	.....	1	.....	8	NNE	NNE	0	0	¾ covered	Lt E. Decante, Director
Rouen, Normal School	30.12	765.1	30.21	767.3	44.2	6.8	88	NW	.....	.....	1	.....	10	.....	.....	0	0	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.19	766.9	30.22	767.6	52.2	11.2	80	SW	.....	.....	2	.....	8	SSW	SSW	.....	.....	Sprinkling	Lt. Hercouet, Director.
Saint Maur (near Paris)	30.06	763.4	30.22	767.6	47.5	8.6	83	SSW	.....	.....	3	.....	.....	.....	WSW	0.004	0.1	Solar halo	E. Renou, Director.
Tarbes, Normal School	30.06	763.4	30.22	767.6	47.5	8.6	83	SSW	.....	.....	3	.....	.....	.....	.....	0	0	Slightly cl'dy	T. Huguet, Director.
Toulouse, Observatory	29.31	744.4	30.40	772.1	45.5	7.5	71	W	.....	.....	1	.....	2	NE	W	0	0	Cloudy	M. Julier Mercadier.
Tours	29.60	751.9	30.33	770.4	48.1	14.5	67	SE	.....	.....	2	.....	5	.....	.....	0	0	Covered	Cousin-Marquet.
Versailles, Observatory	30.06	763.4	30.25	768.4	49.6	9.8	81	W	.....	.....	1	.....	10	.....	W	0	0	.....	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.60	751.7	30.32	770.2	50.9	10.5	74	E	.....	.....	1	.....	0	.....	.....	0.001	0.02	Clear	Nicot, Director.
SUB-SERIES.																0	0	.....	
Fort de France, Martinique	29.91	759.8	29.94	760.5	79.2	26.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L'Abbé Marchési
Zi-Ka-Wei (near Shanghai)	30.20	767.0	30.23	767.7	39.0	3.9	99	W	3.1	1.4	.....	.....	0	.....	.....	0	0	Clear	Marc Dechevrens.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in gene al terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centrigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.36	745.7	30.21	767.3	35.2	1.8	93	E	.....	.....	4	.....	10ks	.....	.....	0	0	Foggy	Prof. Dr. Hoh.
Berlin	29.91	759.8	30.09	764.3	46.8	8.2	78	SW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	Prof. Dr. Arndt.
Breslau	29.67	753.5	30.20	767.1	47.3	8.5	63	WSW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	Prof. Dr. Arndt.
Carlsruhe	29.80	756.9	30.24	768.0	46.4	8.0	75	SW	.....	.....	3	.....	0	.....	.....	0	0	.....	Royal University Obs'y.
Cassel	29.58	751.2	30.19	766.7	39.7	4.3	90	SE	.....	.....	4	.....	10	S	.....	0.028	0.7	Dense fog...	Albert Senz.
Emden	.....	.....	30.03	762.7	44.4	6.9	89	SW	.....	.....	3	.....	10	.....	.....	0	0	.....	Dr. H. Möhl.
Frankfort on the Main	29.98	761.6	30.37	771.3	38.8	3.8	88	SW	.....	.....	1	.....	10	.....	.....	0	0	.....	Prof. Dr. Prestel.
Friedrichshafen	28.85	732.8	30.35	770.9	37.0	2.8	86	SW	.....	.....	2	.....	10	.....	.....	0	0	.....	Physical Society.
Hamburg	30.00	762.1	30.08	763.9	44.6	7.0	85	SW	.....	.....	3	.....	9k	.....	.....	0	0	Hazy	Chief Telegrapher Wilhelm.
Kiel	30.01	762.3	30.03	762.7	46.9	8.3	78	SW	.....	.....	4	.....	10	.....	.....	0	0	Hazy.....	Captain F. Hegemann.
Königsberg (Prussia)	29.93	760.3	30.02	762.4	43.2	6.2	76	SW	.....	.....	8	.....	8	.....	.....	Inap.	Inap.	.....	Prof. Dr. G. Karsten.
Köslin	.....	.....	30.05	763.3	44.4	6.9	.....	SW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. E. Luther.
Leipsic Observatory	29.76	755.9	30.19	766.9	44.1	6.7	77	SSW	.....	.....	1	.....	0	.....	.....	0	0	.....	H. Müller.
Magdeburg	29.91	759.6	30.13	765.4	46.9	8.3	78	SE	.....	.....	1	.....	0	.....	.....	0.008	0.2	.....	Prof. Dr. Bruhns, Privy Counselor.
Memel	29.87	758.7	29.92	759.9	46.9	8.3	82	W	.....	.....	7–8	.....	10k	.....	.....	0	0	.....	Dr. Assmann.
Munich (München)	28.41	721.7	30.29	769.4	44.1	6.7	64	W	.....	.....	1	.....	0	.....	.....	.....	.....	Showery.....	Reinbrecht & Ishermann
Neufahrwasser	30.03	762.7	30.04	763.1	46.8	8.2	73	SW	.....	.....	3	.....	4	W	.....	0.008	0.2	.....	Dr. C. Lang.
Neustadt (Palatinate)	29.69	754.1	30.22	767.5	48.7	9.3	78	WSW	.....	.....	1	.....	.....	.....	.....	0	0	.....	A. Lothes.
Posen	29.81	757.1	30.10	764.6	46.0	7.8	72	W	.....	.....	7	.....	0	.....	.....	0.020	0.5	.....	Reallehrer Dicknether.
Strassburg (in Alsace)	29.71	754.7	30.28	769.0	48.7	9.3	73	SSW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. Dr. Hagener.
Stuttgart	29.25	743.0	30.22	767.5	46.4	8.0	72	NE	.....	.....	1	.....	0	.....	.....	0	0	.....	Imp. University Observatory.
Weissenburg (Bavaria)	28.73	729.7	30.30	769.7	39.2	4.0	84	Calm	0	0	.....	.....	.....	.....	.....	0	0	.....	Prof. Dr. Schoder.
Wustrow	30.02	762.4	30.04	763.0	45.5	7.5	77	SW	.....	.....	5	.....	10ks	.....	.....	0	0	Foggy	Reallehrer J. Hopfner.
German Naval Series.																0.020	0.5	.....	E. Schütz, Director.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

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

Athens	29.88	758.9	30.27	768.9	58.3	14.6	.....	NE	.....	.....	4.0	.....	0	.....	.....	.....	.....	Clear.....	Dr. J. F. J. Schmidt.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

INDIAN SERIES.

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

Kurrachee	29.97	761.2	30.02	762.5	79.1	26.2	66	WNW	8	3.6	.....	.....	0	.....	.....	0	0	Blue sky.....	
Deesa	29.54	750.2	30.01	762.3	82.2	27.9	27	SSE	7.4	3.3	.....	.....	0	.....	.....	0	0	Blue sky.....	
Bombay	29.89	759.2	29.93	760.1	78.7	26.1	72	NNW	20	8.9	.....	.....	0	.....	.....	0	0	Blue sky.....	
Poona (Yerrowda)	28.08	713.1	29.94	760.4	78.3	25.7	17	E	11	4.9	.....	.....	0	.....	.....	0	0	Blue sky.....	
Belgaum	27.38	695.5	29.95	760.7	71.4	21.9	41	E	6	2.7	.....	.....	0	.....	.....	0	0	Blue sky.....	
Lahore	29.24	742.8	30.01	762.1	69.7	20.9	48	Calm	0.2	0.1	.....	.....	3	.....	.....	0	0	Blue sky.....	
Roorkee	29.09	738.9	30.02	762.4	69.6	20.6	48	W	0.8	0.4	.....	.....	.....	.....	.....	0	0	.....	
Agra	29.43	747.6	30.01	762.3	73.7	23.7	57	SW	2.1	0.9	.....	.....	.....	.....	.....	0	0	.....	
Nagpur	28.91	734.3	29.96	761.0	76.6	24.8	37	Calm	3.0	1.3	.....	.....	.....	.....	.....	0	0	Blue sky.....	
Jubbulpore	28.60	726.4	30.00	761.9	69.7	20.9	50	ENE	1.8	0.8	.....	.....	.....	.....	.....	0	0	Blue sky.....	
Lucknow	29.62	752.4	30.01	762.2	71.4	21.9	52	N	0.6	0.3	.....	.....	.....	.....	.....	0	0	Blue sky.....	
Allahabad	29.69	754.1	30.01	762.3	68.8	20.4	72	Calm	0.9	0.4	.....	.....	.....	.....	.....	0	0	Blue sky.....	
Patna	29.80	757.0	29.99	761.7	77.5	25.3	57	Calm	0	0	.....	.....	0	.....	.....	0	0	Blue sky.....	
Hazaribagh	27.93	709.5	30.00	761.9	66.8	19.3	60	NNW	4.5	2.0	.....	.....	2	.....	.....	0	0	.....	
Cuttack	29.87	758.7	29.96	760.8	74.0	23.3	70	NE	1	0.4	.....	.....	1	.....	.....	0	0	.....	
Calcutta (Alipore)	29.93	760.3	29.95	760.8	75.1	23.9	75	N	2.0	0.9	.....	.....	0	.....	.....	0	0	Blue sky.....	
Goalpara	29.54	750.2	29.93	760.1	78.4	25.8	61	Calm	3.8	1.7	.....	.....	3	.....	.....	0	0	D. clouds.....	
Chittagong	29.86	758.4	29.95	760.7	76.6	24.8	71	Calm	2.1	0.9	.....	.....	0	.....	.....	0	0	Blue sky.....	
Sibsagar	29.64	752.7	29.98	761.4	72.2	22.3	84	ENE	1.7	0.8	.....	.....	0	.....	.....	0	0	Misty.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	0	0	Blue sky.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

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

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

STATIONS	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	29.89	759.3	30.32	770.0	50.7	10.4	46	WNW	0.7	0.3	.....	.....	0	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.80	756.8	30.33	770.3	48.5	9.4	60	W	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	30.22	767.5	30.29	769.3	50.9	10.5	52	W	6.3	2.8	.....	.....	0	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.41	747.0	30.34	770.5	46.8	8.2	67	E	1.8	0.8	.....	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	30.13	765.3	30.32	770.2	59.9	15.5	33	SW	2.5	1.1	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.37	720.5	30.31	769.9	46.6	8.1	48	NW	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.27	768.9	30.32	770.2	50 7	10.4	65	NE	13.7	6.2	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	30.05	763 3	30.32	770.0	57.2	14 0	47	NE	.....	.....	2	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	30.25	768.3	30.34	770.5	57.7	14.3	39	NE	9.4	4.2	.....	.....	0	.....	.....	0	0	.....	Prof. P. Monte.
Rome	30.09	764.3	30.27	768.8	62.1	16.7	49	N	1.8	0.8	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. C. De Giorgi.
Cosenza	29.33	745.0	30.23	767.7	57.2	14.0	76	NNE	9.8	4.4	.....	.....	5	.....	.....	0.024	0.6	.....	Prof. D. Conti.
Cagliari	30.07	763.6	30.26	768.5	64.4	18.0	60	SW	.....	.....	2	.....	1	W	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.93	760.3	30.19	766.7	63.1	17.3	55	NE	14.3	6.4	.....	.....	9	.....	.....	0.098	2.5	.....	Prof. G. Ciacciatore.
Syracuse	29.99	761.7	30.05	763.3	62.4	16.9	76	NE	18.6	8.3	.....	.....	10	NE	.....	0.520	13.2	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.71	754.6	30.24	768.0	60.8	16.0	59	NW	1.3	0.6	.....	.....	2	.....	.....	0	0	.....	Prof. F. Brioschi.

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

JAPANESE SERIES.

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

Hiroshima, I. M. Obs'y	29.82	757.4	29.84	757.9	49.2	9.6	80	ESE	3.4	1.5	.....	.....	1s	.....	.....	0.100	2.54	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.76	755.9	29.96	761.0	50.4	10.2	66	N	5.6	2.5	.....	.....	1s	.....	.....	0	0	Clear	S. Takehayashi.
Tokei, (Yeddo) Observatory.	29.47	748.5	29.54	750.3	43.3	6.3	94	NNE	9.2	4.1	.....	.....	10n	.....	.....	0.550	13.97	Raining	The Staff.
Wakayama	29.65	753.1	29.70	754.4	54.5	12.5	65	N	8.4	3.8	.....	.....	3ks	.....	N	0.005	0.13	Fair	.....

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

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

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

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	25.11	637.9	30.25	768.3	48.2	9.0	66	Calm	.....	.....	0	.....	1	.....	.....	0	0	Clear	Prof. L. Perez.
Leon	24.49	622.0	30.23	767.7	56.1	13.4	84	NW	.....	.....	1	0	0	.....	.....	0	0	Fine	Prof. M. Leal.
Mazatlan	29.79	756.6	30.05	763.2	72.9	22.7	97	E	.....	.....	1	5c	1k	SW	.....	0	0	Foggy	I. Guerrero, C. E.
Mexico, Central Observatory	23.14	587.8	30.22	767.5	51.3	10.7	74	Calm	0	0	.....	0	0	.....	.....	Inap.	Inap	.....	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	50.9	10 5	81	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.61	599.6	30.53	775.5	46.4	8.0	51	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.26	616.3	30.23	767.7	59.4	15.2	68	SE	.....	.....	1	3	0	W	.....	0	0	Clear	G. Barroeta, M. D.
Tlacotalpam	30.00	762.0	30.01	762 3	76.3	24.6	95	W	.....	.....	1	0	0	.....	.....	0	0	Foggy	Prof. M. M. Châzaro
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell
Zacatecas	22.58	573.4	30.24	768.2	51.1	10.6	68	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	A. Nuñez.

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

NETHERLANDS SERIES.

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

Flushing	30.13	765.2	30.13	765.2	45.5	7.7	.....	SW	.....	.....	3	.....	.....	.....	.....	0	0	.....	
Groningen	30.02	762.5	30.08	764 9	44.2	6 8	.....	S	.....	.....	.....	.....	.....	.....	.....	0	0	.....	
Helder	30.04	763.1	30.04	763.1	49.1	9.5	.....	SW	.....	.....	2	.....	.....	.....	.....	0.047	1.2	.....	
Hellevoetsluis	30.11	764.7	30.11	764.7	44.8	7.1	92	SSW	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Utrecht	30.07	763.7	30.11	764.9	44 4	6 9	88	SW	.....	.....	2	.....	8	.....	.....	0.039	1.0	Very cloudy	H. v. d. Brink.

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

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.93	760.1	29.98	761.5	40.6	4.8	81	Calm	0	0	.....	.....	4	.....	.....	0.394	10.0	.....	.....
Brönö	29.48	748.9	29.52	749.9	37.0	2.8	52	NNW	27	12	.....	.....	10	.....	.....	0	0	.....	.....
Christiana	29.67	753.5	29.82	757.3	43.3	6 3	45	WNW	11	5	.....	.....	0	.....	.....	0	0	.....	.....
Tromsö	29.14	740.2	29.19	741.3	26.4	— 3.1	74	NW	7	3	.....	.....	10	.....	.....	0.291	7.4	.....	.....

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

PORTUGUESE SERIES.

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

Angra (Azores)	29.96	761.0	30.15	765.8	66.9	19.4	81	ENE	6 3	2.8	.....	.....	4	.....	.....	0	0	....	Dr. J. A. Sampaio.
Campo Major	29.28	743.6	30.30	769.6	61.9	16.6	58	ENE	6.2	2.8	.....	.....	9	.....	.....	0	0	....	Dr. A. M. R. dos Santos.
Funchal (Madeira)	30.00	761.9	30.08	764.1	72.9	22.7	69	SW	8.7	3.9	.....	.....	7	.....	.....	0.543	13.8	Raining.	Capt. D. A. de Cunha.
Lisbon Observatory	29.92	759.9	30.27	768.9	62.2	16.8	71	NE	9.8	4.4	.....	.....	8	SW	....	0	0	....	The Staff.
Ponta Delgada (Azores)	30.08	764.1	30.15	765.9	67.6	19.8	89	NE	14.3	6.4	.....	.....	3	.....	....	0.091	2.3	....	

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

PORTUGUESE NAVAL SERIES. VESSELS.																Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa, Porto Praya, Cape Verd I'ds.	.....	.....	.....	.....	82.0	27.8	.....	NE	.....	.....	5	.....	6	.....	NE	3	NE	D. clouds....	A. A. A. Loureiro.
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Com'd't.
Sado, Capt. J. A de Brito Capello, St. Paul de Loando	.....	.....	29.97	761.1	79.5	26.4	.....	W	.....	.....	5	.....	4	.....	W	.....	.....	D. clouds....	H. Mecudoneo, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	.....	.....	30.12	765 1	71.6	22.0	.....	NNE	.....	.....	4	.....	10	.....	NNE	3	N	Raining, 8 hr's rain-fall.]	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

RUSSIAN SERIES.

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

Archangel	28.96	735.5	28.98	736.0	15.4	— 9.2	97	SE	13	6	.....	.....	10	.....	.....	.....	.....	Snowing.....	Capt. Sseliwerstow.
Astrakhan	30.26	768.6	30.18	766,5	32.0	0.0	43	NW	27	12	.....	.....	0	.....	.....	Blank	Blank	.....	Capt. Wisganow.
Barnaul	29.16	740.6	29.67	753.5	35.6	2.0	100	SW	9	4	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	29.38	746.3	29.63	752.5	43.3	6.3	93	WSW	9	4	.....	.....	10n	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	28.40	721.3	29.39	746.6	22.5	— 5.3	90	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	29.33	745.0	29.62	752.3	16.3	— 8.7	80	W	2	1	.....	.....	7	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.47	748.6	30.13	765.2	41.7	5.4	74	WNW	11	5	.....	.....	10ks	.....	.....	.....	.....	.....	Physical Cabinet.
Krotkowo*	29.23	742.4	29.73	755.1	18.5	— 7.5	70	W	0	0	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	29.90	759.5	30.11	764.8	39.6	4.2	77	SW	22	10	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Moscow	29.07	738.3	29.63	752.6	37.4	3.0	95	E	4	2	.....	.....	8s	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	28.03	712.0	30.52	775.1	13.5	—10.3	60	NW	7	3	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	30.29	769.3	30.36	771.1	49.1	9.5	62	WSW	13	6	.....	.....	0	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	29.69	754.1	29.93	760.3	34.7	1.5	89	WNW	11	5	.....	.....	9ks	.....	.....	.....	.....	.....	.....
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	29.93	760.3	30.08	763.9	44.1	6.7	70	SW	4	2	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	29.41	746.9	29.42	747.3	37.9	3.3	71	WNW	20	9	.....	3c	.....	.....	.....	.....	.....	Light clouds	Central Physical Obs.
Tashkend	28.26	717.9	29.84	758.0	50.7	10.4	73	.....	.....	.....	.....	.....	10	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.86	733.1	30.31	769.9	50.2	10.1	33	NW	45	20	.....	2c	.....	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	29.72	755.0	30.16	766.0	45.5	7.5	74	WSW	16	7	.....	.....	0	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.56	750.9	29.99	761.8	41.2	5.1	80	SW	4	2	.....	.....	10	.....	.....	.....	.....	Heavy clouds..	Astronomical Obs.
Yenisiesk	29.82	757.5	30.13	765.4	15.8	— 9.0	75	E	2	1	.....	.....	0	.....	.....	.....	.....	.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

SPANISH SERIES.

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

Barcelona, Met. Obs'y	30.22	767.6	30.32	770.2	59.5	15.3	69	E	1.4	0.64	.....	.....	7	.....	.....	0.066	1.68	....	Antonio Rave, Director
Bilbao, Met. Obs'y	30.25	768.4	30.31	769.8	62.8	17.1	63	N	1.6	0.71	.....	2	4	NE	.....	0	0	Cloudy.....	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.27	692.6	.....	.....	51.8	11.0	67	NE	2.6	1.14	.....	0	0	.....	.....	0	0	Light clouds	Domingo Martin y Perez.
Madrid, Royal Observatory.	28.10	713.8	30.35	771.0	57.4	14.1	73	NW	1.5	0.67	.....	1	2	NW	.....	0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	30.18	766.6	30.33	770.4	68.0	20.0	67	SE	1.9	0.86	.....	1	3	NW	....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.36	745.6	30.24	768.2	62.8	17.1	58	NE	4.3	1.9	.....	.....	2	.....	.....	0	0	Light clouds	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.06	763.4	30.12	765.0	76.3	24.6	84	E	7.8	3.5	.....	2ck;es	1k	WSW	E	0	0	Fair.....	Benito Vines, S. J.
Manilla, Philippine Islands	29.72	755.0	29.78	756.3	79.7	26.7	.....	E	0	0	.....	3c	4kn	E	W	0.331	8.4	Covered	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.14	765.6	30.24	768.1	66.0	18.9	63	ESE	21.8	9.8	.....	6	4	E	E	0	0	....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.92	759.9	30.01	762.2	78.8	26.0	91	E	6.7	3.00	.....	7ck	6kn	E	E	0.345	8.75	Overcast.....	Enrique Gadea, Chief Eng'r

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

SWEDISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	28.79	731.2	28.83	732.2	27.0	— 2.8	.....	NW	.....	.....	4	.....	4	.....	.....	0.945	24.0	.....	
Umea	29.25	743.0	29.30	744.3	37 4	3.0	69	NW	.....	.....	6	.....	4	.....	.....	0	0	.....	
Hernosand	29.39	746.5	29.44	747.8	39.9	4 4	59	WNW	.....	.....	6	.....	0	.....	.....	0.098	2.5	.....	
Stockholm	29.59	751.5	29.76	756.0	46.0	7.8	71	NW	.....	.....	2	.....	5	.....	.....	0	0	.....	
Wisby	29.69	754.2	29.75	755 7	43.5	6.4	88	WNW	.....	.....	6	.....	10	.....	.....	Blank	Blank	Raining	
Sub-Series.																			
Upsala	29.60	751.8	29.69	754.0	39.7	4.3	65	WSW	6.9	3.1	.....	.....	8	.....	.....	0	0	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierns
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

SWISS SERIES.

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

Geneva	28.90	734.0	30.37	771.5	37.5	3.2	90	SSW	.....	.....	1	.....	10	.....	.....	0	0	Foggy	The Observatory.
Zurich	28.66	727.9	30.36	771.2	36.3	2.4	86	SW	.....	.....	1	.....	1	.....	.....	0	0	Clear.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +7.8 mm.; Thermometer, —4.7 Cent.; Relative Humidity, +14 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

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

Constantinople	.....	.....	30.34	770.5	55.0	12.8	52	ENE	19	8.5	.....	.....	0	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.25	768.3	60.1	15.6	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obsy	29.97	761.2	30.09	764.2	75.0	23.9	60	W	.....	.....	2	.....	1k	.....	.....	0	0	D clouds ...	Prof. C. V. A. van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	29.73	755.1	29.79	756.7	52.2	11.2	93	SW	7	3.1	.....	2k	8ks	S	.....	0.11	2.8	Cloudy.	G. A. Blair.
Charlottetown, P. E. Island	29.78	756.4	29.82	757.4	48.1	8.9	95	SW	9	4.0	.....	.....	10n	.....	.....	0.05	1.3	Threatening	H. J. Cundall, C. E.
Cornwall, Ontario	30.01	762.2	30.21	767.3	42.3	5.7	76	W	.....	.....	2	.....	10s	.....	.....	0.14	3.6	Cloudy.....	James Smith, M. A.
Dalhousie, N. B	29.65	753.1	29.82	757.4	40.2	4.6	.....	W	.....	.....	3	0	7ks	.....	.....	0.15	3.8	Cloudy.....	H. A. Johnson.
Father Point, Quebec	29.89	759.2	29.91	759.7	38.9	3.8	77	W	25	11.2	.....	2k	2ks	W	.....	0.18	4.6	Clearing.....	J. McWilliams.
Fredericton, N. B	29.82	757.4	29.87	758.7	53.8	12.1	89	NW	7	3.1	.....	2ck	1s	W	W	0.25	6.3	Fair.....	Prof. Harrison.
Fort Garry, Manitoba	29.15	740.4	30.04	763.0	17.6	— 8.0	95	S	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	James Stewart.
Granton, Ontario	29.20	741.7	30.34	770.6	39	3.9	.....	Calm	.....	.....	0	1cs	0	.....	.....	0	0	Clear.....	James Grant.
Halifax, N. S	29.80	756.9	29.93	760.2	50.1	10.1	99	SW	5	2.2	.....	.....	8n	.....	.....	0.11	2.8	Cloudy.....	A. Allison, M. A.
Hamilton, Ontario	29.95	760.7	30.34	770.6	39.3	4.1	93	SW	.....	.....	1	0	0	.....	.....	0	0	Clear.....	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.94	760.5	30.29	769.4	41.1	5.1	96	W	8	3.6	.....	8ck	2s	W	.....	0.20	5 1	Cloudy.....	S. Woods, M. A.
Little Glace Bay, N. S	29.80	756.9	29.83	757.7	46.6	8.1	96	S	4	1.8	.....	.....	10n	.....	.....	.....	.....	Raining.....	C. H. Rigby.
Montreal, Quebec	29.99	761.7	30.19	766.8	44 5	6.9	82	W	12	5.4	.....	9k	0	W	.....	Inap.	Inap.	Cloudy	C. H. McLeod, C. E.
Moose Factory, Ontario	30.16	766.1	30.19	766.8	31.8	— 0.1	81	W	.....	.....	1	.....	10	.....	.....	0	0	Cloudy.....	J. R. Nason.
Norwood	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. R. Mosley.
Peterboro, Ontario	29 52	749.8	30.29	769.4	38.7	3.7	81	SW	.....	.....	1	.....	10n	.....	.....	0	0	Smoky	J. F. Jeffers, B. A.
Port Dover, Ontario	29.62	752.3	30.34	770.6	38.9	3.8	91	W	4	1.8	.....	10k	0	W	.....	0.25	6.3	Fair	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.67	753.6	30.34	770.6	35.6	2.0	94	W	3	1.3	.....	5ck	0	W	.....	0	0	Fair.....	M. Payne.
Quebec, Quebec	29.78	756.4	30.08	764.0	40 5	4.7	87	NW	.....	.....	5	0	2s	.....	.....	0.12	3.0	Fair	Capt. Ashe, R. N.
Rockliffe, Ontario	29.77	756.1	30.23	767.8	39.2	4.0	73	W	4	1.8	.....	.....	9s	.....	NW	0	0	Cloudy	W. H. McIntyre.
St. Andrews, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Gove.
St. John, N. B	29.74	755.4	29.91	759.7	48	8.9	100	SW	6	2.7	.....	.....	10ks	.....	.....	0.24	6.1	Overcast....	G. Murdock, C. E.
Saugeen, Ontario	29.58	751.3	30.32	770.1	42.2	5.7	73	W	12	5.4	.....	.....	9ks	.....	.....	0	0	Cloudy.....	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.99	736.3	30.31	769.9	39.8	4.3	92	W	5	2.2	.....	2k	7ks	NW	.....	0	0	Cloudy.....	C. J. MacGregor, M. A.
Sydney, C. B	29.81	757.2	29.85	758.2	46.6	8.1	98	S	6	2.7	.....	.....	10n	.....	.....	.....	.....	Raining..	T. C. Hill, C. E.
Toronto, Ontario	29.93	760.2	30.33	770.4	38.7	3.7	93	SW	6	2.7	.....	5cs	2ks	W	NW	0	0	Fair.....	Magnetic Observatory.
Windsor, N. S	29.79	756.7	29.89	759.2	54.0	12.2	97	SW	6	2 7	.....	.....	10nks	.....	.....	0.10	2.5	Overcast	Prof. John E. Oram.
Woodstock, Ontario	29.23	742.4	30.33	770.4	36.3	2.4	98	W	8	3.6	.....	6c	2s	.....	NW	0	0	Fair.....	Prof. J. Montgomery.
Yarmouth, N. S	29.92	760.0	29.98	761.5	49.6	9.8	93	W	.....	.....	3	10k	3ks	W	.....	0.04	1.0	Clearing.....	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.97	761.2	30.23	767.8	37.0	2.8	90	SW	.....	.....	.....	10k	10s	.....	.....	0.10	2.5	Cloudy.....	John Delany.
St. Pierre, N. F	.....	.....	29.88	759.0	44.6	7	.....	SE	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	l'Hopital Maritime.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10, except Yarmouth and St. Johns on scale 0 to 20. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

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

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	30.05	763.3	30.28	769.1	48	8.9	70	NW	8	3.6	.....	0	0	.....	.....	0.41	10.4	Clear	
Alpena, Michigan	29.64	752.8	30.32	770.1	38	3.3	91	W	4	1.8	.....	.....	10s	.....	NW	0.05	1.3	Cloudy	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	29.16	740.7	30.30	769.6	64	17.8	94	SE	10	4.5	.....	.....	Fog	.....	Calm	0.04	1.0	Foggy	
Atlantic City, New Jersey	30.22	767.6	30.24	768.1	60	15.6	82	W	8	3.6	.....	8k	0	W	.....	0	0	Fair	
Augusta, Georgia	30.19	766.8	30.39	771.9	64	17.8	89	SE	1	0.4	.....	5cs	2s	SE	Calm	0	0	Fair	
Baltimore, Maryland	30.24	768.1	30.29	769.4	64	17.8	78	W	4	1.8	.....	2c	Fog	Calm	Calm	0.02	0.5	Clear	
Barnegat, New Jersey	30.22	767.6	30.24	768.1	60	15.6	82	W	7	3.1	.....	5k	0	W	.....	0	0	Fair	
Bismarck, Dakota	28.09	713.5	29.95	760.7	25	— 3.9	87	E	3	1.3	.....	5cs	0	W	.....	Inap.	Inap.	Fair	
Boerne, Texas	28.54	724.9	29.81	757.2	73	22.8	85	S	8	3.6	.....	.....	10ks	.....	S	0	0	Cloudy	
Boise City, Idaho	26.91	683.5	29.87	758.7	42	5.6	74	Calm	0	0	.....	.....	10s	.....	SW	0	0	Cloudy	
Boston, Massachusetts	29.96	761.0	30.12	765.0	58	14.4	82	W	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Brackettville, Texas	28.77	730.7	29.78	756.4	73	22.8	85	E	14	6.3	.....	.....	10ks	.....	Calm	0.02	0.5	Cloudy	
Breckenridge, Minnesota	29.00	736.6	30.05	763.3	26	— 3.3	88	SE	8	3.6	.....	5ck	0	Calm	.....	0	0	Fair	
Brownsville, Texas	29.92	760.0	29.97	761.2	77	25.0	91	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Buffalo, New York	29.59	751.6	30.31	769.9	45	7.2	80	W	10	4.5	.....	0	2s	.....	SW	0.21	5.3	Clear	
Burkes, Arizona	.....	.....	.....	.....	55	12.8	81	SW	.....	.....	.....	0	8s	.....	W	1.22	31.0	Cloudy	
Burlington, Vermont	29.93	760.2	30.23	767.8	47	8.3	62	W	11	4.9	.....	2ck	5ks	W	W	0.37	9.4	Fair	
Cairo, Illinois	29.84	757.9	30.23	767.8	60	15.6	94	Calm	0	0	.....	.....	10n	.....	W	Inap	Inap	Light rain	
Campo, California	27.24	691.9	29.81	757.2	40	4.4	91	SW	12	5.4	.....	.....	10s	.....	Calm	2.41	61.2	Cloudy	
Cape Hatteras, N. Carolina	30.39	771.9	30.40	772.1	62	16.7	94	Calm	0	0	.....	2cs	2ks	Calm	Calm	0	0	Fair	
Cape Henry, Virginia	30.31	769.9	30.32	770.1	64	17.8	78	SW	15	6.7	.....	0	Haze	.....	Calm	0	0	Clear	
Cape Lookout, N. Carolina	30.37	771.4	30.39	771.9	64	17.8	94	Calm	0	0	.....	5cs	Fog	Calm	Calm	0	0	Light Fog	
Cape May, New Jersey	30.24	768.1	30.27	768.8	59	15.0	82	SW	15	6.7	.....	0	Haze	.....	.....	0.01	0.3	Clear	
Castroville, Texas	29.20	741.7	29.87	758.7	75	23.9	86	SE	10	4.5	.....	.....	10s	.....	SE	0	0	Threatening	
Cedar Keys, Florida	30.26	768.6	.....	.....	.....	.....	.....	SE	.....	.....	2	.....	10s	.....	SE	0	0	Cloudy	
Charleston, South Carolina	30.34	770.6	30.4	772.1	62	16.7	83	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Charlotte, North Carolina	29.50	749.3	30.32	770.1	60	15.6	100	W	2	0.9	.....	.....	Fog	.....	Calm	0	0	Foggy	
Chattanooga, Tennessee	29.50	749.3	30.30	769.6	66	18.9	95	Calm	0	0	.....	.....	10s	.....	S	0	0	Cloudy	
Cheyenne, Wyoming	23.81	604 8	29.75	755.6	27	— 2.8	64	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.59	751.6	30.30	769.6	47	8.3	62	W	2	0.9	.....	.....	10s	.....	W	0	0	Cloudy	
Cincinnati, Ohio	29.66	753.4	30.31	769.9	59	15.0	79	E	3	1.3	.....	.....	10s	.....	E	0.50	12.7	Cloudy	
Cleveland, Ohio	29.61	752.1	30.36	771.1	44	6.7	69	W	2	0.9	.....	8k	2s;fog	SW	SW;Calm	0.23	5.8	Cloudy	
Coleman City, Texas	28.13	714.5	29.73	755.1	68	20.0	84	SE	10	4.5	.....	.....	10s	.....	S	0	0	Cloudy	
Columbus, Ohio	29.46	748.3	30.31	769.9	51	10.6	72	N	1	0.4	.....	8ck	0	NW	.....	0	0	Fair	
Concho, Texas	28.01	711.4	29.62	752.3	68	20.0	82	SW	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Corsicana, Texas	29.54	750.3	30.00	762.0	74	23.3	86	S	8	3.6	.....	.....	10ks	.....	S	0	0	Cloudy	
Davenport, Iowa	29.64	752.8	30.30	769.6	40	4.4	73	E	5	2.2	.....	.....	10s	.....	SW	0	0	Cloudy	
Deadwood, Dakota	25.16	639.0	.....	.....	32	0.0	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas	28.80	731.5	29.92	760.0	74	23.3	63	SE	12	5.4	.....	0	5ks	.....	SE	0	0	Cloudy	
Denison, Texas	29.20	741.7	29.96	761.0	70	21.1	95	S	8	3.6	.....	.....	10s	.....	S	0	0	Cloudy	
Denver, Colorado	24.56	623.8	29.78	756.4	24	— 4.4	74	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	29.27	743.4	30.18	766.6	41	5.0	74	SE	7	3.1	.....	.....	10s	.....	S	0	0	Cloudy	
Detroit, Michigan	29.65	753.1	30.35	770.9	39	3.9	91	Calm	0	0	.....	8cs	Fog	Calm	Calm	0	0	Fair	
Dodge City, Kansas	27.32	693.9	29.61	752.1	44	6.7	44	NE	9	4.0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Dubuque, Iowa	29.56	750.8	30.29	769.4	37	2.8	81	Calm	0	0	.....	.....	10s	.....	S	0	0	Cloudy	
Duluth, Minnesota	29.45	748.0	30.16	766.1	32	0.0	79	Calm	0	0	.....	0	5s	.....	Calm	0	0	Fair	
Eagle Pass, Texas	29.18	741.1	29.88	758.9	75	23.9	77	SE	10	4.5	.....	.....	10s	.....	SE	0	0	Cloudy	
Eastport, Maine	29.85	758.2	29.92	760.0	52	11.1	89	NW	2	0.9	.....	.....	10s;fg	.....	Calm;NW	0.14	3.6	Cloudy	
Edinburg, Texas	.....	.....	.....	.....	77	25.0	82	SE	.....	.....	4	.....	10s	.....	SE	0	0	Cloudy	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.61	752.1	30.34	770.6	47	8.3	77	W	10	4.5	.....	2c	5ks	W	W	0.65	16.5	Fair	
Escanaba, Michigan	29.63	752.6	30.33	770.4	29	— 1.7	78	Calm	0	0	.....	0	2s	.....	W	Inap.	Inap.	Fair	
Florence, Arizona	28.32	719.3	29.92	760.0	48	8.9	93	W	4	1.8	.....	.....	10n	.....	W	0.10	2.5	Light rain	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Custer, Montana	27.80	706.1	29.72	754.9	20	— 6.7	85	SE	2	0.9	.....	1c	0	SE	.....	0	0	Clear	
Fort Davis, Texas	26.62	676.1	.....	.....	23	— 5.0	60	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter.	25.10	637.5	30.06	763.5	43	6.1	75	S	4	1.8	.....	10c	0	Calm	.....	0	0	Cloudy	
Fort Grant, Arizona	29.47	748.5	29.99	761.7	68	20.0	90	SE	10	4.5	.....	.....	10s	.....	S	0	0	Cloudy	
Fort Griffin, Texas	25.05	636.3	29.85	758.2	33	0.6	61	SW	16	7.2	.....	.....	10s	.....	Calm	0	0	Threatening	
Fort Keogh, Montana	28.62	726.9	29.86	758.4	62	16.7	83	N	4	1.8	.....	0	2s	.....	Calm	0	0	Fair	
Fort McKavett, Texas	27.25	692.1	.....	.....	20	— 6.7	70	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	27.68	703.1	29.55	750.6	64	17.8	78	S	12	5.4	.....	.....	10ks	.....	S	0	0	Cloudy	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.72	729.5	29.80	756.9	63	17.2	94	SE	14	6.3	.....	0	5s	.....	Calm	0	0	Fair	
Fort Stevenson, Dakota	28.07	713.0	.....	.....	20	— 6.7	85	W	3	1.3	.....	2c	0	Calm	.....	0	0	Fair	
Fort Verde, Arizona	.....	.....	.....	.....	41	5.0	91	SE	.....	.....	4	.....	10n	.....	SE	2.19	55.6	Light rain	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.13	714.5	29.65	753.1	61	16.1	61	S	.....	.....	2	0	0	.....	.....	0	0	Clear	
Galveston, Texas	30.06	763.5	30.10	764.5	72	22.2	95	SE	7	3.1	.....	0	2ks	.....	S	0	0	Clear	
Graham, Texas	28.83	732.3	29.84	757.9	70	21.1	90	S	5	2.2	.....	.....	10s	.....	S	0	0	Cloudy	
Grand Haven, Michigan	29.64	752.8	30.33	770.4	35	1.7	80	NW	2	0.9	.....	0	5ks	.....	NW	0	0	Fair	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	28.97	735.8	29.88	758.9	67	19.4	100	SE	11	4.9	.....	.....	10s	.....	S	0	0	Cloudy	
Indianapolis, Indiana	29.46	748.3	30.25	768.3	52	11.1	73	N	2	0.9	.....	0	5s	.....	N	0	0	Fair	
Indianola, Texas	30.04	763.0	30.06	763.5	74	23.3	95	SE	12	5.4	.....	0	2s	.....	SE	Inap.	Inap	Fair	
Jacksboro, Texas	28.80	731.5	29.87	758.7	80	26.7	55	S	8	3.6	.....	0	5s	.....	S	0	0	Fair	
Jacksonville, Florida	30.29	769.4	30.31	769.9	68	20.0	95	NE	3	1.3	.....	.....	Fog	.....	Calm	0	0	Foggy	
Keokuk, Iowa	29.54	750.3	30.17	766.3	43	6.1	83	NE	11	4.9	.....	.....	10s	.....	SW	0.05	1.3	Threatening	
Key West, Florida	30.12	765.0	30.15	765.8	77	25.0	82	E	15	6.7	.....	1k	0	E	.....	0.18	4.6	Clear	
Kittyhawk, North Carolina	30.36	771.1	30.38	771.6	62	16.7	83	SW	11	4.9	.....	2k	0	NW	.....	0	0	Fair	
Knoxville, Tennessee	29.34	745.2	30.35	770.9	60	15.6	85	Calm	0	0	.....	2cs	8s	NW	SW	0	0	Cloudy	
La Crosse, Wisconsin	29.49	749.0	30.26	768.6	37	2.8	81	S	1	0.4	.....	10k	0	Calm	.....	0	0	Cloudy	
La Mesilla, New Mexico	25.92	658.4	30.07	763 8	47	8.3	48	Calm	0	0	.....	0	1s	.....	Calm	0	0	Clear	
Laredo, Texas	29.54	750.3	29.87	758.7	70	21.1	66	SE	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.19	741.4	30.04	763.0	49	9.4	85	E	5	2.2	.....	.....	10s	.....	.....	0	0	Cloudy	
Little Rock, Arkansas	29.81	757.2	30.16	766.1	71	21.7	90	S	6	2.7	.....	8cs	2s	S	S	0	0	Cloudy	
Los Angeles, California	29.40	746.7	29.74	755.4	49.5	9.7	82	Calm	0	0	.....	0	1s	.....	Calm	3.20	81.3	Clear	
Louisville, Kentucky	29.71	754.6	30.27	768.8	60	15.6	77	Calm	0	0	.....	.....	10s;sme	.....	Calm	0.07	1.8	Smoky	
Lynchburg, Virginia	29.65	753.1	30.33	770.4	58	14.4	94	Calm	0	0	.....	0	Fog	.....	Calm	0.01	0.3	Clear	
Madison, Wisconsin	29.26	743.2	30.28	769.1	40	4.4	82	SE	7	3.1	.....	.....	10s	.....	SW	0	0	Cloudy	
Marquette, Michigan	29.52	749.8	30.26	768.6	35	1.7	70	SW	4	1.8	.....	5cs	0	SW	.....	0	0	Fair	
Mason, Texas	28.31	719.1	30.00	762.0	72	22.2	80	SE	13	5.8	.....	0	8s	.....	S	0	0	Fair	
Memphis, Tennessee	29.87	758.7	30.20	767.1	68	20.0	94	SE	6	2.7	.....	.....	10s	.....	SW	0.05	1.3	Cloudy	
Milwaukee, Wisconsin	29.66	753.4	30.32	770.1	37	2.8	71	NW	2	0.9	.....	.....	10s;snr	.....	Calm	0	0	Cloudy	
Mobile, Alabama	30.19	766.8	30.23	767.8	69	20.6	95	S	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Montgomery, Alabama	30.06	763.5	30.29	769.4	69	20.6	95	E	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Morgantown, West Virginia	29.32	744.7	30.32	770.1	53	11.7	86	Calm	0	0	.....	.....	Fog	.....	Calm	0.06	1.5	Foggy	
Mt. Washington, N. H.	25.65	600.7	30.01	762.2	25	— 3.9	100	NW	84	37.5	.....	.....	Fog	.....	NW	0.72	18.3	Foggy	
Nashville, Tennessee	29.75	755.6	30.28	769.1	67	19.4	59	Calm	0	0	.....	.....	10n	.....	S	1.24	31.5	Light rain.	
New Haven, Connecticut	30.06	763.5	30.18	766.6	56	13.3	94	SW	1	0.4	.....	0	Fg;smk	.....	Calm	0.02	0.5	Clear.	
New London, Connecticut	30.11	764.8	30.16	766 1	58	14.4	88	W	4	1.8	.....	0	1s	.....	Calm	0.05	1.3	Clear	
New Orleans, Louisiana	30.14	765.5	30.20	767.1	66	18.9	95	E	6	2.7	.....	.....	Fog	.....	Calm	0	0	Dense fog	
Newport, Rhode Island	30.10	764.5	30.15	765.8	54.5	12.5	96	SW	6	2.7	.....	.....	10ks	.....	SW	0.04	1.0	Cloudy	
New York, New York	30.04	763.0	30.22	767.6	58	14.4	87	W	6	2.7	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Norfolk, Virginia	30.28	769.1	30.34	770.6	60	15.6	82	S	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
North Platte, Nebraska	26.96	684.8	29.54	750.3	42	5.6	78	SE	13	5.8	.....	.....	10s	.....	S	0	0	Cloudy.. ...	
Olympia, Washington Ter.	29.74	755.4	29.78	756.4	41.0	5.0	96	S	6	2.7	.....	.....	10s	.....	Calm	Inap	Inap.	Cloudy.	
Omaha, Nebraska	28.90	734.0	30.01	762.2	45	7.2	61	E	14	6.3	.....	0	5s	.....	Calm	0	0	Fair.....	
Oswego, New York	29.97	761.2	30.30	769.6	49	9.4	85	W	10	4.5	.....	9	5s	.....	W	0.81	20.6	Fair.....	
Pembina, Dakota	29.09	738.9	29.97	761.2	20	— 6.7	100	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Pensacola, Florida	30.24	768.1	30.27	768.8	69	20.6	95	E	.....	.....	1	.....	10s	.....	Calm	0	0	Cloudy.....	
Philadelphia, Pennsylvania	30.22	767.6	30.27	768.8	58	14.4	88	SW	11	4.9	.....	0	Fog	.....	Calm	0.01	0.3	Foggy.....	
Phœnix, Arizona	28.53	724.6	30.31	769.9	54	12.2	87	W	12	5.4	.....	.....	10n	.....	Calm	1.21	30.7	Raining	
Pike's Peak, Colorado	17.50	444.5	29.70	754.4	10	—12.2	100	W	10	4.5	.....	.....	Fog	.....	.....	0.06	1.5	Foggy	
Pilot Point, Texas	29.27	743.4	30.07	763.8	73	22.8	80	S	10	4.5	.....	5k	5s	SE	S	0	0	Cloudy.....	
Pioche, Nevada	.....	.....	.....	.....	34	1.1	100	Calm	0	0	.....	.....	10n	.....	Calm	0.24	6.1	Light snow.	
Pittsburg, Pennsylvania	29.52	749.8	30.35	770.9	50	10.0	79	N	3	1.3	.....	0	7s	.....	Calm	Inap.	Inap.	Fair.....	
Port Huron, Michigan	29.66	753.4	30.35	770.9	35	1.7	80	W	6	2.7	.....	2c	0	W	.....	0	0	Clear.....	
Portland, Maine	29.96	761.0	30.01	762.2	58	14.4	76	W	6	2.7	.....	2k	0	Calm	.....	0.09	2.3	Clear.....	
Portland, Oregon	29.78	756.4	29.86	758.4	43.0	6.1	87	NE	2	0.9	.....	.....	10s	.....	SW	0.10	2.5	Cloudy	
Portsmouth, N. Hampshire	.....	.....	.....	.....	62	16.7	94	W	4	1.8	.....	2cs	0	Calm	.....	0	0	Fair	
Prescott, Arizona	24.42	620.3	29.78	756.4	40	4.4	65	S	.....	.....	1	.....	10s	.....	S	1.49	37.8	Threatening	
Punta Rassa, Florida	30.17	766.3	30.19	766.8	73	22.8	90	E	6	2.7	.....	1c	0	Calm	.....	0	0	Clear.	
Red Bluff, California	29.43	747.5	29.79	756.7	43	6.1	75	N	3	1.3	.....	0	0	.....	.....	0.74	18.8	Clear.....	
Rio Grande City, Texas	29.78	756.4	29.99	761.7	75	23.9	90	SE	10	4.5	.....	.....	10s	.....	SE	0	0	Cloudy.....	
Rochester, New York	29.69	754.1	30.32	770.1	45	7.2	84	W	5	2.2	.....	5k	0	W	.....	0.27	6.9	Fair..	
Roseburg, Oregon	29.35	745.5	29.93	760.2	36.5	2.7	95	Calm	0	0	.....	0	0	.....	.....	0.29	7.4	Clear.....	
Sacramento, California	29.69	754 1	29.77	756.1	41	5.0	100	Calm	0	0	.....	.....	Fog	.....	.....	0.35	8.9	Foggy.....	
St. Louis, Missouri	29.61	752.1	30.19	766.8	49	9.4	93	E	4	1.8	.....	.....	10s	.....	Calm	0.02	0 5	Threatening	
St. Paul, Minnesota	29.30	744.2	30.16	766.1	33	0.6	89	E	6	2.7	.....	2cs	0	Calm	.....	0	0	Clear	
Salt Lake City, Utah	25.31	642.9	29.64	752.8	39	3.9	64	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
San Antonio, Texas	29.29	744.0	29.85	758.2	76	24.4	82	SE	8	3.6	.....	.....	10s	.....	SE	Inap.	Inap.	Threatening	
San Diego, California	29.76	755.9	29.83	757.7	55	12.8	68	W	16	7.2	.....	0	5ks	.....	W	2.65	67.3	Fair	
Sandusky, Ohio	29.68	753.9	30.37	771.4	47	8.3	85	W	5	2.2	.....	.....	10s	.....	Calm	0.28	7.1	Cloudy.....	
Sandy Hook, New Jersey	30.19	766.8	30.22	767.6	59	15.0	70	W	15	6.7	.....	0	0	.....	.....	0	0	Clear.....	
San Francisco, California	29.74	755.4	29.81	757.2	48	8.9	70	Calm	0	0	.....	0	0	.....	.....	0.36	9 1	Clear.....	
Santa Fé, New Mexico	23.10	586.7	29.64	752.8	45	7.2	53	SE	9	4.0	.....	.....	10s	.....	SE	0.04	1.0	Cloudy.....	
Savannah, Georgia	30.27	768.8	30.36	771.1	64	17.8	94	NE	2	0.9	.....	0	Fog	.....	Calm	0.13	3.3	Clear.....	
Shreveport, Louisiana	29.90	759.4	30.12	765.0	70	21.1	90	S	5	2.2	.....	.....	10s	.....	Calm	0.21	5.3	Cloudy.....	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.36	771.1	30.40	772.1	62	16.7	94	N	5	2.2	.....	1c	1ks	Calm	Calm	0	0	Clear.....	
Socorro, New Mexico	25.18	639.6	29.24	742.7	52	11 1	54	S	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois	29.54	750.3	30.23	767.8	49.5	9.7	75	E	8	3.6	.....	.....	10ks;n	.....	W	0.10	2.5	Light rain ..	
Springfield, Massachusetts	30.08	764.0	30.21	767.3	59	13.3	75	N	6	2.7	.....	0	0	.....	.....	0.01	0.3	Clear.....	
Stockton, Texas	26.85	682.0	29.85	758.2	60	15.6	39	NE	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	30.06	763.5	30.16	766.1	54	12.2	87	NW	5	2.2	.....	2c	5s	W	NW	0.06	1.5	Fair	
Toledo, Ohio	29.63	752.6	30.35	770.9	40	4.4	100	W	1	0.4	.....	.....	Fog	.....	.....	Inap	Inap.	Foggy.....	
Tucson, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon	29.86	758.4	30.37	771.4	47.0	8.3	70	W	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Uvalde, Texas	29.02	737.1	29.81	757.2	74	23.3	81	E	8	3.6	.....	.....	10s	.....	S	0	0	Cloudy.....	
Vicksburg, Mississippi	29.96	761.0	30.22	767.6	66	18.9	98	S	5	2.2	.....	.....	10s	.....	Calm	0.41	10.4	Cloudy.....	
Virginia City, Montana	23.98	609.1	29.46	748.3	21	— 6.1	71	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Visalia, California	29.32	744.7	29.69	754.1	47	8.3	92	SE	4	1.8	.....	.....	10s	.....	Calm	0.71	18.0	Threatening	
Washington, D. C.	30.20	767.1	30.32	770.1	58	14.4	88	S	2	0.9	.....	1c	Sm'e	Calm	Calm	0	0	Clear	
Wickenburg, Arizona	.....	.....	.....	.....	45	7.2	100	W	.....	.....	1	.....	10s	.....	W	0	0	Cloudy.....	
Wilmington, North Carolina	30.30	769.6	30.38	771.6	61	16.1	82	Calm	0	0	.....	2c	0	Calm	.....	0	0	Fair...	
Winnemucca, Nevada	25.35	643.9	29.71	754.6	34	1.1	90	S	8	3.6	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy.....	
Wood's Holl, Massachusetts	30.09	764.3	30.13	765.3	56	13.3	88	W	18	8.0	.....	0	5ks	.....	SW	0	0	Fair	
Yankton, Dakota	28.75	730.2	30.08	764.0	37	2.8	62	SE	4	1.8	.....	10c	0	W	.....	0	0	Cloudy.	
Yuma, Arizona	29.56	750.8	29.72	754.9	55	12.8	68	SW	14	6.3	.....	2k	0	SW	.....	0.15	3.8	Fair	
Sub-Series.																			
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	30.02	762.5	30.07	763.8	77	25.0	86	SE	3.6	1.6	.....	4ck	0	E	.....	0	0	Fair	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.14	765.5	30.15	765.8	77	25.0	87	Calm	0	0	.....	8c	2s	Calm	.....	0	0	Fair.....	James Gall.
Medellin, Colombia, S. A.*	25.22	640.6	.....	.....	65.5	18.6	85	Calm	.....	.....	0	.....	10n	.....	.....	1.11	28.2	.....	Thomas Herran.
Navassa, W. I.	29.90	759.4	29.98	761.5	83	28.3	.....	NE	6	2.7	.....	5k	5s	NE	NE	0.55	14.0	Fair.	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.97	761.2	29.97	761.2	78	25.6	75	E	....	.....	2	3c	5k	E	.....	0	0	Fair	C. J. Hering.
Santiago de Cuba, W. I.	30.01	762.2	30.04	763.0	.....	.....	82	N	....	.....	1	8c	4ks	.....	NE	Blank	Blank	....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	30.03	762.7	30.09	764.3	16.0	— 8.9	92	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear.....	J. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Medellin, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 m., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm. *The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

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

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

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.09‡	764.3‡	.....	.....	70	21.1	100	E	9	4.0	.....	.....	10	.....	E	0	0	.....	.....	Threatening	
Navy Yard, Portsmouth, N.H.	29.90‡	759.4‡	.....	.....	56	13.3	81	W	4	1.8	.....	.....	2	.....	.....	0	0	.....	.....	Clear	
Naval Hospital, Yokohama, Japan	29.63‡	750.0‡	.....	.....	45.5	7.5	92	N	.....	.....	6	.....	10n	.....	NNE	1.12	28.4	.....	.....	Raining	
Adams, Mare I'd., Navy Yard, Cal.	29.76‡	755.6‡	.....	.....	49	9.4	93	W	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Alaska, Iquique, Peru *.	29.99‡	761.7‡	.....	.....	63	17 2	83	SSW	.....	.....	1	.....	5	.....	N;E	.....	.....	.....	.....	D. clouds	
Alliance, N. 24° 40′, W. 25° 56′	30.22‡	767.6‡	.....	.....	76	24.4	73	E	.....	.....	3	.....	6	.....	E	.....	.....	Smooth	NE	D. clouds	
Colorado, New York, . Y.	30.14‡	765.5‡	.....	.....	56	13.3	81	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	.....	Hazy	
Constitution, Navy Yard, Norfolk, Va.	30.37‡	771.4‡	.....	.....	62	16 7	94	SW	1	0.4	.....	.....	1	.....	Calm	.....	.....	.....	.....	Clear	
Enterprise, N. 33° 56′, E. 20° 49′	30.13‡	765.3‡	.....	.....	66	18.9	74	S	.....	.....	5	.....	7	.....	S	.....	.....	Mod'ate	.....	Cloudy	
Franklin, Off Navy Yard, Norfolk, Va.	30.33‡	770.4‡	.....	.....	61	16.1	88	SW	4.8	2.1	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Hartford, N. 32° 19′, W. 72° 23′	30.36‡	771.1‡	.....	.....	73	22.8	63	ENE	.....	.....	2	.....	2?	.....	ENE	0	0	Smooth long	NNE	Cloudy?	
Independence, Mare I'd, Navy Yard, Cal.	29.84‡	757.9‡	.....	.....	56	13.3	87	NE	1.2	0.5	.....	.....	1	.....	E	0.2	5.	.....	.....	Clear	
Kearsage, Norfolk, Va	30.20‡	767.1‡	.....	.....	54	12.2	74	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	.....	Fair?	
Lackawana, N. 20° 50′ E. 177° 30′	29.99‡	761.7‡	.....	.....	79	26.1	78	ENE	.....	.....	1	.....	0	.....	.....	.....	.....	Smooth	ENE	Clear	
Marion, Off Norfolk, Va.	30.32‡	770.1‡	.....	.....	61	16.1	82	SSW	.....	.....	2	.....	1	.....	W	.....	.....	Smooth	.....	Clear	
Michigan, Erie, Pa.	30.26‡	768.6‡	.....	.....	47	8 3	85	WNW	.....	.....	4	.....	8	.....	W	.....	.....	.....	.....	Cloudy	
Monocacy, Shanghai, China	30.24‡	768.1‡	.....	.....	47	8.3	77	WNW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Fair?	
New Hampshire, Port Royal, S. C.	30.34‡	770.6‡	.....	.....	66	18.9	89	NE	5	2.2	.....	.....	1	.....	Calm	0.1	2.	.....	.....	Clear	
Onward, Callao, Peru †.	29.97‡	761.2‡	.....	.....	63	17.2	89	WNW	.....	.....	1	.....	10	.....	.....	.....	.....	Long	W	Foggy	
Palos, N. 31° 32′, E. 122° 40′	30.18‡	766.6‡	.....	.....	56	13.3	81	NNW	.....	.....	4–6	.....	5	.....	.....	.....	.....	Mod'ate	NNW	Fair	
Passaic, Washington, D. C.	30.29‡	769.4‡	.....	.....	57	13.9	94	Calm	.....	.....	0	.....	2	.....	.....	0	0	.....	.....	Clear	
Pensacola, Callao, Peru	29.97‡	761.2‡	.....	.....	65	18.3	89	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Smooth	.....	Misty	
Portsmouth, Cedar Point, Potomac river	30.32‡	770.1‡	.....	.....	60	15.6	88	Calm	.....	.....	0	.....	2	.....	.....	0	0	.....	.....	Clear	
Powhatan, Norfolk, Va.	30.32‡	770.1‡	.....	.....	62	16.7	83	SSW	.....	.....	1–2	.....	0	.....	.....	0	0	.....	.....	Clear	
Quinnebaug, Leghorn, Italy	30.32‡	770.1‡	.....	.....	60	15.6	65	E	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Ranger, N. 37° 28′, E. 148° 35′	29.98‡	761.6‡	.....	.....	54	12.2	87	NNE	.....	.....	7–9	.....	10	.....	NE	.....	.....	Heavy	NE	Rainy	
Richmond, Shanghai, China	30.21‡	767.3‡	.....	.....	46	7.8	??	WNW	.....	.....	2	.....	0	.....	.....	0	0	Smooth	.....	Pleasant	
Rio Bravo, Brownsville, Texas. †	30.06‡	763.5‡	.....	.....	74	23 3	100	SSE	2	0.9	.....	.....	2	.....	Calm	0	0	.....	.....	Fair	
Santee, Annapolis, Md	30.29‡	769.4‡	.....	.....	59	15.0	94	W	.....	.....	0–1	.....	2	.....	W	0	0	.....	.....	Clear	
Shenandoah, N. 0° 00′, W. 31° —′	30.00‡	762.0‡	.....	.....	81	27.2	83	E	.....	.....	5	.....	10	.....	.....	.....	.....	Mod'ate	E	Cloudy	
St. Louis, League Island, Pa.	30.25‡	768.3‡	.....	.....	55	12.8	100	SW	4	1.8	.....	.....	2	.....	WNW	0	0	.....	.....	Clear	
Trenton, Villafranca, France	30.39‡	771.9‡	.....	.....	59	15.0	54	SW	.....	.....	1	.....	0	.....	.....	0	0	Smooth	.....	Clear	
Tuscarora, N. 15° 40′, W. 96° 37′	29.89‡	759.2‡	.....	.....	76	24.4	95	N	.....	.....	2	.....	0	.....	.....	0	0	Long	S	Clear	
Vandalia, N. 24° 18′, W. 85° 30′	30.09‡	764.3‡	.....	.....	79	26.1	86	E	.....	.....	2	.....	2	.....	E	.....	.....	.....	.....	Clear	
Wabash, Boston, Mass.	30.02‡	762.5‡	.....	.....	57	13.9	81	SW	10	4.5	.....	.....	2	.....	.....	0	0	.....	.....	Fair	
Wachusett, N. 11° —′, W 33° —′	30.11‡	764.8‡	.....	.....	81	27.2	91	E	.....	.....	6	.....	5	.....	E	.....	.....	Mod'ate	E	Fair	
Wyoming, N. 36° 47′, E. 2° 35′	30.31‡	769.9‡	.....	.....	67	19.4	55	NNE	.....	.....	2	.....	0	.....	.....	.....	.....	Smooth	NE	Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

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

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		Character.	Direction from—		
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S. S. Samaria																			Capt. T. Roberts.
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitebury.
S. S. Costa Rica																			W. House & R. Lawless.
S. S. Dakota, Capt. H. G. Morse																			Capt. Connolly.
S. S. Georgia																			F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin																			Capt. A. Fuller.
S. S. Wilmington																			
S. S. Zealandia, S. 0° 38′, W. 167° 53′		29.75‡	755.6‡				ENE			5				SE		Light	SE	Clear	R. C. Ghest, 1st Officer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
NOTE.—The orginals give the barometer as read off; wind-force by the scale 0 to to 12; for the Brittanic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer, N. 30° 40′, W. 162° 32′		29.80‡	758.4‡	71	21.7	95	SSW			6		8		SSW		Mod'ate	SSW	Squally	D. A. Joyce, 2nd Officer
S. S. Gaelic, Capt. Davidson, N. 46° 24′, W. 173° 54′	†	30.27‡	768.8‡	48	8.9		SE			5–6		8		SE	0	Rough	SE	D. clouds	J. A. Thompson, C. O. J. G. Cameron.
S. S. Oceanic, Capt. J. Metcalf																			
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undutsch.
S. S. Leipzig, Capt. F. Pfeiffer, N. 49° 52′, W. 18° 53′		30.55‡	776.0‡	53.5	11.9	58	ESE			2		10		ESE	3 h'rs	Mod'ate	NW	Drizzling	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 49° 33′, W. 28° 47′		30.46‡	773.7‡				SSE			2		8		SE		8	N	Cloudy	Capt. G. Meyer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			

UNITED STATES MARINE SERIES—Continued.

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

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

AMERICAN S. S. CO. MARINE SERIES.

Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.

S. S. Indiana, N. 51° 42′, W. 16° 20′....		30.49‡	774.4‡	53	11.7	86	WNW			4		6		NW	Mod'ate	Mod'ate	WNW	Fair.....	Capt. R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.

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

RED STAR LINE MARINE SERIES.

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

Belgenland, Off Wolf Rock, English Chan'l		30.11‡	764.8‡	54	12.2		NNW	28	12.5			5?		NNW	6 h'rs	light	NNW	Cloudy?.....	Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

NOTE.—The originals give the barometer as read off; do not distinguish between upper and lower clouds; sea-swell in general terms, as published. ‡Corrections for temperature, instrumental error and elevation applied at this office.

ALLAN LINE MARINE SERIES.

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

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

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

MARINE SERIES—Miscellaneous.

Furnished by the co-operation of the Observers named.

Schooner Addie Fuller, Charleston, S. C		30.32‡	770.1‡	64	17.8	83	Calm	0	0			0			0			Clear.....	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax," N. 20° 54′, W. 65° 13′...†		30.01‡	762.2‡	82	27.8		ENE			5		2		ENE	0	Rough	ENE	Clear.....	N. B. Foss.
Schooner Harry and Fred																			Capt. George Gardner.
Haytian																			
§ Iron Cross																			
Nordenskiold of Sundsvall, Sweden																			Capt. W. Randall.
Sch'r A. A. Rowe, Capt. Beckwith																			Capt. P. Sandelin.
																			L. Dunbar.

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

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

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

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

Albert J. Myer

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

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

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

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

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

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

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

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

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 11, 1879.

7:35 A. M. WASHINGTON Mean Time.

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

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

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

ALGERIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.20	767.0	69.4	20.8	80	SW	.....	.....	1	.....	2	.....	.....	0	0	Fair.	
Nemours	.....	.....	30.23	767.9	67.8	19.9	77	Calm	.....	.....	0	.....	0	.....	.....	0	0	Clear	Kesxuche.
Algiers	.....	.....	30.23	767.8	63.3	17.4	59	Calm	.....	.....	0	.....	0	.....	.....	0	"	Clear	Tourillere.
La Calle	.....	.....	30.20	767.1	67.5	19.7	68	NNW	.....	.....	3	.....	5	.....	.....	1.299	33.0	Cloudy	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.28	769.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Herbin.
Tebessa	.....	.....	30.27	768.9	60.4	15.8	49	SSW	.....	.....	2	.....	0	.....	.....	0	0	Clear	Watrin.
Geriville	.....	.....	.....	.....	60.4	15.8	45	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Brugniuax.
Laghouat	.....	.....	30.30	769.7	61.5	16.4	41	W	.....	.....	1	.....	0	.....	.....	"	"	Clear	Bertrand.
Biskra	.....	.....	30.20	767.1	66.6	19.2	72	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

AUSTRO-HUNGARIAN SERIES.

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

Agram	29.49	749.0	30.06	763.4	41.4	5.2	80	E	.....	.....	2	.....	6	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.17	741.0	29.97	761.1	37.8	3.2	87	S	3.4	1.5	.....	.....	10	.....	.....	0	0	.....	Prof. Dr. Karlinski, Dir.
Eperies	29.06	738.2	29.97	761.3	36.5	2.5	98	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.76	730.5	30.04	762.9	44.2	6.8	77	ESE	.....	.....	2	.....	2	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.51	724.2	29.99	761.7	37.6	3.1	82	E	.....	.....	1	.....	1	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.67	728.1	30.06	763.4	37.0	2.8	85	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	28.87	733.2	29.87	758.8	41.7	5.4	82	NW	.....	.....	2	.....	3	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	29.02	759.9	30.03	762.8	53.1	11.7	69	WNW	.....	.....	1	.....	6	.....	.....	0	0	.....	I.R. Hydrographic Office.
Szathmar	29.54	750.3	30.01	762.3	37.4	3.0	87	W	.....	.....	2	.....	10	.....	.....	0	0	.....	Pet. Panesics.
Szegedin	29.74	755.4	30.03	762.8	38.1	3.4	93	N	.....	.....	1	.....	7	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.94	760.5	30.04	763.1	52.5	11.4	77	Calm	.....	.....	0	.....	4	.....	.....	0	0	.....	P. Busin.
Vienna	29.26	743.2	30.01	762.2	45.7	7.6	74	W	.....	.....	2	.....	10	.....	.....	0	0	.....	I.R. Central Met. Ob'sy.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2:20, instead of 2:8 p. m., local time.

BELGIAN SERIES.

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

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

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

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

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

BRITISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.37	746.0	29.47	748.5	44.2	6.8		SW	11	4.9			3			0.170	4.32	Blue sky	W. Boswell.
Ardrossan	29.59	751.6	29.61	752.1	47	8.3		W			6		8					Overcast	Wm.McNeil &G.Carrick
Armagh, (Observatory)	29.55	750.6	29.79	756.7	45.1	7.3		WSW	15	6.7			10					Raining	S. Call.
Bidston (Liverpool Obs)			29.78	756.4	46.7	8.2		WSW	38	17.0			10					Overcast	John Hartnup.
Bolton (Sharples)	29.22	742.2	29.73	755.1	43.0	6.1		SW	18	8.0			10					Raining	Thomas Mackereth.
Bradford, Yorkshire	29.33	745.0	29.73	755.1	42.1	5.6		SW			3		10			0.01	0.3	Raining	J McLandsborough.
Bridgetown, Barbadoes	29.95	760.7	29.98	761.5	77.5	25.3		NE			1		9					Overcast	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	29.85	758.2	29.95	760.7	46.0	7.8		SW			1		7					D. clouds	H. Todd.
Cardington			29.93	760.2	45.0	7.2		W			1		9					Overcast	John McLaren.
Chatham (School M. E.)	29.92	760.0	30.06	763.5	44.1	6.7		SW			3		9					Misty	J. Carmell, Sapper, R.E.
Donaghadee	29.68	753.9	29.73	755.1	47	8.3		WSW			5		10					Overcast	J. Mac Gowan.
Dover	29.99	761.7	30.02	762.5	46	7.8		W			2		6					⅛ clouded	J. Costello.
Falmouth (Observatory)	29.93	760.2	30.16	766.1	49.7	9.8		WSW			3		10					Overcast	The Staff.
Fort Napier, Natal	27.38	695.4	29.70	754.4	84.0	28.9		N			2		3					Blue sky	Pvt. G. Salmon, A.H.C.
Galway (Queen's College)			29.90	759.4	50	10.1		WNW			4		7					D. clouds	Prof. A. H. Curtis.
Glasgow, (Observatory)	29.38	746.2	29.59	751.6	42.0	5.6		WSW			6		9			Blank	Blank	Gloomy	D. G. Maclean.
Great Yarmouth	29.96	761.0	29.96	761.0	44	6.7		SW			3		4					Misty	G. T. Watson.
Greenwich (Royal Obs'y)	29.85	758.4	30.03	762.7	44.9	7.2		SW			2		10					Overcast	The Staff, for G.B.Airy.
Guernsey	29.92	760.0	30.14	765.5	50.5	10.3		WNW			2		7					D. clouds	Dr. S.E Hoskins, F.R.S.
Helston	30.29	769.4	30.41	772.4	51	10.6		W			1		6k			0	0	Fair	M. P. Moyle.
Holyhead	29.79	756.7	29.84	757.9	49	9.4		WSW			6		6					D. clouds	John Tilston.
Jersey	29.89	759.2	30.19	766.8	50.0	10.0		NW			3		10					Overcast	J. Fisher.
Kew (Observatory)	30.00	762.0	30.04	763.0	45.0	7.2		SW	16	6.7			10					Threatening	The Met'g'l Office.
Leicester (Museum)	29.64	752.8	29.90	759.4	45.0	7.2		SW			4		10					Overcast	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	30.02	762.5	30.10	764.5	66	18.9		NW			2		1ks					Blue sky	A. King.
Nairn	29.34	745.2	29.43	747.5	44	6.7		SW			1		5					⅛ clouded	W. D. Penny.
Nassau, Bahamas			30.14	765.5	76.5	24.7		NE			2		4					D. clouds	C. S. Duncombe.
Nottingham (Observatory)	29.67	753.6	29.86	758.4	45.0	7.2		SSW			5		10kd		SSW	0.054	1.37	Raining	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.36	745.7	29.89	759.2	43.2	6.2		SSW			5-6		10					Misty	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)			30.11	764.8	46	7.8		WSW			3		10					Overcast	H. E. Bellamy.
Plymouth	30.05	763.3	30.12	765.0	47.6	8.7		W			4		10					Overcast	John Merrifield.
Prince Town																			W. H. Tooker.
*Roche's Point	29.98	761.5	30.07	763.8	49	9.4		W			5		10					Raining	Wm. Kennedy.
St. Ann's Head	29.82	757.4	29.98	761.5	52	11.1		WSW			6		10					Threatening	John C. Walker.
Sandwick Manse, Orkneys			30.34	770.6	43.1	6.2		SW	13	5.8			10					Overcast	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	29.88	758.9	29.94	760.5	56.6	13.7		SW			1		8					D. clouds	Serg't W. H. Lyne.
Sheffield	29.54	750.3	29.83	757.7	44.0	6.7		SW			4		10			0.21	5.3	Showery	W. F. Cooper.
Silloth Rectory	29.63	752.6	29.66	753.4	47.6	8.8	86	NW			7		6			0.467	11.93	D. clouds	Francis Redford, A. M.
Stonyhurst (Observatory)			29.72	754.9	43.6	6.4		WSW	26	11.6			10					Raining	Rev. S. J. Perry.
Stratfield, Turgiss	29.90	759.4	30.12	765.0	44.3	6.8		W			2		8					D. clouds	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	30.08	764.0	30.14	765.5	52	11.1		W			6		8					Gloomy	W. Newcombe.
Valencia Observatory)	30.06	763.5	30.08	764.0	49.5	9.7		WNW	24	10.7			10			Blank	Blank	Misty	The Met'g'l Office.
Sub-Series.																			
Cape Town (C. G. H. Obs'y)	30.05	763.3	30.09	764.3	74.8	23.8	47	SE	10.8	4.8		2c	1k						The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.56	649.7			79	26.1		SW				0	0						Robert Burnet.
Hobart Town, Tasmania			29.08	738.6	57.0	13.9	77	E			2		10kn			0.02	0.5	Raining	Francis Abbott, F.R.A.S.
Leith, (Restairig Perk)			29.57	751.1	43.9	6.6		W			4		6k			0.09	2.3	Stormy	Andrew Gibb.
Mauritius (Observatory)	29.84	757.9	30.03	762.8	78.3	24.6	65	NNE	11.0	4.9			9		NNE	0	0	Cloudy	C. Meldrum.
Melbourne (Observatory)	29.51	749.5	29.60	751.8	55.7	13.2	66	NW	7	3.1			2			0.42	10.7	Fine	R. L. J. Ellery.
Monach Lt-house, Hebrides			29.46	748.3	49	9.4		W			8		10			0.2	5.		J. Youngclause.
North Unst, Shetland Is			29.50	749.3				S			4		10			Blank	Blank		

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

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. Alert, Off Arthur I'd., Patagonia			29.77‡	756.1‡	42.5	5.8		WNW			3		10							Raining	Capt. J.P. Maclear, R.N.
H. M. Sloop Gannet, S. 11° 47′, W. 77° 13′			29.99‡	761.7‡	63.5	17.5		Calm			0		10							Misty	Commander E. Bourke, R. N.
H. M. S. Magpie, Oriadne P't., near Shanghai, China			30.24‡	768.1‡	55	12.8		Calm			0		0							Misty	Capt. R. H. Napier, R.N.
Brig Alliance, N. 26° 55′, W. 58° 10′			30.21‡	767.3‡	76.3	24.6		NNE			3		5							D. clouds	Capt. W. Scott.
Barque Commewyne N. 8° 55′, W. 48° 35′			30.00‡	762.0‡	77.3	25.2		ENE			6		9							Raining	Capt. Jas. Buchan.
S. S. Ethiopia, N. 51° 50′, W. 35° 05′			29.63	752.6	57	13.9		SSE			5		10			4	SSW			Raining	Capt. Campbell.
S. S. German, Cape Town, Cape Colony			30.09‡	764.3‡	71	21.7		W			4		4							D. clouds	Capt. O. D. Coxwell.
Barque Mertole, N. 53° 35′, W. 4° 15′			29.73‡	755.1‡				W			8		9							Overcast	Capt. Turner.
Barque Queen of Cambria, N. 12° 00′, E. 74° 55′			29.85‡	758.2‡	84	28.9		WNW			2		0							Blue sky	Capt. M. Parry.
S. S. Strathleven, Sydney, N. S. W.			29.79‡	756.7‡	64.5	18.1		ESE			3		0							Blue sky	Capt. C. W. Pearson.
Schooner Traveller, N. 50° 10′, W. 12° 25′			30.24	768.1	55	12.8		W			5		8			4	NW			D. clouds	
S. S. Gordon Castle																					Capt. H. V. Freeden.
German Brig "W. von Freeden"																					Capt. Greig.
Theophane																					Capt. B. Boyes.
S. S. Amanda																					

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level.
‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.22	666.0	29.84	760.5	67.1	19.5	88	S	.....	.....	2	7ck;d	.....	E	.....	0	0	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

DANISH SERIES.

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

Copenhagen	29.82	757.3	29.86	758.5	41.4	5.2	83	W	.....	.....	2	.....	5	.....	.....	.....	.....	.....	.....
Faröe	29.82	757.5	29.84	758.0	45.5	7.5	83	WSW	.....	.....	4	.....	6	.....	.....	.....	.....	.....	.....
Godthaab (Greenland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stykkisholm (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thorshavn (Faröe)	29.39	746.4	29.42	747.3	38.5	3.6	95	NE	.....	.....	6	.....	10	.....	.....	.....	.....	.....	.....
Vestervig	29.61	752.2	29.72	755.0	43.7	6.5	86	SW	.....	.....	4	.....	10	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

FRENCH SERIES.

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

Alençon, Normal School	29.61	752.0	30.16	766.0	53.6	12	76	W	.....	.....	2	.....	8kn	.....	....	0.004	0.1	Very cloudy	Collignon, Director.
Amiens, Normal School	29.93	760.3	30.04	763.1	51.1	10.6	90	E	.....	.....	1	.....	8	.....	Calm	0	0	Very cloudy	Vaillant, Director.
Arras, Engin'r School	29.80	757.0	30.07	763.7	47.5	8 6	82	WSW	.....	.....	3	.....	k	.....	WNW	0.102	2.6	....	Klein, Commandant.
Avignon, Normal School	30.02	762.5	30.10	764.5	60.1	15.6	52	N	.....	.....	1	.....	0	....	.....	0	0	Clear	Girand, Director.
Bar-sur-Seine	29.58	751.2	30.14	765.6	49.3	9.6	91	SW	.....	.....	1	.....	10	.....	.....	0.031	0.8	Covered	C. Saillard, Director
Beauvais, Normal School	29.83	757.7	30.10	764.6	59.9	10.5	85	SSW	.....	.....	1	.....	8	.....	W	0.075	1.90	Very cloudy	Frere Eugene Marie
Besançon, Normal School	29.28	743.7	30.19	766.8	49.8	9.9	75	S	.....	.....	1	.....	b	.....	SW	0.059	1.5	Cloudy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.32	744.8	30.32	770.0	60.0	16	82	W	.....	.....	1	.....	5ckn	S	S	0	0	Cloudy	Marlot, Diretor.
Bourges, Normal School	29.63	752.7	30.19	766.9	52.5	11.4	97	SW	.....	.....	1	.....	10kn	.....	SW	0	0	Covered	M. Gence, Director.
Brest, Naval Observatory	30.00	761.9	30.24	768.1	51.8	11.0	70	NW	.....	.....	1	.....	10	....	WNW	0	0	.....	Ch. de Rermaree, Dir.
Caen, Normal School	30.11	764.9	.....	.....	52.3	11.3	56	W	.....	.....	.....	.....	10	.....	.....	0.020	0.5	Covered	M. Bletrin, Director.
Carcassonne, N. School	29.78	756.3	30.23	767.8	55.8	13 2	68	WNW	.....	.....	3	.....	10	NW	NW	0	0	Covered	September, Director.
Châlons-sur-Marne, N. Sch'	29.83	757.7	30.16	766.0	46.4	8.0	89	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Covered	Jadot, Director.
Chartres, Normal School	29.59	751.5	30.16	766.1	51.1	10.6	90	NW	.....	.....	2	.....	10	.....	NE	0	0	Covered	Vergier, Director.
Clermont-Fd, Puy de D. Obs	28.80	731.4	30.17	766.3	49.3	9.6	76	N	.....	.....	1	.....	10	.....	N	0	0	.....	Alluard, Director.
Commercy, Normal School	29.23	742.5	30.11	764.7	46.6	8.1	94	W	.....	.....	1	.....	10kn	W	W	0.028	0.7	Sprinkling	Dr. Coullet, Director.
Commune de Gréasque*	28.96	735.5	30.10	764.5	51.6	10.9	68	NW	.....	.....	3	.....	8	W	NW	t.	0	.....	L. Kina, Director.
Grenoble, Normal School	29.36	745.8	30.15	765.9	44 6	7	85	NNW	.....	.....	1	.....	.....	.....	.....	0	0	Foggy	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.03	762.8	30.25	768.4	54.0	12.2	83	SW	.....	.....	1	.....	10	....	.....	0	0	Covered	Mouillot, Director.
Le Mans, Normal School	29.86	758.5	30.17	766.4	50.0	10	92	NW	.....	.....	1	.....	8	.....	WNW	0.020	0.5	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.24	742.7	30.17	766.4	51.3	10.7	68	WNW	.....	.....	1	.....	5kn	S	SW	0	0	Cloudy	A. Baudry, Director
Lorient, Naval Observatory	30.11	764.8	30.22	767 6	52.5	11.4	78	NW	.....	.....	1	.....	.....	W	NW	0	0	.....	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.64	750.3	30.17	766.3	50.5	10.3	78	N	.....	.....	1	.....	5	N	W	0	0	Cloudy	Ch. André, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	29 81	757.2	30.08	764.1	67.0	18.9	67	WNW	.....	.....	1	.....	9	.....	WNW	0	0	.....	E. Stephan, Director.
Mirecourt, Normal School	29.10	739.1	30.17	766.2	47.3	8.5	81	SW	.....	.....	1	.....	kn	SW	SW	0.20	5.	....	Barbier, Director.
Mont-Louis	24.97	634.2	30.28	769.2	61.4	10.8	40	SW	22 4	10.0	.....	.....	4	.....	S	0	0	.....	M. Cave.
Nice	29.98	761.5	30.01	762.3	58.6	14.8	70	Calm	.....	.....	0	.....	5	SW	SW	0	0	Cloudy	M. Boissier, Director.
Nismes, Normal School	29.94	760.4	30.14	765.5	61.9	16.6	49	NW	.....	.....	1	.....	2	.....	NW	0	0	Slightly cl'dy	M. Boyer, Director.
Paris, Montsouris Obs'y	29.84	758.0	.....	.....	49.6	9.8	92	W	.....	.....	1	.....	10	....	.....	0.126	3.2	Raining	Marie Davy, Director.
Perpignan	30.07	763.6	30.17	766.2	59.9	15.5	61	NE	18.6	8.3	.....	.....	7	.....	NW	0	0	.....	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.63	574.7	.....	.....	38.3	3.5	.....	NNW	.....	.....	3	.....	1	.....	NNW	0	0	Clear	Gen'l de Nansouty.
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Privas, Normal School	29.08	737.4	30.10	766.4	57.2	14	87	NE	.....	.....	3	.....	n	NE	NE	0	0	.....	M. Tallieu.
Puy de Dome (Summit) Obs	25.22	640.6	.....	.....	32.9	0.5	98	W	.....	.....	1	.....	.....	.....	.....	0	0	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	30.19	766.8	30.23	767.8	55.4	13.0	88	E	.....	.....	1	.....	8	NNE	NNE	0.08	2.	¾ covered	Lt. E. Decante, Director
Rouen, Normal School	30.02	762.6	30.11	764.8	50.0	10.0	86	SW	.....	.....	1	.....	8	.....	NW	0.116	3.0	Very cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.13	765.2	30.16	766.0	51.8	11.0	80	WNW	.....	.....	3	.....	8	WNW	WNW	0.106	2.68	Very cloudy	Lt. Hereonet, Director.
Saint Maur (near Paris)	29.99	760.9	30.12	765.1	50.0	10.0	96	SW	.....	.....	1	.....	.....	.....	WSW	0.087	2.2	Foggy	E. Renou, Director.
Tarbes, Normal School	29.23	742.5	30.32	770.2	37.4	3	89	W	.....	.....	3	.....	1	SE	SW	0	0	Clear	T. Hugnet, Director.
Toulouse, Observatory	29.52	749.7	30.24	768.2	54.5	12.5	82	NNW	.....	.....	1	.....	8	.....	.....	0	0	Very cloudy	M. Julier Mercadier.
Tours	29.92	760.0	30.12	765.0	52.9	11.6	83	W	.....	.....	1	.....	10	.....	WNW	0	0	Covered	Cousin-Marquet.
Versailles, Observatory	29.61	752.2	30.11	764.7	48.6	9.2	97	W	.....	.....	1	.....	.....	....	.....	0.116	2.99	....	Dr. A. Bertigny, Director
Villefranche-sur-Saone, N.S	29.48	748.7	30.21	767.2	49.3	9.6	80	NW	.....	.....	1	.....	10	.....	NW	0	0	Covered	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29 96	760.9	29.98	761.6	77.0	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	4.25	107.	.....	L'Abbé Marchési
Zi-Ka-Wei (near Shanghai)	30.22	767.6	30.24	768.2	40.2	7.9	86	ENE	0.7	0.3	.....	.....	0	.....	.....	0	0	Clear	Marc Decheyrens.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P,) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in gene al terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.14	740.1	29.98	761.5	45.1	7.3	88	SW			2		10n	SW		0.051	1.3	Rain & fog...	Prof. Dr. Hoh.
Berlin	29.74	755.5	29.92	760.0	44.4	6.9	87	N			2		10			0.028	0.7	Light rain...	Prof. Dr. Arndt.
Breslau	29.40	746.7	29.93	760.1	40.8	4.9	96	WSW			1		10					Raining	Royal University Obs'y
Carlsruhe	29.65	753.2	30.09	764.3	47.1	8.4	88	SW			2		10	SW		0.130	3.3	Raining	Albert Senz.
Cassel	29.42	747.2	30.03	762.7	44 1	6.7	69	N			3		5	NW		0.076	1.93		Dr. H. Möhl.
Emden			29.92	760.0	46.2	7.9	77	W			0		5			0.102	2.6		Prof. Dr. Prestel.
Frankfort on the Main	29.71	754.6	30.08	764.1	47.8	8.8	64	WNW			1		7			0	0		Physical Society.
Friedrichshafen	28.66	728.0	30.12	765.1	46.9	8.3	81	WSW			4		8	W		0.024	0.6		Chief Telegrapher Wilhelm.
Hamburg	29.91	759.6	29 98	761.4	43.2	6.2	88	WSW			3		7ks			0.205	5.2	Fair	Captain F. Hegemann.
Kiel	29.90	759.4	29.91	759.8	43.5	6.4	77	WNW			1		6			0.228	5.81		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.78	756.4	29.86	758.5	43.5	6.4	87	NW			3		4			0.110	2.8		Prof. E. Luther.
Köslin			29.88	758.9	43.7	6.5		E			2		4			0.193	4.9		H. Müller.
Leipsic Observatory	29.57	751.1	30.00	762.0	42 3	5.7	96	WNW			2		10			0.069	1.5	Foggy	Prof. Dr. Bruhns, Privy Counselor.
Magdeburg	29.77	756.2	30.00	762.0	44.1	6.7	91	WNW			2		10ks	WNW		0.043	1.1		Dr. Assmann.
Memel	29.52	757.3	29.86	758.5	41.7	5.4	69	NNE			2		0						Reinbrecht & Ishermann
Munich (München)	28.22	716.8	30.09	764.2	43.9	6.6	75	W			5		10	W		0.016	0.4		Dr. C. Lang.
Neufahrwasser	29.86	758.5	29.88	758.9	45.0	7.2	80	ENE			2		9			0.098	2.5		A. Lothes.
Neustadt (Palatinate)	29.53	750.1	30.06	763.5	49.5	9.7	73	WNW			6		10			0.276	7.0		Reallehrer Dicknether.
Posen	29.56	751.2	29.87	758.7	40.6	4.8	90	W			2		10			0	0		Prof. Dr. Hagener.
Strassburg (in Alsace)	29.57	751.1	30.13	765.8	50.0	10.0	76	N			2		10	W		0.001	0.03		Imp. University Observatory.
Stuttgart	29.11	739.4	30.07	763.7	47.3	8.5	77	W			1		9	W		0.169	4.3		Prof. Dr. Schoder.
Weissenburg (Bavaria)	28.53	724.7	30.10	764.4	42.3	5.7	94	W	9	4			10		W	0.031	0.8	Foggy	Reallehrer J. Hopfner.
Wustrow	29.91	759.7	29.93	760.3	43 0	6.1	69	NW			2		5s			0.201	5.1		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

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

Athens	29.65	753.2	30.05	763.2	59.2	15.1		NE			1.0		5					Hazy	Dr. J. F. J. Schmidt.

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

INDIAN SERIES.

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

Kurrachee	29.96	760.9	30.01	762.2	78.9	26.1	60	WNW	12	5.4			0			0	0	Blue sky	
Deesa	29.50	749.3	29.98	761.4	81.0	27.2	26	WNW	5.0	2.2			0			0	0	Blue sky	
Bombay	29.86	758.5	29.90	759.4	77.9	25.5	70	NNW	16	7.2			0			0	0	Blue sky	
Poona (Yerrowda)	28.05	712.4	29.90	759.6	78.3	25.7	23	E	7	3.1			0			0	0	Blue sky	
Belgaum	27.38	695.1	29.90	759.4	77.4	25.2	28	ENE	4	1.8			0			0	0	Blue sky	
Lahore	29.18	741.1	29.94	760.4	71.8	22.1	47	Calm	0.4	0.2			0			0	0	Cloudy	
Roorkee	29.04	737.6	29.97	761.2	66.8	19.3	48	W	0.7	0.3			5			0	0		
Agra	29.39	746.5	29.96	761.1	75.7	24.3	56	Calm	1.6	0.7						0	0		
Nagpur	28.90	732.9	29.95	760.7	75.9	24.9	37	NE	2.9	1.3						0	0	Blue sky	
Jubbulpore	28.58	726.0	29.98	761.5	69.1	20.6	57	E	2.4	1.1						0	0	Blue sky	
Lucknow	29.60	751.9	29.99	761.7	71.2	21.8	57	N	0.6	0.3						0	0	Blue sky	
Allahabad	29.67	753.6	29.99	761.8	67.8	19.9	74	Calm	0.6	0.3			0			0	0	Blue sky	
Patna	29.78	756.3	29.96	761.0	78.3	25.7	53	Calm	0	0			2			0	0		
Hazaribagh	27.92	709.0	29.98	761.4	67.8	19.9		Calm	3.0	1.3			3			0	0		
Cuttack	29.86	758.4	29.94	760.5	76.6	24.8	73	ENE	1	0.4			5			0	0	D. clouds	
Calcutta (Alipore)	29.92	760.0	29.94	760.6	73.2	22.9	72	NNW	1.0	0.4			0			0	0	Blue sky	
Goalpara	29.63	750.0	29.92	760.0	76.6	24.8	69	ESE	1.3	0.6			0			0	0	Blue sky	
Chittagong	29.84	758.0	29.94	760.3	78.5	24.7	62	Calm	2.8	1.0			0			0	0	Misty	
Sibsagar	29.62	752.2	29.96	760.9	73.0	22.8	82	ENE	0.8	0.4			0			0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

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

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

STATIONS	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	OBSERVER.
Udine	29.62	752.4	30.05	763.2	49.1	9.5	62	Calm	0	0	.....	.....	6	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.48	749.0	30.02	762.4	51.4	10.8	68	WSW	.....	.....	2	.....	4	WSW	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.53	750.2	30.04	763.1	46.8	8.2	72	N	1.3	0.6	.....	.....	0	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.10	739.1	30.03	762.8	46.2	7.9	67	E	0.7	0.3	.....	.....	6	E	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.85	758.2	30.05	763.2	59.2	15.1	62	SE	6.9	3.1	.....	.....	10	SE	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.08	713.2	30.04	763.1	48.9	9.4	60	NE	.....	.....	2	.....	4	NW	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.97	761.2	30.02	762.5	52.9	11.6	78	NE	4.9	2.2	.....	.....	6	W	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.77	756.2	30.04	762.9	57.2	14.0	64	W	.....	.....	2	.....	7	W	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.99	761.7	30.08	763.9	58.5	14.7	70	SW	3.8	1.7	.....	.....	10	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.89	759.3	30.08	763.9	60.1	15.6	67	W	0	0	.....	.....	8	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. C. De Giorgi.
Cosenza	29.20	741.6	30.10	764.5	56.8	13.8	70	NNW	2.5	1.1	.....	.....	0	.....	.....	0.118	3.0	.....	Prof. D. Conti.
Cagliari	29.95	760.7	30.15	765.7	63.5	17.5	42	NW	.....	.....	4	.....	2	W	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.89	759.2	30.15	765.7	63.3	17.4	61	WNW	13.0	5.8	.....	.....	5	NW	.....	0	0	.....	Prof. G. Ciaccatore.
Syracuse	30.04	763.1	30.12	765.0	62.6	17.0	68	NE	7.4	3.3	.....	.....	4	NNE	.....	0.098	2.5	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.56	750.7	30.08	764.0	59.7	15.4	71	NE	1.8	0.8	.....	.....	5	.....	.....	0	0	.....	Prof. F. Brioschi.

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

JAPANESE SERIES.

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

Hiroshima, I. M. Obs'y	30.07	763.8	30.09	764.3	46.5	8.1	82	NNE	7.6	3.4	.....	.....	0	.....	.....	0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.93	760.2	30.13	765.3	46.5	8.1	92	NE	0.3	0.1	.....	.....	0	.....	.....	0	0	Clear	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.98	761.5	30.05	763.3	47.6	8.7	90	ESE	2.0	0.9	.....	.....	9s	.....	.....	0.005	0.13	Cloudy	The Staff.
Wakayama	30.00	762.0	30.06	763.5	50.0	10.0	78	ENE	4.0	1.8	.....	.....	0	.....	.....	0	0	Clear	.....

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

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

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

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	25.06	636.6	30.19	766.7	48.2	9.0	68	Calm	.....	.....	0	.....	0	.....	.....	0	0	Fine	Prof. L. Perez.
Leon	24.43	620 4	30.08	764.1	61 0	16.1	86	NW	.....	.....	1	1c	0	NW	.....	Inap.	Inap.	Clear	Prof. M. Leal.
Mazatlan	29.78	755.1	29.99	761.7	70.3	21.3	94	NE	.....	.....	1	.....	10n	.....	NW	0	0	Covered	I. Guerrero, C. E.
Mexico, Central Observatory	23.08	586.2	30.18	765.3	51.4	10.8	72	Calm	0	0	.....	0	0	.....	.....	0	0	Very fine	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	55.4	13.0	80	Calm	.....	.....	0	1cs	0	.....	.....	0	0	Fine	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.64	597.9	30.52	775.1	42.3	5.7	48	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.18	614.1	30.10	764.4	61.0	16 1	64	E	.....	.....	1	0	0	.....	.....	0	0	Clear	G. Barroeta, M. D.
Tlacotalpam	29.95	760.7	29.96	761.0	75.4	24.1	95	Calm	.....	.....	0	0	0	.....	.....	0	0	Foggy	Prof. M. M. Chazaro.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell
Zacatecas	22.56	573.0	30.16	766.0	57.6	14.2	68	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	A. Nuñez.

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

NETHERLANDS SERIES.

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

Flushing	30.05	763.3	30.05	763.3	48.6	9.2	.....	SW	.....	.....	4	.....	.....	.....	.....	0.039	1.0	.....	.....
Groningen	29.93	760.3	29.99	761.7	45.7	7.6	.....	SW	.....	.....	.....	.....	.....	.....	.....	0	0	.....	.....
Helder	29.95	760.6	29.95	760.6	46.4	8.0	.....	SW	.....	.....	4	.....	.....	.....	.....	0.354	9.0	.....	.....
Hellevoetsluis	30.02	762.6	30.02	762.6	47 8	8 8	84	SSW	.....	.....	4	.....	.....	.....	.....	0.079	2 0	.....	.....
Utrecht	29.97	761.3	30.02	762.5	47.7	8.7	78	SW	.....	.....	2	.....	8	.....	.....	0.079	2.0	Very cloudy	H. v. d. Brink.

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

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.55	750.5	29.60	751.9	41.7	5.4	82	SSE	7.4	3.3	.....	.....	8	.....	.....	0.079	2.0	.....	
Brönö	29.52	749.9	29.56	750.9	34.7	1.5	87	SW	9	4	.....	.....	10	.....	.....	0	0	.....	
Christiana	29.48	748.9	29.63	752.7	35.6	2.0	77	NNE	2	1	.....	.....	10	.....	.....	0	0	.....	
Tromsö	29.42	747.3	29.47	748.4	25.2	— 3.8	95	SW	7	3	.....	.....	10	.....	.....	0.630	16.0	Snowing.	

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

PORTUGUESE SERIES.

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

Angra (Azores)	29.97	761.2	30.16	766.0	66.2	19.0	88	SE	4.9	2.2	.....	.....	5	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.21	741.9	30.24	768.0	61.5	16.4	48	ENE	3.8	1.7	.....	.....	8	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	29.71	754.5	29.79	756.7	71.1	21.7	85	W	14.3	6 4	.....	.....	6	.....	.....	1.724	43.8	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.83	757.6	30.19	766.7	63.7	17.6	60	ENE	16.1	7.2	.....	.....	6	SSW	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.13	765.2	30.20	767.0	68.0	20.0	78	SE	8.1	3.6	.....	.....	3	.....	.....	0	0	.....	

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

PORTUGUESE NAVAL SERIES. VESSELS.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	
D. Fernando	.....	.....	.....	A. G. da Silva Costa, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.	.....	.....	.....	A. M. de Sande, Com'd't.
Mindello	.....	...	.....	J. C. M. Cabrate, 1st Lt.
Quanza, Capt. A. J. de Mattos	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Rio Duro	.....	.....	.....	H. de C. C. e Athayde.
Rio Lima, Capt. S. C. da Silva Costa, Porto Praya, Cape Verd I'ds.	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Sà da Bandeira	.....	.....	.....	A. A. A. Loureiro.
Sado, Capt. J. A de Brito Capello, St. Paul de Loando	.....	.....	.....	F. Teixeira da Silva, Com'd't.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	.....	.....	.....	H. Mecudoneo, 2nd Lieut.
	.....	.....	.....	J. G. Felgo, 2nd Lieut.
	.....	.....	.....	

Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	...	.....	J. C. M. Cabrate, 1st Lt.
Quanza, Capt. A. J. de Mattos	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. de C. C. e Athayde.
Rio Lima, Capt. S. C. da Silva Costa, Porto Praya, Cape Verd I'ds.	.....	.....	.....	.....	81.3	27.4	.....	NE	.....	.....	4	.....	0	.....	.....	3	NE	Blue sky	J. T. d'Oliveria, Com'd't.
Sà da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. A. A. Loureiro.
Sado, Capt. J. A de Brito Capello, St. Paul de Loando	.....	.....	29.91	759.6	80.2	26.8	.....	W	.....	.....	5	.....	7	.....	W	.....	.....	D. clouds	F. Teixeira da Silva, Com'd't.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	.....	.....	30.26	768.5	66.2	19.0	.....	N	.....	.....	2	.....	0	.....	.....	0	.....	Blue sky	H. Mecudoneo, 2nd Lieut.
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. G. Felgo, 2nd Lieut.
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

RUSSIAN SERIES.

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

Archangel	28.98	736.1	29.00	736.6	13.3	—10.4	97	SSW	2	1	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Astrakhan	30.07	763.8	29.99	761.7	42.1	5.6	73	WSW	2	1	.....	10cp	.....	.....	.....	.....	.....	.....	Capt. Wisganow.
Barnaul	29.20	741.7	29.71	754.7	33.8	0.7	87	SE	0	0	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	29.54	750.2	29.79	756.6	36.6	2.2	63	W	7	3	.....	.....	3k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	28.41	721.5	29.42	747.3	14.7	— 9.7	81	SW	4	2	.....	9ck	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Kasan	29.10	739.1	29.37	746.1	34.7	1.5	84	SW	2	1	.....	.....	10n	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.16	740.7	29.81	757.1	40.5	4.7	73	NW	2	1	.....	.....	10ks	.....	.....	.....	.....	.....	Physical Cabinet.
Krotkowo*	29.06	738.0	29.54	750.2	36.3	2.4	84	W	7	3	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	29.65	753.1	29.86	758.4	43.0	6.1	81	SW	4	2	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Moscow	29.06	738.0	29.61	752.2	36.1	2.3	63	E	10.1	4.5	.....	.....	2ks	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	27.98	710.7	30.55	775.9	— 0.9	—18.5	71	Calm	0	0	.....	.....	2	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	29.88	758.9	29.95	760.7	49.5	9.7	68	SSW	18	8	.....	.....	10cs	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Nukuss	30.04	763.0	30.28	769.2	35.2	1.8	88	SSW	4	2	.....	.....	10n	.....	.....	Blank	Blank	Light clouds	Kurdakof.
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Pekin (China)	30.06	763.4	30.20	767.0	42.1	5.6	57	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	
St. Petersburg	29.62	752.3	29.63	752.7	31.3	— 0.4	59	NW	20	9	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Tashkend	28.92	734.5	30.21	767.4	28.8	— 1.8	100	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Central Physical Obs.
Tiflis	28.71	729.2	30.15	765.8	50.2	10.1	52	Calm	0	0	.....	.....	10	.....	.....	Blank	Blank	.....	Teich, A. M.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3ck	.....	.....	.....	.....	.....	.....	Physical Observatory.
Warsaw	29.43	747.5	29.87	758.6	36.7	2.6	91	WSW	7	3	.....	.....	10ks	.....	.....	.....	.....	.....	
Wilna	29.42	747.3	29.85	758.2	41.0	5.0	75	ENE	2	1	.....	.....	10	.....	.....	.....	.....	.....	Astronomical Obs.
Yenisiesk	29.65	753.0	29.95	760.7	22.6	— 5.2	90	ESE	2	1	.....	.....	10	.....	.....	.....	.....	Heavy clouds	Astronomical Obs.
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Snowing	Marks.
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

SPANISH SERIES.

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

Barcelona, Met. Obs'y	30.08	764.0	30.19	766.7	61.2	16.2	62	SSW	1.3	0.6	.....	.....	0	.....	.....	0	0	Clear	Antonio Rave, Director
Bilbao, Met. Obs'y	30.23	767.7	30.28	769.1	59.5	15.3	75	SE	1.5	0.69	.....	.....	10	.....	.....	0	0	Covered	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.31	693.7	.....	.....	56.8	13.8	61	E	3.1	1.40	.....	0	2	.....	.....	0	0	Light clouds	Domingo Martin y Perez.
Madrid, Royal Observatory.	28.00	711.3	30.23	767.9	61.0	16.1	61	S	3.7	1.67	.....	1	2	NW	.....	0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	30.09	764.3	30.24	768.1	64.8	18.2	70	SW	1.2	0.56	.....	2	3	SW	.....	0	0	Clouds	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.30	744.2	30.19	766.8	63.0	17.2	59	NE	8.1	3.6	.....	.....	2	.....	.....	0	0	Light clouds	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.04	762.9	30.10	764.6	75.6	24.2	80	ESE	9.8	4.4	.....	0	0	.....	.....	0	0	Clear	Benito Vines, S. J.
Manilla, Phillippine Islands	29.79	756.7	29.84	758.0	80.6	27.4	.....	E	0	0	.....	.....	10n	.....	W	0	0	Covered	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.09	764.2	30.19	766.7	67.5	19.7	61	ESE	16.8	7.5	.....	0	10	.....	SSE	0.011	0.3	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I	29.91	759.8	30.00	762.1	78.4	25.8	89	E	7.2	3.20	.....	6kn	6kn	E	E	0.335	8.50	Overcast	Enrique Gadea, Chief Eng'r

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

SWEDISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature.		Barometer. Reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind. Direction.	Wind. Velocity		Wind. Force.	Clouds. Amount.		Clouds. Direction.		Rain-fall or melted snow in the past 24 hours.		Weather.	Observer.
												Up'er	Lo'er	Upper.	Lower.				
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0–10.	0–10.	0–10.	From—	From—	Inches.	Millimeters.		
Haparanda	29 54	750.3	29.58	751.3	13.6	—10.2	.....	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	
Umea	29.58	751.2	29.63	752.5	24 1	— 4.4	86	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	
Hernosand	29.60	751.7	29 65	753.0	36.0	2.2	61	Calm	.....	.....	0	.....	2	.....	.....	0	0	.....	
Stockholm	29.50	749.4	29.68	753.9	35.6	2.0	78	SSW	.....	.....	2	.....	7	.....	.....	0	0	.....	
Wisby	29.68	753.8	29.74	755.3	40 6	4.8	68	W	.....	.....	6	.....	6	.....	.....	0.051	1.3	.....	
Sub-Series.																			
Upsala	29.55	750.6	29.64	752.8	36.1	2.3	61	SW	5 8	2.6	.....	.....	6	W	.....	0 031	0.03	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

SWISS SERIES.

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

Geneva	28.62	728.7	30.13	765.4	48.2	9 0	78	NNE	.....	.....	2	.....	7	.....	.....	0	0	Cloudy.....	The Observatory.
Zurich	28.48	723.4	30.16	766.0	43 2	6.2	88	S	.....	.....	1	.....	8	.....	.....	0.047	1.2	Cloudy.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +2.4 mm.; Thermometer, —1.5 Cent.; Relative Humidity, +1 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

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

Constantinople	.....	.....	30.00	762.0	56.7	13.7	75	SSW	7	3.0	.....	.....	10	.....	SW	0	0	....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.06	763.4	61.3	16.3	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obsy	29.88	758.9	29.99	761.7	68.0	20.0	82	SW	.....	.....	3	.....	7n	.....	SW	0.05	1.3	D. clouds...	Prof. C. V. A. van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	

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

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	30.09	764.3	30.15	765.8	35.3	1.8	63	NW	12	5.4	.....	2k	8kε	NW	.....	0	0	Cloudy.....	G. A. Blair.
Charlottetown, P. E. Island	30.00	762 0	30.04	763.0	35.9	2.2	90	W	7	3.1	.....	.....	10n	.....	.....	0.03	0 8	Cloudy.....	H. J. Cundall, C. E.
Cornwall, Ontario	30.12	765.0	30.32	770.1	46.1	7.8	84	NE	.....	.....	1	5cs	4s	NW	.....	0	0	Fair.....	James Smith, M. A.
Dalhousie, N. B	29.99	761.7	30.16	766.1	33.5	0.8	.....	W	.....	.....	2	0	2s	.....	.....	0	0	Fine.....	H. A. Johnson.
Father Point, Quebec	30.21	767.3	30.23	767.8	33.4	0.8	70	N	20	8.9	.....	8k	0	N	.....	0	0	Cloudy.....	J. McWilliams.
Fredericton, N. B	30.12	765.0	30.18	766.6	36.3	2.4	61	W	6	2.7	.....	6cs	0	NW	.....	0	0	Cloudy.....	Prof. Harrison.
Fort Garry, Manitoba	28.92	734.6	29.76	755.9	34.5	1.4	95	SE	6	2.7	.....	5k	4n	SW	.....	6	0	Cloudy.....	James Stewart.
Granton, Ontario	28.96	735.6	30.09	764.3	40	4.4	.....	SE	...	.....	3	.....	10n	.....	.....	Inap.	Inap.	Light rain...	James Grant.
Halifax, N. S	29.97	761.2	30.10	764.5	38.0	3.3	72	NW	11	4.9	.....	.....	8ks	.....	.....	0.002	0.05	Cloudy.....	A. Allison, M. A.
Hamilton, Ontario	29.82	757.4	30.20	767.1	42 7	5.9	92	NE	.....	.....	2	.....	10cs	.....	NE	0	0	Cloudy.....	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.94	760.5	30.28	769.1	37.5	3.1	77	W	10	4.5	.....	5ck	0	W	.....	0	0	Fair.....	S. Woods, M. A.
Little Glace Bay, N. S	29.86	758.4	29.90	759.9	33.8	1.0	92	NW	8	3.6	.....	.....	10n	.....	.....	0.34	8.6	Overcast...	C. H. Rigby.
Montreal, Quebec	30.14	765.5	30.34	770.6	36.0	2.2	72	N	4	1.8	.....	.....	10s	.....	.....	0.96	24.4	Overcast...	C. H. McLeod, C. E.
Moose Factory, Ontario	30.13	765.3	30.17	766.3	31.0	— 0.6	89	SE	.....	.....	3	.....	10	.....	.....	0	0	Cloudy.....	J. R. Nason.
Norwood	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. R. Mosley.
Peterboro, Ontario	29.48	748.8	30.26	768.6	33.7	0.6	80	E	.....	.....	1	.....	9ks	.....	.....	0	0	Cloudy	J. F. Jeffers, B. A.
Port Dover, Ontario	29.43	747.5	30.14	765.5	41.9	5.5	100	NE	7	3.1	.....	.....	10n	.....	SW	0.02	0.5	Heavy rain.	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.44	747 8	30.10	764.5	43.9	6.6	93	E	8	3.6	...	.....	10n	.....	E	0.26	6.6	Light rain...	M. Payne.
Quebec, Quebec	29.97	761.2	30.30	769.6	34.5	1.4	74	N	.....	.....	1	0	2s	.....	.....	0	0	Fair.....	Capt. Ashe, R. N.
Rockliffe, Ontario	29.79	756.7	30.27	768.8	33.1	0.6	85	SE	6	2.7	.....	Haze	3s	.....	SE	0.17	4.3	Hazy.....	W. H. McIntyre.
St. Andrews, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Gove.
St. John, N. B	30.00	762.0	30.18	766.6	37	2.8	62	NW	10	4.5	.....	.....	10ks	.....	.....	0	0	Overcast....	G. Murdock, C. E.
Saugeen, Ontario	29.36	745.7	30.09	764.3	40.0	4.4	82	SE	15	6.7	.....	.....	10s	.....	.....	0.06	1.5	Raining.....	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.78	731.0	30.09	764.3	38.8	3.8	92	SE	11	4.9	.....	.....	10s	.....	.....	0	0	Cloudy.....	C. J. MacGregor, M. A.
Sydney, C. B	29.89	759.2	29.93	760.2	37.0	2.8	66	NW	12	5.4	.....	.....	10s	.....	.....	0.26	6.6	Overcast....	T. C. Hill, C. E.
Toronto, Ontario	29.81	757.2	30.20	767.1	43.0	6 1	75	E	16	7.2	.....	0	8n	.....	.....	Inap.	Inap.	Light rain .	Magnetic Observatory.
Windsor, N. S	29.81	757.2	29.91	759.7	58.5	14.7	82	NW	12	5.4	.....	.....	10ks	.....	.....	0	0	Overcast....	Prof. John E. Oram.
Woodstock, Ontario	29.04	737.6	30.13	765 3	39.6	4.2	94	NE	16	7.2	.....	.....	10n	.....	.....	0.79	20.1	Raining.....	Prof. J. Montgomery.
Yarmouth, N. S	30.00	762.0	30.07	763.8	38.8	3.8	70	N	.....	.....	2	.....	10ks	.....	.....	0	0	Overcast....	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.38	746.2	29.64	752.8	42.0	5.6	100	N	.....	.....	.....	10k	10s	.....	.....	0.10	2.5	Cloudy	John Delany.
St. Pierre, N. F	.....	.....	29.63	752.7	39.2	4	.....	N	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	l'Hopital Maritime.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10, except Yarmouth and St. Johns on scale 0 to 20. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

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

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	30.10	764.5	30.35	770.9	35	1.7	90	N	3	1.3	.....	0	Sm'e	.....	.....	0	0	Clear	
Alpena, Michigan	29.33	745 0	29.98	761.5	44	6.7	92	SE	27	12.1	.....	.....	10n	.....	SE	0.05	1.3	Light rain	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	29.09	738.9	30.23	767.8	61	16.1	94	SE	7	3.1	.....	.....	Fog	.....	Calm	0.08	2.0	Dense fog	
Atlantic City, New Jersey	30.29	769 4	30.30	769.6	53	11.7	93	NE	6	2.7	.....	10k	0	W	.....	0.09	2.3	Cloudy	
Augusta, Georgia	30.13	765.3	30.33	770.4	61	16.1	94	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Dense fog	
Baltimore, Maryland	30.25	768.3	30.30	769.6	54	12.2	74	W	7	3.1	.....	.....	10s	.....	W	Inap.	Inap.	Cloudy	
Barnegat, New Jersey	30.29	769.4	30.31	769.9	52	11.1	79	NE	10	4.5	.....	.....	10s	.....	W	0	0	Cloudy	
Bismarck, Dakota	27.96	710.2	29.81	757.2	28	— 2.2	88	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Boerne, Texas	28.39	721.1	29.65	753.1	71	21.7	90	S	12	5.4	.....	0	5ks	.....	S	0	0	Cloudy	
Boise City, Idaho	26.92	6-3.8	29.88	758.9	48	8.9	70	SE	16	7.2	.....	.....	10s	.....	Calm	Inap.	Inap.	Threatening	
Boston, Massachusetts	30.14	765.5	30.30	769.6	42	5.6	58	W	4	1.8	.....	2c	0	Calm	.....	0	0	Fair	
Brackettville, Texas	28.67	728.2	29.68	753.9	72	22.2	90	E	4	1.8	.....	.....	10s	.....	E	0	0	Cloudy	
Breckenridge, Minnesota	28.72	729.5	29.72	754.9	38	3.3	100	W	2	0.9	.....	.....	Fog	.....	.....	0.22	5.6	Foggy	
Brownsville, Texas	29.82	757.4	29.86	758.4	77	25.0	86	S	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Buffalo, New York	29.41	747.0	30.12	765.0	45	7.2	68	E	7	3.1	.....	.....	10n	.....	S	Inap.	Inap.	Light rain	
Burkes, Arizona	.....	.....	.....	.....	44	6.7	76	W	.....	.....	1	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	30.03	762.7	30.34	770.6	40	4.4	73	N	4	1.8	.....	5ck	5ks	NW	NW	0	0	Cloudy	
Cairo, Illinois	29.65	753.1	30.03	762.7	69	20.6	90	S	8	3.6	.....	.....	10s	.....	S	0.02	0.5	Threatening	
Campo, California	27 59	698.5	30.07	763.8	31	— 0.6	89	E	4	1.8	.....	0	0	.....	.....	0.07	1.8	Clear	
Cape Hatteras, N. Carolina	30.33	770.4	30.33	770.4	63	17.2	94	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Cape Henry, Virginia	30.26	768.6	30.28	769.1	61	16.1	88	SW	11	4.9	.....	0	2ks;hz'	.....	Calm	0	0	Clear	
Cape Lookout, N. Carolina	30.30	769.6	30.32	770.1	67	19.4	89	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Dense fog	
Cape May, New Jersey	30.25	768.3	30.28	769 1	57	13.9	75	E	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Castroville, Texas	29.03	737.3	29.70	754.4	75	23.9	77	SE	12	5.4	.....	.....	10ks	.....	S	0	0	Cloudy	
Cedar Keys, Florida	30.22	767.6	.....	.....	.....	.....	.....	E	.....	.....	2	0	0	.....	.....	0	0	Clear	
Charleston, South Carolina	30.24	768.1	30.30	769.6	64	17.8	94	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Charlotte, North Carolina	29.42	747.3	30.24	768.1	61	16.1	94	SW	2	0.9	.....	2c	Fog	Calm	Calm	0	0	Fair	
Chattanooga, Tennessee	29.40	746.7	30.19	766.8	65	18.3	94	S	4	1.8	.....	5k	1s	SW	Calm	0.10	2.5	Fair	
Cheyenne, Wyoming	23.89	606.8	29.83	757.7	31	— 0.6	69	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.08	738.6	29.74	755.4	63	17.2	89	SW	16	7.2	.....	.....	10s	.....	SW	0.70	17.8	Cloudy	
Cincinnati, Ohio	29.45	748.0	30.08	764.0	63	17.2	89	S	7	3.1	.....	.....	10ks	.....	SW	Inap.	Inap	Threatening	
Cleveland, Ohio	29.3	744.2	30.02	762.5	52	11.1	93	SE	14	6.3	.....	.....	10s	.....	SW	0.26	6.6	Threatening	
Coleman City, Texas	28.00	711.2	29.62	752.3	60	15.6	71	SW	12	5.4	.....	.....	10s	.....	S	0	0	Cloudy	
Columbus, Ohio	29.23	742.4	30.05	763.3	62	16.7	88	S	4	1.8	.....	.....	Fog	.....	.....	0	0	Foggy	
Concho, Texas	27.95	709.9	29.58	751.3	59	15.0	54	S	12	5.4	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Corsicana, Texas	29.39	746.5	29.83	757.7	73	22.8	81	SE	8	3.6	.....	.....	10ks	.....	S	0	0	Cloudy	
Davenport, Iowa	29.16	740.7	29.78	756.4	59	15.0	88	SW	9	4.0	.....	.....	10s	.....	SW	1.47	37.3	Cloudy	
Deadwood, Dakota	25.18	639.6	.....	.....	27	— 2.8	64	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Denison, Texas	29.05	737.9	29.80	756.9	71	21.7	85	SE	12	5.4	.....	.....	10s	.....	S	0.02	0.5	Cloudy	
Denver, Colorado	24.63	625.6	29.85	758.2	29	— 1.7	78	S	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	28.85	732.8	29.70	754.4	59	15.0	94	SW	5	2.2	.....	.....	10n	.....	Calm	1.92	48.8	Light rain	
Detroit, Michigan	29.32	744.7	29.80	756.9	52	11.1	93	SE	3	1.3	.....	.....	10s	.....	Calm	1.16	29.5	Cloudy	
Dodge City, Kansas	27.13	689.1	29.35	745.5	55	12.8	81	NE	5	2.2	.....	5ck	5s	SE	Calm	0.02	0.5	Cloudy	
Dubuque, Iowa	29.06	738.1	29.74	755.4	57	13.9	81	SW	4	1.8	.....	.....	10s	.....	SW	0.89	22.6	Cloudy	
Duluth, Minnesota	29.00	736.6	29.68	753.9	40	4.4	100	NE	8	3.6	.....	.....	10n	.....	NE	0.49	12.4	Light rain	
Eagle Pass, Texas	29.01	736 8	29.70	754.4	75	23.9	77	S	4	1.8	.....	.....	10s	.....	S	0	0	Cloudy	
Eastport, Maine	30.11	764.8	30.18	766.6	37	2.8	63	N	10	4.5	.....	.....	10s	.....	N	0	0	Cloudy	
Edinburg, Texas	.....	.....	.....	.....	75	23.9	86	E	.....	.....	4	.....	10s	.....	SE	0	0	Cloudy	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.36	745.7	30.08	764.0	50	10.0	86	Ca m	0	0	.....	.....	10n	.....	SW	0.24	6.1	Heavy rain	
Escanaba, Michigan	29.09	738.9	29.74	755.4	43	6.1	83	Sk	19	8.5	.....	.....	10n	.....	SE	0.61	15.5	Light rain	
Florence, Arizona	28.58	725 9	30.18	766.6	44	6.7	92	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.69	703.3	29.59	751.6	22	— 5.6	86	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort Custer, Montana	26.57	674.9	.....	.....	28	— 2.2	67	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.12	638.0	30.08	764.0	41	5.0	65	S	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter.	29.30	744.2	29.82	757.4	71	21.7	71	SE	16	7.2	.....	.....	10s	.....	S	0.06	1.5	Cloudy	
Fort Grant, Arizona	25.22	640.6	30.02	762.5	39	3.9	65	NW	12	5.4	.....	10k	0	NW	.....	0.74	18.8	Cloudy	
Fort Griffin, Texas	28.48	723.4	29.69	754.1	66	18.9	89	S	8	3.6	.....	.....	10s	.....	Calm	0.30	7.6	Cloudy	
Fort Keogh, Montana	27.17	690.1	.....	.....	21	— 6.1	70	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	27.70	703.6	29.60	751.8	54	12.2	80	NW	10	4.5	.....	.....	10s	.....	NW	0.03	0.8	Cloudy	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.52	724.4	29.57	751.1	70	21.1	85	SE	16	7.2	.....	.....	10s	.....	S	Inap.	Inap.	Cloudy	
Fort Stevenson, Dakota	27.97	710.4	.....	.....	21	— 6.1	85	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Verde, Arizona	.....	.....	.....	.....	37	2.8	90	W	.....	.....	1	5k	0	SW	.....	0.18	4.6	Fair	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.03	711.9	29.53	750.0	65	18.3	73	S	16	7.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Galveston, Texas	29.93	760.2	29.97	761.2	72	22.2	95	SE	7	3.1	.....	0	2ks	.....	Calm	0	0	Clear	
Graham, Texas	28.66	728.0	29.66	753.4	69	20.6	90	S	10	4.5	.....	.....	10s	.....	S	0	0	Threatening	
Grand Haven, Michigan	29.20	741.7	29.84	757.9	52	11.1	100	SE	8	3.6	.....	.....	10n	.....	Calm	0.80	20.3	Light rain	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	28.76	730.5	29.64	752.8	72	22.2	76	SE	20	8.9	.....	0	8s	.....	SW	0	0	Cloudy	
Indianapolis, Indiana	29.18	741.1	29.93	760.2	65	18.3	84	S	10	4.5	.....	.....	10ks	.....	SW	0.09	2.3	Cloudy	
Indianola, Texas	29.90	759.4	29.93	760.2	74	23.3	90	S	14	6.3	.....	0	1s	.....	S	0	0	Clear	
Jacksboro, Texas	28.61	726.7	29.68	753.9	75	23.9	77	S	18	8.0	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.25	768.3	30.27	768.8	68	20.0	90	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Keokuk, Iowa	29.16	740.7	29.74	755.4	65	18.3	84	SW	9	4 0	.....	.....	10s	.....	SW	0.64	16.3	Cloudy	
Key West, Florida	30.09	764.3	30.12	765.0	76	24.4	86	E	13	5.8	.....	2k	0	E	.....	0	0	Fair	
Kittyhawk, North Carolina	30.17	766.3	30.19	766.8	63	17.2	94	SW	16	7.2	.....	0	Haze	.....	Calm	0	0	Clear	
Knoxville, Tennessee	29.23	742.4	30.24	768.1	55.5	13.1	97	E	2	0.9	.....	.....	10s	.....	Calm	0	0	Foggy	
La Crosse, Wisconsin	28.92	734 6	29.63	752.6	51	10.6	93	SW	1	0.4	.....	.....	10s	.....	Calm	1.24	31.5	Cloudy	
La Mesilla, New Mexico	26.04	661.4	30.19	766.8	36	2.2	71	SW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.36	745.7	29.69	754.1	70	21.1	61	S	13	5.8	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	28.90	734.0	29.71	754.6	64	17.8	89	S	3	1.3	.....	.....	10s	.....	.....	0.16	4.1	Cloudy	
Little Rock, Arkansas	29.67	753.6	30.01	762.2	70	21.1	95	S	9	4.0	.....	.....	10s	.....	S	0	0	Cloudy	
Los Angeles, California	29.82	757.4	30.17	766.3	45.0	7.2	84	NE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.54	750.3	30.08	764.0	66	18.9	84	S	9	4.0	.....	.....	10s	.....	S	Inap.	Inap.	Cloudy	
Lynchburg, Virginia	29.57	751.1	30.26	768.6	53	11.7	86	W	1	0.4	.....	5c	Fog	W	W	0	0	Fair	
Madison, Wisconsin	28.70	729.0	29.65	753.1	57	13.9	87	S	8	3.6	.....	.....	10s	.....	SW	0.89	22.6	Cloudy	
Marquette, Michigan	29.06	738.1	29.75	755.6	43	6.1	83	SE	10	4.5	.....	.....	10s	.....	NW	0.16	4.1	Cloudy	
Mason, Texas	28.20	716.3	29.87	758.7	73	22.8	72	SW	13	5.8	.....	.....	10s	.....	SW	0	0	Cloudy	
Memphis, Tennessee	29.71	754.6	30.04	763.0	71	21.7	90	S	16	7.2	.....	.....	10s	.....	S	0.03	0.8	Cloudy	
Milwaukee, Wisconsin	29.01	736.8	29.72	754.9	54	12.2	96	SW	6	2.7	.....	.....	10n	.....	SW	1.09	25.4	Light rain	
Mobile, Alabama	30.12	765.0	30.16	766.1	70.5	21.4	92	SE	7	3.1	.....	.....	10s	.....	S	0	0	Cloudy	
Montgomery, Alabama	29.99	761.7	30.23	767.8	66	18.9	92	SE	6	2.7	.....	2c	0	W	.....	0	0	Clear	

UNITED STATES SERIES—CONTINUED.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Morgantown, West Virginia	29.17	740.9	30.15	765.8	58	14.4	88	Calm	0	0	.....	.....	10ks	.....	SW	0.11	2.8	Cloudy.....	
Mt. Washington, N. H.	23.84	605.5	30.20	767.1	18	— 7.8	68	NW	12	5.4	.....	0	5ks	.....	NW	0	0	Clear.	
Nashville, Tennessee	29.61	752.1	30.13	765.3	69	20.6	85	SE	6	2.7	.....	0	7ks	.....	S	1.06	26.9	Fair.....	
New Haven, Connecticut	30.19	766.8	30.31	769.9	45	7.2	76	N	4	1.8	.....	5ck	0	NW	.....	0	0	Fair.....	
New London, Connecticut	30.26	768.6	30.31	769.9	46	7.8	69	N	1	0.4	.....	1ck	0	W	.....	0	0	Clear.....	
New Orleans, Louisiana	30.03	762.7	30.09	764.3	72	22.2	90	SE	8	3.6	.....	Haze	2s	Calm	E	0.58	9.7	Fair.....	
Newport, Rhode Island	30.25	768.3	30.30	769.6	44	6.7	76	NW	4	1.8	.....	2c	0	Calm	.....	0	0	Clear	
New York, New York	30.16	766.1	30.34	770.6	50	10.0	64	NE	5	2.2	.....	Haze	5s	.....	Calm	0	0	Fair.....	
Norfolk, Virginia	30.22	767.6	30.28	769.1	59	15.0	76	S	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
North Platte, Nebraska	26.91	683.5	29.56	750.8	27	— 2.8	88	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Olympia, Washington Ter.	29.53	750.0	29.57	751.1	41.5	5.3	91	S	6	2.7	.....	.....	10n	.....	Calm	0.36	9.1	Light rain.	
Omaha, Nebraska	28.63	727.2	29.71	754.6	50	10.0	86	Calm	0	0	.....	10s	0	SW	.....	1.95	49.5	Cloudy.....	
Oswego, New York	29.96	761.0	30.30	769.6	42	5.6	74	SE	6	2.7	.....	2c	5s	NW	NW	0	0	Fair	
Pembina, Dakota	28.88	733.5	29.72	754.9	35	1.7	100	Calm	0	0	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy.....	
Pensacola, Florida	30.17	766.3	30.18	766.6	70	21.1	95	SE	.....	.....	2	4k	0	SE	.....	0	0	Fair.....	
Philadelphia, Pennsylvania	30.28	769.1	30.33	770.4	50	10.0	72	NE	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Phœnix, Arizona	28.93	734.8	30.79	782.1	45	7.2	76	Calm	0	0	.....	0	0	.....	.....	0.40	10.2	Clear	
Pike's Peak, Colorado	17.57	446.3	29.78	756.4	10	—12.2	100	NE	4	1.8	.....	.....	Fog	.....	.....	0	0	Foggy	
Pilot Point, Texas	29.04	737.6	29.83	757.7	72	22.2	90	S	16	7.2	.....	2k	8s	SE	S	0.03	0.8	Cloudy.....	
Pioche, Nevada	.....	.....	.....	.....	31	— 0.6	69	Calm	0	0	.....	0	0	.....	.....	Inap	Inap.	Clear.....	
Pittsburg, Pennsylvania	29.33	745.0	30.14	765.5	53	11.7	100	Calm	0	0	.....	.....	10s;fg	.....	Calm	0.13	3.3	Cloudy.....	
Port Huron, Michigan	29.33	745.0	29.99	761.7	45	7.2	92	SE	12	5.4	.....	.....	10n	.....	SE	0.48	12.2	Heavy rain.	
Portland, Maine	30.21	767.3	30.26	768.6	42	5.6	74	N	2	0.9	.....	0	Fog	.....	.....	0	0	Clear.	
Portland, Oregon	29.62	752.3	29.69	754.1	45.0	7.2	84	SW	10	4.5	.....	.....	10s	.....	.....	0.35	8.9	Threatening	
Portsmouth, N. Hampshire	.....	.....	.....	.....	62	16.7	94	SW	3	1.3	.....	0	Fog	.....	Calm	0	0	Fair	
Prescott, Arizona	24.75	628.6	30.11	764.8	32.0	0.0	89	SW	.....	.....	1	0	0	.....	.....	0.05	1.3	Clear.	
Punta Rassa, Florida	30.16	766.1	30.18	766.6	71	21.7	85	NE	10	4.5	.....	1c	0	W	.....	0	0	Clear.....	
Red Bluff, California	29.56	750.8	29.92	760.0	52	11.1	76	SE	34	15.2	.....	0	5s	.....	S	0	0	Fair.....	
Rio Grande City, Texas	29.63	752.6	29.84	757.9	74	23.3	81	SE	12	5.4	.....	0	0	.....	.....	0	0	Clear.....	
Rochester, New York	29.61	752.1	30.25	768.3	41	5.0	91	SE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.	
Roseburg, Oregon	29.25	742.9	29.82	757.4	44	6.7	88	S	3	1.3	.....	0	8s	.....	Calm	0.27	6.9	Fair	
Sacramento, California	29.99	761.7	30.08	764.0	48	8.9	85	S	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
St. Louis, Missouri	29.37	746.0	29.93	760.2	65	18.3	94	S	14	6.3	.....	1c	5s	SW	SW	0.09	2.3	Fair.....	
St. Paul, Minnesota	28.83	732.3	29.64	752.8	45	7.2	84	S	2	0.9	.....	.....	Fog	.....	Calm	0.80	20.3	Foggy	
Salt Lake City, Utah	25.61	650.5	29.94	760.5	37	2.8	63	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
San Antonio, Texas	29.14	740.1	29.70	754.4	77	25.0	73	SE	8	3.6	.....	0	8ks	.....	SE	Inap.	Inap.	Cloudy	
San Diego, California	30.11	764.8	30.18	766.6	47	8.3	85	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Sandusky, Ohio	29.33	745.0	29.99	761.7	59	15.0	88	S	12	5.4	.....	.....	10s	.....	SW	0.36	9.1	Cloudy.....	
Sandy Hook, New Jersey	29.28	743.7	30.32	770.1	48	8.9	78	NE	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
San Francisco, California	30.04	763.0	30.11	764.8	54	12.2	87	SW	5	2.2	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Santa Fé, New Mexico	23.01	584.4	29.55	750.6	26	— 3.3	88	Calm	0	0	.....	.....	10n	.....	Calm	0.83	21.1	Light snow.	
Savannah, Georgia	30.20	767.1	30.30	769.6	63	17.2	94	E	3	1.3	.....	1c	Fog	Calm	Calm	0	0	Clear.	
Shreveport, Louisiana	29.76	755.9	29.98	761.5	65	18.3	89	SE	8	3.6	.....	.....	10s	.....	S	0	0	Cloudy.....	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.30	769.6	30.34	770.6	60	15.6	100	SE	2	0.9	.....	.....	Fog	.....	.....	0	0	Foggy	
Socorro, New Mexico	25.26	641.6	29.32	744.7	36	2.2	61	S	1	0.4	.....	0	0	.....	.....	0.03	0.8	Clear.	
Springfield, Illinois	29.32	744.7	29.86	758.4	65.5	18.6	87	S	19	8.5	.....	2k	5ks;s	SW	SW	0.18	4.6	Clearing.....	
Springfield, Massachusetts	30.18	766.6	30.31	769.9	42	5.6	66	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Stockton, Texas	27.01	686.0	30.01	762.2	55	12.8	39	NE	26	11.6	.....	0	0	.....	.....	0	0	Clear.....	
Thatcher's Island, Mass	30.23	767.8	30.29	769.4	45	7.2	76	N	6	2.7	.....	2k	0	N	.....	0	0	Clear.....	
Toledo, Ohio	29.30	744.2	29.98	761.5	52	11.1	93	E	2	0.9	.....	.....	10s;fg	.....	W	0.77	19.6	Cloudy.....	
Tucson, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon	29.30	744.2	29.78	756.4	44.0	6.7	92	NW	3	1.3	.....	0	8s	.....	SW	0	0	Cloudy	
Uvalde, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Vicksburg, Mississippi	29.81	757.2	30.06	763.5	73	22.8	90	S	11	4.9	.....	.....	10n	.....	SE	0.01	0.3	Light rain..	
Virginia City, Montana	24.00	609.6	29.48	748.8	29	— 1.7	67	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Visalia, California	29.74	755.4	30.12	765.0	39	3.9	91	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Washington, D. C.	30.15	765.8	30.27	768.8	56	13.3	69	NE	6	2.7	.....	.....	8ks	.....	SW	0	0	Cloudy.....	
Wickenburg, Arizona	.....	.....	.....	.....	36	2.2	80	W	.....	.....	1	0	0	.....	.....	0	0	Clear.....	
Wilmington, North Carolina	30.24	768.1	30.32	770.1	60	15.6	88	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Winnemucca, Nevada	25.48	647.2	29.84	757.9	41	5.0	50	SW	16	7.2	.....	.....	8s	.....	SW	0	0	Cloudy.....	
Wood's Holl, Massachusetts	30.27	768.8	30.31	769.9	45	7.2	60	NW	12	5.4	.....	0	2s	.....	.....	0	0	Clear.....	
Yankton, Dakota	28.49	723.6	29.79	756.7	39	3.9	73	W	3	1.3	.....	.....	Fog	.....	Calm	0.13	3.3	Light fog....	
Yuma, Arizona	29.99	761.7	30.16	766.1	47	8.3	85	N	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
SUB-SERIES.																			
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	30.02	762.5	30.07	763.8	78	25.6	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.13	765.3	30.14	765.5	76	24.4	87	Calm	0	0	.....	8c	2s	Calm	.....	0.10	2.5	Fair.....	James Gall.
Medellin, Colombia, S. A.*	25.20	640.1	.....	.....	67.0	19.4	82	Calm	.....	.....	0	.....	10s;ks	.....	.....	0.07	1.8	.....	Thomas Herran.
Navassa, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.96	761.0	29.96	761.0	83	28.3	79	NE	.....	.....	2	0	5k	.....	.....	0	0	Fair.....	C. J. Hering.
Santiago de Cuba, W. I.	30.01	762.2	30.04	763.0	77	25.0	76	NNE	.....	.....	2	0	2s	.....	NE	0	0	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	29.92	760.0	29.98	761.5	14.0	—10.0	91	W	7	3.1	.....	.....	0	.....	.....	0	0	Clear.....	J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Medellin, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,596 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,886 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm. *The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

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

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

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.04‡	763.0‡	.....	.....	70	21.1	100	SE	9	4.0	.....	.....	Mist	.....	SE	0	0	.....	.....	Fair	
Navy Yard, Portsmouth, N.H.	30.10‡	764.5‡	.....	.....	40	4.4	68	W	1	0.4	.....	.....	5	.....	.....	0	0	.....	.....	Pleasant	
Naval Hospital, Yokohama, Japan	29.95‡	761.5‡	.....	.....	53	11.7	77	E	.....	.....	1	.....	5k	.....	W	0	0	.....	.....	Fair	
Adams, Mare I'd., Navy Yard, Cal.	30.10‡	764.5‡	.....	.....	54	12 2	93	SW	.....	.....	2	.....	10	.....	SW	.....	.....	.....	.....	Cloudy	
Alaska, Iquique, Peru *.	29.97‡	761.2‡	.....	.....	63	17.2	89	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....	Overcast	
Alliance, N. 23° 34′, W. 27° 23′	30.21‡	767.3‡	.....	.....	77	25.0	73	E	.....	.....	2	.....	6	.....	E	.....	.....	Smooth	NE	D. clouds	
Colorado, New York, N. Y.	30.26‡	768.6‡	.....	.....	48	8.9	70	N	1	0.4	.....	.....	10	.....	.....	0	0	.....	.....	Cloudy	
Constitution, Navy Yard, Norfolk, Va.	30.34‡	770.6‡	.....	.....	57	13.9	100	SSW	1	0.4	.....	.....	0	.....	.....	.....	.....	.....	.....	Hazy	
Enterprise, N. 33° 05′, E. 24° 02′	30.10‡	764.5‡	.....	.....	67	19.4	60	SSW	.....	.....	5	.....	3	.....	SSW	.....	.....	Smooth	.....	Clear	
Franklin, Off Navy Yard, Norfolk, Va.	30.30‡	769.6‡	.....	.....	60	15.6	94	SW	6	2.7	.....	.....	2	.....	NW	0	0	.....	.....	Clear	
Hartford, N. 32° 42′, W. 72° 42′	30.32‡	770.1‡	.....	.....	74	23.3	68	SW	.....	.....	1	.....	8	.....	ENE	0	0	Smooth long	NNE	Fair	
Independence, Mare I'd, Navy Yard, Cal.	30.07‡	763.8‡	.....	.....	59	15.0	82	S	0.4	0.2	.....	.....	0?	.....	.....	0	0	.....	.....	Overcast	
Kearsage, Norfolk, Va	30.24‡	768.1‡	.....	.....	53	11.7	86	SE	.....	.....	1	.....	5?	.....	S	0	0	.....	.....	Clear	
Lackawana, N. 21° 39′ E. 178° 25′ †.	30.04‡	763.0‡	.....	.....	78	25.6	86	E	.....	.....	2	.....	0	.....	.....	.....	.....	Long	ENE	Clear	
Marion, Off Norfolk, Va.	30.27‡	768.8‡	.....	.....	62	16.7	83	SW	.....	.....	1	.....	5	.....	.....	.....	.....	Smooth	.....	Hazy	
Michigan, Erie, Pa.	30.06‡	763.5‡	.....	.....	51	10.6	86	E	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Raining	
Monocacy, Shanghai, China.	30.19‡	766.8‡	.....	.....	50	10.0	86	SW	.....	.....	0–1	.....	0	.....	.....	.....	.....	.....	.....	Fair?	
New Hampshire, Port Royal, S. C.	30.27‡	768.8‡	.....	.....	67	19.4	95	E	4	1.8	.....	.....	1	.....	Calm	0	0	.....	.....	Clear	
Onward, Callao, Peru †.	29.95‡	760.7‡	.....	.....	64	17.8	83	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Long	W	Foggy	
Palos, N. 34° 44′, E. 122° 51′	30.26‡	768.6‡	.....	.....	56	13.3	69	WNW	.....	.....	3–4	.....	2	.....	.....	.....	.....	Mod'ate	NNW	Clear	
Passaic, Washington, D. C.	30.27‡	768.8‡	.....	.....	58	14.4	76	NE	.....	.....	1	.....	8	.....	SW	0	0	.....	.....	Cloudy	
Pensacola, Callao, Peru	29.96‡	61.01	.....	.....	62	16.7	88	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Smooth	.....	Misty	
Portsmouth, Maryland Point, Potomac river.	30.26‡	768.6‡	.....	.....	53	11.7	93	E	.....	.....	2	.....	5?	.....	.....	0	0	.....	.....	Clear?	
Powhatan, N. 38° 35′, W. 74° 23′	30.28‡	769.1‡	.....	.....	58	14.4	82	ENE	.....	.....	3	.....	8	.....	ENE	0	0	.....	.....	Cloudy	
Quinnebaug, Leghorn, Italy	30.05‡	763.3‡	.....	.....	60	15.6	71	W	.....	.....	4	.....	10	.....	W	.....	.....	.....	.....	Cloudy	
Ranger, N. 38° 00′, E. 148° 50′	29.89‡	759.2‡	.....	.....	54	12 2	87	NNW	.....	.....	3	.....	5	.....	N	.....	.....	Heavy	NW	Fair	
Richmond, Shanghai, China.	30.23‡	767.8‡	.....	.....	53	11.7	100	Calm	.....	.....	0	.....	0	.....	.....	0	0	Smooth	.....	Pleasant	
Rio Bravo, Brownsville, Texas. †.	29.96‡	761.0‡	.....	.....	74	23.3	100	SSE	4	1.8	.....	.....	2	.....	Calm	0	0	.....	.....	Fair	
Santee, Annapolis, Md	30.30‡	769.6‡	.....	.....	54	12.2	87	NE	.....	.....	1	.....	8	.....	NW	0	0	.....	.....	Cloudy	
Shenandoah, N. 7° 10′, W. 30° —′	29.96‡	761.0‡	.....	.....	82	27.8	83	ENE	.....	.....	4	.....	5	.....	E	.....	.....	Mod'ate	.....	Fair	
St. Louis, League Island, Pa.	30.30‡	769.6‡	.....	.....	52	11.1	73	NE	4	1.8	.....	.....	10	.....	NW	0	0	.....	.....	Cloudy	
Trenton, Villafranca, France.	30.04‡	763.0‡	.....	.....	60	15.6	71	SE	.....	.....	1	.....	5	.....	Calm	0	0	Smooth	.....	Fair	
Tuscarora, Port Angeles, Mexico.	29.85‡	758.2‡	.....	.....	75	23.9	95	Calm	.....	.....	0	.....	0	.....	.....	0	0	Long	S	Clear	
Vandalia, N. 25° 43′, W. 84° —′	30.13‡	765.3‡	.....	.....	78	25.6	91	E	.....	.....	3	.....	2	.....	E	.....	.....	Mod'ate	E	Clear	
Wabash, Boston, Mass.	30.52‡	775.2‡	.....	.....	45	7.2	84	NW	6	2.7	.....	.....	2	.....	.....	0	0	.....	.....	Fair	
Wachusett, N. 9° —′, W 32° —′	30.06‡	763.5‡	.....	.....	81	27.2	91	ENE	.....	.....	4	.....	5	.....	E	.....	.....	Mod'ate	E	Fair	
Wyoming, N. 36° 12′, E. 0° 15′	30.24‡	768.1‡	.....	.....	65	18.3	58	WNW	.....	.....	2	.....	2	.....	NW	.....	.....	Smooth	NW	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

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

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

CUNARD LINE MARINE SERIES.

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

S. S. Samaria																			Capt. T. Roberts.

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

PACIFIC MAIL S. S. CO. MARINE SERIES.

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

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitebury.
S. S. Costa Rica																			W. House & R. Lawless.
S. S. Dakota, Capt. H. G. Morse																			Capt. Connolly.
S. S. Georgia																			F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin																			Capt. A. Fuller.
S. S. Wilmington																			R. C. Ghest, 1st Officer.
S. S. Zealandia, S. 11° 29′, W. 169° 46′		29.81‡	757.2‡				NW			5				SE		Mod'ate	NE	Clear	

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

WHITE STAR LINE MARINE SERIES.

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

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

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

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

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

S. S. Belgic, Capt. L. Meyer, N. 30° 59′, E. 158° 02′		29.75‡	755.6‡	71	21.7	95	W			6		10		S		Heavy	W	Showery	D. A. Joyce, 2nd Officer
S. S. Gaelic, Capt. Davidson, N. 46° 40′, W. 167° 18′		29.84‡	757.9‡	58	14.4		S			6–7		11		SSE	Slight	Rough Cross		Raining	J. A. Thompson, C. O. J. G. Cameron.
S. S. Oceanic, Capt. J. Metcalf																			

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

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES

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

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undutsch.
S. S. Leipzig, Capt. F. Pfeiffer, N. 50° 06′, W. 24° 40′		30.26‡	768.6‡	56.5	13.6	81	S			4		5		S	0	Mod'ate	S	Clear	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 49° 27′, W. 17° 42′		30.38‡	771.6‡				NW			2		5		N		3	NW	Cloudy?	Capt. G. Meyer.

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

UNITED STATES MARINE SERIES—Continued.

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

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		Character.	Direction from—		
AMERICAN S. S. CO. MARINE SERIES. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 51° 35′, W. 23° 39′		30.39‡	771.9‡	52	11.1	93	NNW			6		7		WNW	Mod'ate	Heavy	NW	Cloudy	Capt. R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.
RED STAR LINE MARINE SERIES. Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents.																			
Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES—Miscellaneous. Furnished by the co-operation of the Observers named.																			
Schooner Addie Fuller, Charleston, S. C		30.32‡	770.1‡	66	18.9	79	Calm	0	0			0			0			Clear	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George" of Halifax, N. 19° 00′, W. 64° 46′ †		29.97‡	761.2‡	80	26.7		ENE			5		8		E	Blank	Rough	ENE	Cloudy	N. B. Foss.
Schooner Harry and Fred																			Capt. George Gardner.
Haytian																			
§ Iron Cross																			Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

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

Note.—The originals give the barometer as read off; do not distinguish between upper and lower clouds; sea-swell in general terms, as published. ‡Corrections for temperature, instrumental error and elevation applied at this office.

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

Note.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

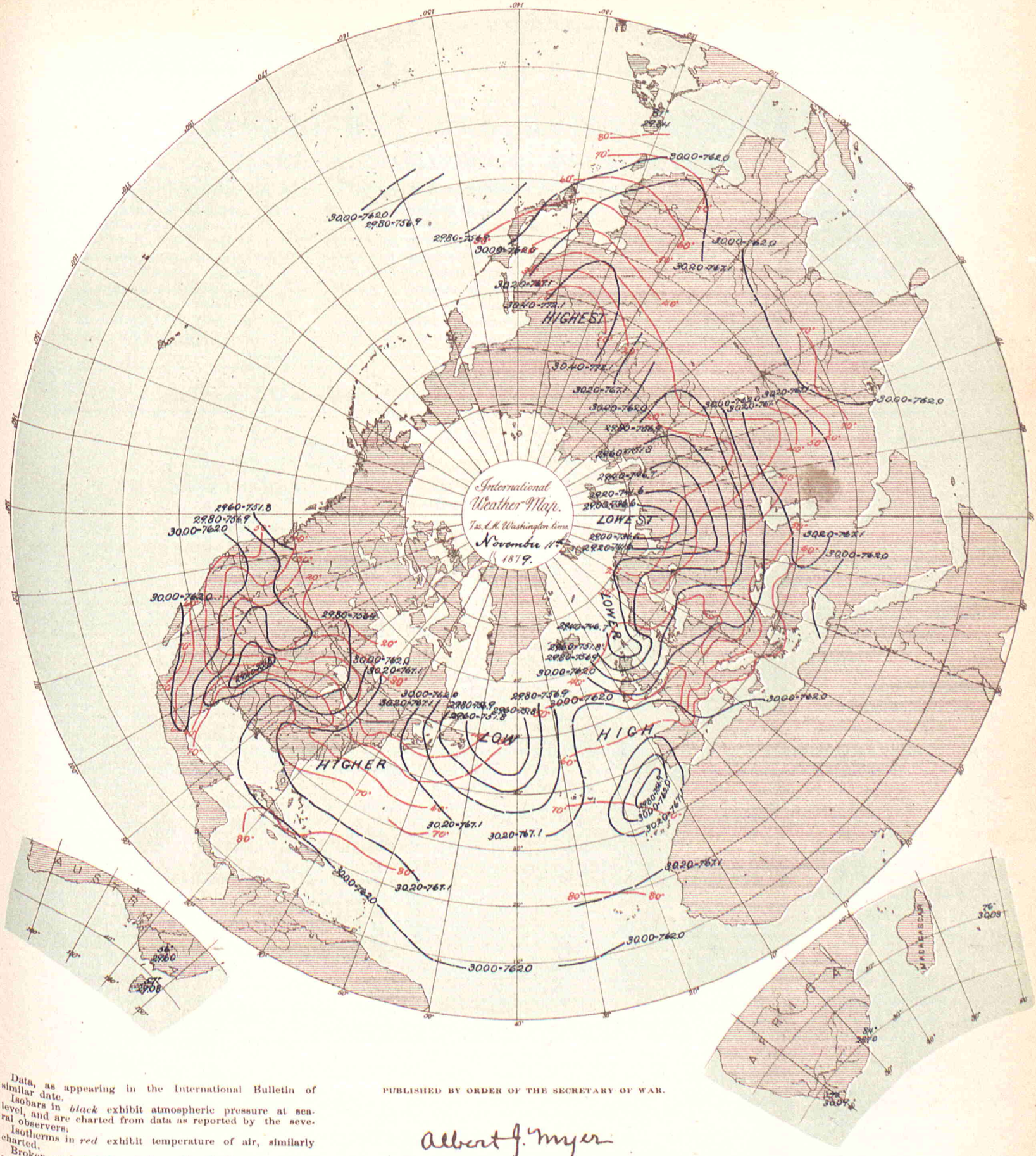
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

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

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

Albert J. Myer

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



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

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

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

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

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

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

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

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 12, 1879.

7:35 A. M. WASHINGTON Mean Time.

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

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

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

ALGERIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.17	766.3	70.0	21.1	80	SW	.....	.....	3	.....	2	.....	.....	0	0	Fair	
Nemours	.....	.....	30.15	765.9	68.7	20.4	89	N	.....	.....	1	.....	8	.....	.....	0	0	Very cloudy	Kesxuche.
Algiers	.....	.....	30.14	765.6	66.6	19.2	53	NW	.....	.....	3	.....	0	.....	.....	0	0	Clear	Tourillere.
La Calle	.....	.....	30.09	764.2	66.7	19.3	63	NW	.....	.....	3	....	2	.....	.....	0	0	Fair	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.19	766.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Herbin.
Tebessa	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Geriville	.....	.....	30.10	766.7	62.4	16.9	52	SSW	.....	.....	3	.....	0	.....	.....	0	0	Clear	Watrin.
Laghouat	.....	.....	.....	.....	58.1	14.5	55	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Bruguiaux.
Biskra	.....	.....	30.24	768.0	65.8	18.8	57	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Bertrand.
.....	.....	.....	30.12	765.1	70.2	21.2	51	SE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

AUSTRO-HUNGARIAN SERIES.

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

Agram	29.20	741.7	29.77	756.1	38.3	3.5	93	W	.....	.....	1	.....	10	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	28.81	731.8	29.58	751.3	45.7	7.6	68	S	9.4	4 2	.....	.....	10	.....	.....	0.118	3.0	.....	Prof. Dr. Karlinski, Dir.
Eperies	28.62	731.9	29.72	754.8	37 2	2.9	100	S	.....	.....	2	.....	10	.....	.....	0	0	Foggy	Julius Mikolik.
Gratz	28.43	722.1	29.70	754.3	41.4	5 2	76	S	.....	.....	2	.....	7	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.39	721.1	29.86	758.4	37.4	3.0	89	E	.....	.....	1	.....	4	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.35	720.0	29.72	754.8	37.8	3.2	93	SSW	.....	.....	3	.....	9	.....	.....	0.209	5.3	.....	Prof. C. Wagner.
Lemberg	28.66	728.0	29.66	753.4	41.9	5.5	79	SW	.....	.....	1	.....	9	.....	.....	0.083	2.1	.....	Dr. T. Stanecki.
Pola	29.04	752.9	29.76	755.8	53.6	12.0	76	WNW	.....	.....	1	.....	10	.....	.....	0	0	.....	I.R. Hydrographic Office.
Szathmar	29.36	745.8	29.80	756.9	39.2	4 0	92	SE	.....	.....	1	.....	10	.....	.....	0.055	1.4	.....	Pet. Panesics.
Szegedin	29.60	749.4	29.79	756.7	40.6	4.8	96	W	.....	.....	2	.....	8	.....	.....	0.283	7.35	.....	Karl Stancel.
Trieste	29.66	753.4	29.76	756.0	51.6	10.9	83	Calm	.....	.....	0	.....	10	.....	.....	Inap.	Inap.	.....	P. Busin.
Vienna	28.94	735.1	29.68	753.9	47.8	8.8	63	W	.....	.....	2	.....	10	.....	.....	0.036	0.9	.....	I.R. Central Met. Ob'sy.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2:20, instead of 2:8 p. m., local time.

BELGIAN SERIES.

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

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

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

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BRITISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.72	754.9	29.82	757.4	34.7	1.5		WNW	31	13.9			2			0.180	4.57	Squally	W. Boswell.
Ardrossan	29.96	761.0	29.98	761.5	44	6.7		NW			5		7					D. clouds	Wm. McNeil & G. Carrick
Armagh, (Observatory)	29.91	759.7	30.16	766.1	44.4	6.7		WNW	11	4.9			4					D. clouds	S. Call.
Bidston (Liverpool Obs)			30.00	762.0	43.4	6.3		NW	36	16.1			3					Blue sky	John Hartnup.
Bolton (Sharples)	29.42	747.3	29.94	760.5	40.6	4.8		NW	36	16.1			0					Blue sky	Thomas Mackereth.
Bradford, Yorkshire	29.52	749.8	29.92	760.0	41 9	5.5		NW			4		0			0.24	6.1	Blue sky	J McLandsborough.
Bridgetown, Barbadoes	29.92	760.0	29.95	760.7	75	23.9		NE			2		8					Overcast	Pvt. G. Surgener, A.H.C.
Cambridge (Observatory)	29.78	756.4	29.88	758.9	43.0	6.1		NW			3		7					D. clouds	H. Todd.
Cardington			29.90	759.4	43.0	6.1		NW			3		1					Blue sky	John McLaren.
Chatham (School M. E.)	29.78	756.4	29.91	759.7	45.1	7.3		N			1		9					Overcast	J. Carmell, Sapper, R.E.
Donaghadee	30.04	763.0	30.08	764.0	45	7.2		N			6		5					D. clouds	J. Mac Gowan.
Dover	29.85	758.2	29.87	758.7	45	7.2		NW			5		6					Squally	J. Costello.
Falmouth (Observatory)	29.97	761.2	30.20	767.1	48.8	9.3		NW			5		5					D. clouds	The Staff.
Fort Napier, Natal	27.54	699.5	29.77	756.1	78.5	25.8		N			3		0					Blue sky	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone																			
Galway (Queen's College)			30.17	766.3	50	10.0		W			1		7					D. clouds	Prof. A. H. Curtis.
Gibraltar, Mediterranean																			Sergt. Wm. Allen, A. H.
Glasgow, (Observatory)	29.77	756.1	29.97	761.2	42.6	5.6		NW			4	3c						Blue sky	D. G. Maclean. [C.
Great Yarmouth	29.71	755.4	29.75	755.6	43	6.1		NW			5		6					Drizzling	G. T. Watson.
Greenwich (Royal Obs'y)	29.74	755.4	29.91	759.7	46.2	7.9		NW			5		8					D. clouds	The Staff, for G.B. Airy.
Guernsey	29.87	758.7	30.10	764.5	48	8.9		WNW			5		5					D clouds	Dr. S.E Hoskins, F.R.S.
Helston	30.32	770.1	30.45	773 4	50	10.0		N			2	2c				0	0	Fine	M. P. Moyle.
Holyhead	30.04	763.0	30.09	764.3	46	7.8		NW			7		6					D. clouds	John Tilston.
Jersey	29.84	757.9	30.14	765.5	48.9	9.4		NW			6		6					D. clouds	J. Fisher.
Kew (Observatory)	29.89	759.2	29.93	760.2	46.0	7.8		NW	28	12.5			5					D. clouds	The Met'g'l Office.
Leicester (Museum)	29.68	753.9	29.93	760.2	43.9	6.6		NW			6		0					Blue sky	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	29.95	760.7	30.02	762.5	66	18.9		NW			3		3k					Blue sky	A. King.
Nairn	29.83	757.7	29.93	760.2	39	3.9		WNW			4		10					Overcast	W. D. Penny.
Nassau, Bahamas			30.14	765.5	77.2	25.1		NE			1		4					D. clouds	C. S. Duncombe.
Nottingham (Observatory)	29.76	755.9	29.95	760.7	43.5	6.4		NNW			5	3c		NW		0.020	0.51	D. clouds	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.43	747.5	29.97	761.2	42.6	5.9		NW			5-6		4					D. clouds	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)			29.97	761.2	44	6.7		W			5		4					Squally	H. E. Bellamy.
Plymouth	30.06	763.5	30.14	765.5	48.8	9.3		NW			3		7					D. clouds	John Merrifield.
Prince Town																			W. H. Tooker.
*Roche's Point	30.17	766 3	30.25	768.3	48	8.9		NW			3		5					½ clouded	Wm. Kennedy.
St. Ann's Head	30.00	762.0	30.16	766.1	46	7.8		NW			6		5					D. clouds	John C. Walker.
Sandwick Manse, Orkneys			29.80	756.9	37.3	2.9		NW	40	17.9			10					Hail showers	Rev. C. Clouston, L.L.D.
Scutari Cemetery, Turkey	29.79	756.7	29.85	758.2	57.0	13.9		SW			2		7					D. clouds	Serg't W. H. Lyne.
Sheffield	29.66	753.4	29.95	760.7	43.6	6.4		NNW			5		1			0	0	Blue sky	W. F. Cooper.
Silloth Rectory	29.98	761.5	30.01	762.2	43.7	6.5	73	N			6		0			0	0	Blue sky	Francis Redford, A. M.
Stonyhurst (Observatory)			29.95	760.7	41.2	5.1		W	16	7.2			2			Blank	Blank	Blue sky	Rev. S. J. Perry.
Strathfield, Turgiss	29.76	755.9	29.98	761.5	45.7	7.6		N			3-4		1					Squally	Rev. C. H. Griffith, F.M.S.
Truro (Royal Institution)	30.13	765.3	30.18	766.6	52	11.1		N			6		4					D clouds	W. Newcombe.
Valencia Observatory)	30.24	768.1	30.26	768.6	49.7	9.8		NW	6	2.7			10					D. clouds	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	30.08	764.0	30.12	765.0	71.4	21.9	47	SE	6.4	2.9		8ck	4						The Staff, for D. Gill.
Colesberg Bridge, Cape Col.																			Robert Burnet.
Hobart Town, Tasmania			29.48	748.8	54.0	12.2	73	NW			2		0			0.13	3.3	Clear	Francis Abbott, F.R.A.S.
Leith, (Restalrig Perk)			29.96	761.0	41.2	5.1		NW			3		4k			0	0	Fine	Andrew Gibb.
Mauritius (Observatory)	29.89	759.2	30.08	763.9	78.0	25.6	54	ENE	17.5	7.8		0	1			0	0	Squally	C. Meldrum.
Melbourne (Observatory)	29.68	753.9	29.78	756.4	61.0	16.1	70	WSW	8	3.6			8			0.04	1.0	Dull	R. L. J. Ellery.
Monach Lt-house, Hebrides			30.08	764.0	43	6.1		N			7		10			0	0		J. Youngclause.
North Unst, Shetland Is.			29.65	753.1				N			7	2	7	NE		Blank	Blank		

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

British Marine Series. Vessels.																Sea or swell. Height, scale 0-9	Sea or swell. Direction		
H. M. S. Alert, Kathleen Bay, Patagonia			29.50‡	749.3‡	42.5	5.8		NNW			3-6		10					Rain & hail	Capt. J.P. Maclear, R.N.
H. M. Sloop Gannet, S. 11° 47′, W. 77° 13′			29.94‡	760.5‡	63	17.2		Calm			0		10					Overcast	Commander F. Bourke, R. N.
H. M. S. Magpie, Oriadne P't, near Shanghai, China			30.30‡	769.6‡	57.5	14.2		E			1		0					Blue sky	Capt. R. H. Napier, R.N.
Brig Alliance, N. 27° 25′, W. 59° 00′			30.23‡	767 8‡	75.2	24.0		N			2		2					Blue sky	Capt. W. Scott.
Barque Commewyne N. 6° 55′, W. 49° 20′			29.96‡	761.0‡	85.3	29.6		SE			4		4					D. clouds	Capt. Jas. Buchan.
S. S. Ethiopia, N. 49° 25′, W. 41° 50′			29.34	745.2	49	9.4		WNW			5		9			4	W	Overcast	Capt. Campbell.
S. S. German, S. 30° 30′, E. 14° 50′			30.10‡	764.5‡	68	20.0		SSW			4		5					D. clouds	Capt. O. D. Coxwell.
Barque Mertole, N. 53° 35′, W. 4° 00′			29.99‡	761.7‡				NNW			7		6					D. clouds	Capt. Turner.
Barque Queen of Cambria, N. 12° 45′, E. 74° 35′			29 90‡	759.4‡	84	28.9		WNW			1		0					Blue sky	Capt. M. Parry.
S. S. Strathleven, Sydney, N. S. W.			29.75‡	755.6‡	68.5	20.3		Calm			0		0					Blue sky	Capt. C. W. Pearson.
Schooner Traveller, N. 51° 00′, W. 8° 30′			30.28	769.1	51	10.6		NNW			4		2			3	NW	Blue sky	
S. S. Gordon Castle																			
German Brig "W. von Freeden"																			Capt. H. V. Freeden.
Theophane																			Capt. Greig.
S. S. Amanda																			Capt. B. Boyes.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level.
‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

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

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. L'w'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
San José	26.18	665.0	29.90	759.4	67.1	19.5	88	NE	.....	.....	2	98	.....	.....	.....	0	0	.....	Federico Maison.

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

DANISH SERIES.

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

Copenhagen	29.36	748.1	29.30	744.3	39.0	3.9	93	E	.....	.....	4	.....	10	.....	.....	.....	.....	Raining	.....
Faröe	29.25	742.9	29.27	743.4	41.0	5.0	86	Calm	.....	.....	0	.....	9	.....	.....	.....	.....	Raining	.....
Godthaab (Greenland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stykkisholm (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thorshavn (Faröe)	29.97	761.2	30.00	762.1	32.7	0.4	76	N	.....	.....	6	.....	6	.....	.....	.....	.....	.....	.....
Vestervig	29.22	742.3	29.34	745.1	40.5	4.7	90	E	.....	.....	4	.....	9	.....	.....	.....	.....	.....	.....

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

FRENCH SERIES.

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

Alençon, Normal School	29.53	750.0	30.06	764.0	49.1	9.5	62	NW	.....	.....	4	.....	8kn	.....	NW	0.020	0.5	Very cloudy	Collignon, Director.
Amiens, Normal School	29.78	756.5	29.90	759.4	46.4	8	77	W	.....	.....	8	.....	8	.....	E	0	0	Very cloudy	Vaillant, Director.
Arras, Engin'r School	29.77	756.2	30.04	762.9	44.2	6.8	73	NW	.....	.....	7	.....	.....	.....	NW	Inap.	Inap.	.....	Klein, Commandant.
Avignon, Normal School	29.95	760.6	30.02	762.6	56.5	13.6	47	NNW	.....	.....	2	.....	2	.....	NW	0	0	Clear	Giraud, Director.
Bar-sur-Seine	29.37	746.0	29.93	760.3	48.2	9.0	48	W	.....	.....	4	.....	10kn	.....	NW	0.059	1.5	Covered	C. Saillard, Director
Beauvais, Normal School	29.67	753.6	29.94	760.4	46.9	8.3	58	NW	.....	.....	8	.....	10	.....	N	0.039	1.00	Covered	Frere Eugene Marie
Besançon, Normal School	29.68	738.7	30.00	762.0	41.2	5.1	86	S	.....	.....	2	.....	8	.....	E	0.094	2.4	Very cloudy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.22	742.3	30.22	767.6	47.5	8.6	76	W	.....	.....	8	5c	.....	W	W	0.04	1.	Cloudy	Marlot, Diretor.
Bourges, Normal School	29.50	749.4	30.07	763.6	49.5	9.7	73	NW	.....	.....	4	.....	10k	.....	NW	0.012	0.3	Raining	M. Gence, Director.
Brest, Naval Observatory	29.98	761.6	30.23	767.7	53.2	11.8	61	NNW	.....	.....	2	.....	6	.....	N W	0.030	0.76	.....	Ch. de Remaree, Dir.
Caen, Normal School	30.04	762.9	.....	.....	51.1	10.6	93	W	.....	.....	2	.....	5	.....	W	0.028	0.7	Cloudy	M. Bletrin, Director.
Carcassonne, N. School	29.71	754.7	30.13	765.8	55.6	13.1	62	W	.....	.....	3	.....	1	.....	W	0.008	0.2	V. slightly cloudy	September, Director.
Châlons-sur-Marne, N. Sch	29.58	751.3	29.90	759.5	46.8	8.2	70	W	.....	.....	4	.....	10	SE	SE	.....	.....	Covered	Jadot, Director.
Chartres, Normal School	29.40	746.8	29.97	761.3	50.0	10	79	NW	.....	.....	4	.....	6	.....	E	0	0	.....	Vergier, Director.
Clermont-Fd, Puy de D. Obs	28.69	728.6	30.07	763.6	48.2	9.0	61	W	.....	.....	2	.....	5	.....	WNW	0	0	.....	Alluard, Director.
Commercy, Normal School	28.98	736.0	29.86	758.5	40.1	4.5	97	W	.....	.....	3	.....	8k	W	W	0.295	7.5	Very cloudy	Dr. Coullet, Director.
Commune de Gréasque*	28.86	733.0	30.00	762.0	53.1	11.7	45	NW	.....	.....	4	.....	2	.....	NW	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.32	744.7	30.10	764.6	47.5	8.6	70	NW	.....	.....	1	.....	5kn	.....	NE	.....	.....	Lt. showers	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	29.98	761.4	30.19	766.9	52.9	11.6	57	NW	.....	.....	1	.....	2	.....	NW	0	0	Slightly cl'dy	Moullot, Director.
Le Mans, Normal School	29.78	756.3	30.09	764.2	51.8	11	48	NNW	.....	.....	3	.....	5	.....	NW	0	0	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.13	739.8	30.06	763.4	45.1	7.3	77	SW	.....	.....	3	.....	2kn	SW	SW	0.04	1.	Slightly cl'dy	A. Baudry, Director
Lorient, Naval Observatory	30.10	764.6	30.21	767.4	51.4	10.8	80	WNW	.....	.....	2	.....	.....	.....	NW	0	0	.....	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.46	748.3	30.09	764.2	48.2	9.0	76	W	.....	.....	1	.....	5	.....	NW	0	0	Cloudy	Ch. André, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	29.71	754.7	29.98	761.6	56.8	13.8	55	NW	.....	.....	3	.....	1	.....	NW	0	0	Clear	E. Stephan, Director.
Mirecourt, Normal School	28.83	732.2	29.89	759.2	44.2	6.8	77	W	.....	.....	3	.....	kn	W	W	0	0	.....	Barbier, Director.
Mont-Louis	24.89	632.3	30.21	767.3	47.3	8.5	57	NW	14.1	6.3	.....	.....	0	.....	.....	0	0	.....	M. Cave.
Nice	29.75	755.6	29.78	756.4	58.6	14.8	66	SE	.....	.....	3	.....	5	SE	SE	0	0	Cloudy	M. Boissieré, Director.
Nimes, Normal School	29.84	758.0	30.04	763.1	59.7	15.4	47	NW	.....	.....	1	.....	2	.....	NW	0	0	Slightly cl'dy	M. Boyer, Director.
Paris, Montsouris Obs'y	29.68	753.9	.....	.....	47.7	8.7	58	WNW	.....	.....	3	.....	4	.....	NW	0.024	0.6	.....	Marie Davy, Director.
Perpignan	30.00	762.1	30.11	764.7	57.7	14.3	56	NE	20.6	9.2	.....	.....	3	.....	NW	0	0	.....	Dr. Flues.
Pic du Midi (Plantade) H. P.	22.59	573.8	.....	.....	36.0	2.7	.....	N	.....	.....	8	.....	1	.....	N	0	0	Clear	Gen'l de Nansouty.
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Privas, Normal School	29.98	736.3	30.10	764.4	50.0	10	64	N	.....	.....	4	.....	n	N	N	0	0	.....	M. Tallieu.
Puy de Dome (Summit) Obs	25.06	636.6	.....	.....	30.9	—0.6	100	W	.....	.....	6	.....	.....	.....	.....	0.056	1.4	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	30.18	766.8	30.21	767.4	55.9	12.8	79	WNW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Lt E. Decante, Director
Rouen, Normal School	29.89	759.3	29.98	761.5	48.2	9.0	50	NW	.....	.....	6	.....	5	.....	NW	0.047	1.2	Cloudy	Frere Lucard, Director.
Saint Maur (near Paris)	29.80	756.8	29.96	761.0	51.1	10.6	57	WNW	.....	.....	4	.....	1	NW	NW	0.118	3.00	Clear	Lt. Hercouet, Director.
Saint Malo (Port) Obs'y	30.09	764.2	30.11	764.9	52.5	11.4	59	NW	.....	.....	6	.....	.....	.....	WNW	0.028	0 7	.....	E. Renou, Director.
Tarbes, Normal School	29.23	742.5	30.31	769.8	40.1	4.5	77	W	.....	.....	3	.....	1	NW	NW	0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.50	749.4	30.23	767.9	54.0	12.2	64	WNW	.....	.....	3	.....	10	.....	.....	0	0	Covered	M. Juller Mercadier.
Tours	29.58	749.4	30.23	767.9	54.0	12.2	64	N	.....	.....	3	.....	5	.....	NNE	0.039	1.0	½ covered	Cousin-Marquet.
Versailles, Observatory	29.88	759.0	30.08	764.0	52.2	11.2	54	N	.....	.....	3	.....	.....	.....	.....	0.020	0.51	.....	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.36	745.7	30.08	764.0	53.4	11.9	55	WSW	.....	.....	3	.....	5	.....	W	0	0	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.93	760.3	29.99	761.0	78.8	26	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.18	30.	.....	L'Abbé Marchésl
Zi-Ka-Wei (near Shanghai)	30.28	769.0	30.32	770.0	47.5	8.6	94	E	6.5	2.9	.....	.....	0	.....	.....	0	0	Clear	Marc Dechevrens.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in gene al terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,686.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft., Pic du Midi, (Plantade) 2,360 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centrigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.70	728.9	29.53	750.0	42.1	5.6	88	SW	.....	.....	6	.....	10n	SW	.....	0.394	10.0	Raining.....	Prof. Dr. Hoh.
Berlin	29.15	740.3	29.32	744.7	41.9	5.5	93	SW	.....	.....	2	.....	10	.....	.....	0.122	3.1	Raining	Prof. Dr. Arndt.
Breslau	28.97	735.9	29 50	749.2	42.6	5 9	85	W	.....	.....	1	.....	10	.....	.....	0.043	1.08	....	Royal University Obs'y.
Carlsruhe	29.30	744.3	29.73	755.2	45.3	7.4	70	SW	.....	.....	4	.....	10	W	.....	0.098	2.5	Raining	Albert Senz.
Cassel	28.89	733.7	29.48	748.9	43.5	6.4	72	W	.....	.....	4	.....	7	W	.....	0.148	3.74	....	Dr. H. Möhl.
Emden	.....	.....	29.37	746.1	43.3	6.3	89	NW	.....	.....	4	.....	10	.....	.....	0.079	2.0	....	Prof. Dr. Prestel.
Frankfort on the Main	29.25	742.4	29.60	751.7	44.6	7.0	79	W	.....	.....	4	.....	10	.....	.....	0.110	2.8	Raining	Physical Society.
Friedrichshafen	28.40	721.3	29.86	758.4	42.6	6.0	79	W	.....	.....	9	.....	10	W	.....	0.016	0.4	....	Chief Telegrapher Wilhelm.
Hamburg	29.26	743.3	29.34	745.1	43.5	6.4	87	W	.....	.....	3	.....	8kn	....	.....	0.146	3.7	Cloudy.....	Captain F. Hegemann.
Kiel	29.29	744.0	29.31	744.4	40.8	4 9	86	NW	.....	.....	2	.....	6	.....	.....	0.219	5.56	....	Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.44	747.8	29.52	749.9	36 0	2 2	96	SE	.....	.....	2	.....	10	....	.....	Inap.	Inap.	....	Prof. E. Luther.
Köslin	.....	.....	29.37	745.9	38 3	3.5	.....	Calm	.....	.....	0	.....	8	.....	.....	0	0	....	H. Müller.
Leipsic Observatory	29.02	737.1	29.44	747.8	43.9	6 6	74	SW	.....	.....	5	.....	9	WSW	.....	0.020	0.5	Stormy.....	Prof. Dr. Bruhns, Privy Counsellor
Magdeburg	29.16	740.6	29.38	746.3	43.5	6.4	84	SE	.....	.....	4	.....	10ks	W	.....	0.055	1.4	Raining	Dr. Assmann.
Memel	29.45	748.0	29.50	749.2	34.5	1.4	98	ESE	.....	.....	3	.....	10	.....	.....	.....	.....	Foggy	Reinbrecht & Ishermann
Munich (München)	27.88	708.2	29.72	755.0	42.4	5.8	69	SW	.....	.....	8	.....	10	SW	.....	0.028	0.7	Hail & snow.	Dr. C. Lang.
Neufahrwasser	29.44	747.7	29.45	748.1	40.8	4.9	82	SE	.....	.....	2	.....	10	.....	.....	0.020	0.5	.....	A. Lothes.
Neustadt (Palatinate)	29.12	739.7	29.65	753.0	45.0	7.2	70	W	.....	.....	7	.....	10	.....	.....	0	0	....	Reallehrer Dicknether.
Posen	29.13	739.9	29.42	747.3	42.8	6 0	91	SSW	.....	.....	4	.....	10	.....	.....	0.024	0.6	Raining.....	Prof. Dr. Hagener.
Strassburg (in Alsace)	29.26	743.3	29.52	757.5	45.7	7.6	73	W	.....	.....	4	.....	7	W	WSW	0.001	0.03	.....	Imp. University Observatory.
Stuttgart	28.74	730.1	29.70	754.4	41.5	5 3	80	W	.....	.....	4	.....	10	....	.....	0.161	4.1	....	Prof. Dr. Schoder.
Weissenburg (Bavaria)	28.15	714.9	29 69	754.1	42.8	6.0	67	W	20	9	.....	.....	10	.....	W	0.185	4.7	....	Reallehrer J. Hopfner.
Wustrow	29.28	743.6	29 30	744.2	41.5	5.3	87	S	.....	.....	3	.....	10ks	....	.....	0.118	3.0	....	E. Schütz, Director.
German Naval Series.																			
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

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

Athens	29.55	750.5	29.94	760.4	62.8	17.1	.....	SW	.....	.....	1.0	.....	0	.....	.....	.....	.....	Clear.....	Dr. J. F. J. Schmidt.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

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

Kurrachee	29.95	760.8	30.00	762.0	80.7	27.1	57	NNW	15	6.7	.....	.....	0	.....	.....	0	0	Blue sky.....	
Deesa	29.54	750.2	30.01	762.3	81.2	27.3	22	NW	5.4	2.4	.....	.....	0	.....	.....	0	0	Blue sky.....	
Bombay	29.91	759.6	29.94	760.6	76.9	24.9	70	NNW	19	8.5	.....	.....	0	.....	.....	0	0	Blue sky.....	
Poona (Yerrowda)	28.08	713.3	29.94	760.6	78.3	25.7	20	E	11	4.9	.....	.....	0	.....	.....	0	0	Blue sky.....	
Belgaum	27.39	695.7	29.96	760.9	71.3	21.8	42	ENE	3	1.3	.....	.....	0	.....	.....	0	0	Blue sky.....	
Lahore	29.31	744.5	30.08	763.9	71.8	22.1	34	Calm	2.0	0.9	.....	.....	8	.....	.....	0	0	Cloudy	
Roorkee	29.13	739.8	30.05	763.4	67.8	19.9	54	Calm	1.0	0.4	.....	.....	.....	.....	.....	0	0	.....	
Agra	29.45	748.0	30.02	762.6	76.2	24.6	51	SE	2.7	1.2	.....	.....	.....	.....	.....	0	0	.....	
Nagpur	28.93	734.9	30.00	761.9	73.5	23.1	44	NE	3.8	1.7	.....	.....	.....	.....	.....	0	0	Blue sky.....	
Jubbulpore	28.60	726.4	30.00	762.1	67.7	19.8	61	ENE	1.4	0.6	.....	.....	.....	.....	.....	0	0	D. clouds....	
Lucknow	29.66	753.3	30.05	763.2	69.3	20.7	61	NNE	0.4	0.2	.....	.....	.....	.....	.....	0	0	Blue sky.....	
Allahabad	29.73	755.0	30.05	763.3	67.3	19.6	77	Calm	0.4	0.2	.....	.....	0	.....	.....	0	0	Blue sky.....	
Patna	29 84	757.9	30.02	762.6	77.7	25.4	51	Calm	0.1	0.05	.....	.....	0	.....	.....	0	0	Blue sky.....	
Hazaribagh	27.96	710.3	30.02	762.6	68.8	20.4	66	NW	2.5	1.1	.....	.....	1	....	.....	0	0	....	
Cuttack	29.91	759.6	29.99	761.8	77.0	25.0	71	ENE	2	0.9	.....	.....	6	.....	.....	0	0	D. clouds....	
Calcutta (Alipore)	29.96	760.8	29.98	761.4	73.2	22.9	76	NNW	2	0.9	.....	.....	0	.....	.....	0	0	Blue sky.....	
Goalpara	29.57	751.1	29.97	761.2	76.0	24.4	69	Calm	2.2	1.0	.....	.....	0	.....	.....	0	0	Blue sky.....	
Chittagong	29.88	759.0	29.97	761.3	75.8	24.3	69	SW	2.6	1.1	.....	.....	0	.....	.....	0	0	....	
Sibsagar	29.66	753.4	30.01	762.1	72.0	22.2	85	ENE	0.8	0 4	.....	.....	0	.....	.....	0	0	Blue sky.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

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

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

STATIONS	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	29.34	745.2	29.76	756.0	48.2	9.0	72	Calm	0	0	.....	.....	7	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.23	742.4	29.75	755.7	50.7	10.4	72	WNW	.....	.....	1	.....	3	SW	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.65	753.2	29.77	756.1	46.4	8.0	76	SE	0.7	0.3	.....	.....	8	W	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	28.87	733.2	29.80	756 8	46.0	7.8	68	S	1.8	0.8	.....	.....	2	NE	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.59	751.6	29.79	756.6	58.8	14.9	61	S	3.1	1.4	.....	.....	4	S	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	27.84	707.0	29.80	756.8	46.6	8.1	51	N	.....	.....	2	.....	1	WNW	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.71	754.6	29.76	755.9	56.7	13.7	80	NE	7.4	3.3	.....	.....	10	W	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.56	750.8	29.82	757.5	55.4	13.0	87	SW	.....	.....	2	.....	10	SW	.....	0.189	4.8	.....	Cav. F. Meucci.
Leghorn	29.72	755.0	29.81	757 2	59.0	15.0	55	W	18.1	8.1	.....	.....	9	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.66	753.4	29.84	758.0	60.1	15.6	68	S	12.5	5.6	.....	.....	9	.....	.....	0.217	5.5	.....	Prof. P. S. Ferrari.
Lecce	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. C. De Giorgi.
Cosenza	29.06	738.2	29.96	761.0	57.4	14.1	75	N	0.7	0.3	.....	.....	3	.....	.....	0.409	10.4	.....	Prof. D. Conti.
Cagliari	29.78	756.4	29.98	761.4	63.0	17.2	44	NW	.....	.....	2	.....	2	W	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.75	755.7	30.01	762.2	66.8	19.8	50	WSW	5.6	2.5	.....	.....	9	WSW	.....	0	0	.....	Prof. G. Ciacciatore.
Syracuse	29.94	760.5	30.02	762.4	64.0	17.8	63	WSW	11.2	5.0	.....	.....	6	W	.....	0	0	.....	Prof. V.G. Guiliano.
SUB-SERIES.																			
Naples, S. R.	29.38	746.2	29.90	759.4	59.0	15.0	70	SE	3.1	1.4	.....	.....	10	.....	.....	0	0	.....	Prof. F. Brioschi.

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

JAPANESE SERIES.

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

Hiroshima, I. M. Obs'y	30.28	769.1	30.29	769.3	47.0	8.3	79	NNE	4.7	2.1	.....	.....	0	.....	.....	0	0	Clear.	K. Sasaki.
Nagasaki, I. M. Obs'y	30.09	764.3	30.30	769 6	48.0	8.9	76	NE	1.0	0.4	.....	.....	0	.....	.....	0	0	Clear	S. Takehayashi.
Tokei, (Yeddo) Observatory	30.11	764.8	30.18	766.6	46.2	7.9	87	NNW	5.8	2.6	.....	0	0	.....	.....	0	0	Clear	The Staff.
Wakayama	30.20	767.1	30.25	768.3	49.1	9.5	78	NE	2.0	0 9	.....	.....	1s	.....	.....	0	0	Fair	

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

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

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

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	25.07	636.8	30.17	766.4	50 0	10.0	62	SW	.....	.....	1	.....	0	.....	.....	0	0	Fine	Prof. L. Perez.
Leon	24.45	620.9	30.15	765.8	57.9	14.4	87	NW	.....	.....	2	0	0	.....	.....	0.13	3.2	Blue sky	Prof. M. Leal.
Mazatlan	29.73	755.1	29.99	761.7	67.8	19.9	69	NW	.....	.....	3	1c	0	.....	.....	0	0	Clear	I. Guerrero, C. E.
Mexico, Central Observatory	23.09	586.6	30.18	766.6	50.0	10.0	76	Calm	0	0	.....	0	0	.....	.....	0	0	Very fine	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	59.6	12.0	78	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.56	598.5	30.48	774.2	49.3	9.6	51	Calm	0	0	.....	1c	0	SE	.....	0.65	16.5	Clear	Prof. P. Spina.
San Luis Potosi	24.21	614.9	30.15	765.7	60.1	15.6	60	E	.....	.....	1	0	0	.....	.....	0	0	Clear	G. Barroeta, M. D.
Tlacotalpam	29.90	759.4	29.91	759.7	75.6	24 2	94	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	Prof. M. M. Châzaro.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell
Zacatecas	22.55	572.7	30.20	767.0	51.8	11.0	69	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	A. Nuñez.

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

NETHERLANDS SERIES.

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

Flushing	29.71	754.5	29.71	754.5	46.0	7.8	.....	NW	.....	.....	6	.....	.....	.....	.....	0.098	2 5	.....	
Groningen	29.35	745.5	29.41	746.9	43.7	6.5	.....	W	.....	.....	.....	.....	.....	.....	.....	0.335	8.5	.....	
Helder	29 47	748.5	29.47	748.5	45.9	7 7	.....	WNW	.....	.....	5	.....	.....	.....	.....	0.169	4.3	.....	
Hellevoetsluis	29.57	751.0	29.57	751.0	46 0	7.8	85	WNW	.....	.....	6	.....	.....	.....	.....	0.213	5.4	.....	
Utrecht	29.48	748.8	29.73	750.0	49.1	9.5	81	WNW	.....	.....	5	.....	8	.....	.....	0.465	11.8	Very cloudy	H. v. d. Brink.

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

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.40	746.8	29.46	748.2	39.9	4.4	90	Calm	0	0	.....	.....	8	.....	.....	0	0	.....	
Brönö	29.57	751.1	29.61	752.1	30.2	— 1.0	80	SW	18	8	.....	.....	10	.....	.....	0	0	.....	
Christiana	29.37	746.0	29.52	749.8	33.4	0.8	87	ENE	9	4	.....	.....	10	.....	.....	0.008	0.2	.....	
Tromsö	29.52	749.8	29.56	750.9	23.4	— 4.8	95	NE	11	5	.....	.....	10	.....	.....	0.386	9.8	Snowing	

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

PORTUGUESE SERIES.

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

Angra (Azores)	29.83	757.6	30.02	762.4	67.1	19.5	88	SSW	4.3	1.9	.....	.....	7	.....	.....	0.354	9.0	.....	Dr. J. A. Sampaio.
Campo Major	29.15	740.5	30.17	766.3	65.8	18.8	56	ESE	2.5	1.1	.....	.....	3	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	29.91	759.8	30.00	762.0	73.4	23.0	66	WNW	5.6	2.5	.....	.....	1	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.79	756.6	30.14	765.6	63.9	17.7	69	NE	11.2	5.0	.....	.....	1	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.01	762.2	30.08	764.0	69.8	21.0	82	S	15.4	6.9	.....	.....	3	.....	.....	0.028	0.7	.....	

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

PORTUGUESE Naval Series. Vessels.															Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Rio Lima. Capt. S. C. da Silva Costa, Porto Prayá, Cape Verd I'ds.	.....	.....	.....	.....	79.9	26.6	.....	ENE	.....	.....	5	.....	1	.....	ENE	2	ENE	Blue sky	A. A. A. Loureiro.
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		F. Teixeira da Silva, Com'd't.
Sado, Capt. J. A de Brito Capello, St. Paul de Loando	.....	.....	29.94	760.5	80.8	27.1	.....	W	.....	.....	3	.....	2	.....	W	.....	.....	D. clouds	H. Mecudoneo, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	.....	.....	30.21	767 2	68.0	20.0	.....	NE	.....	.....	2	.....	0	.....	.....	0	.....	Blue sky	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

RUSSIAN SERIES.

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

Archangel	29.63	752.5	29.65	753.0	5.7	—14.6	96	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Astrakhan	30.05	763.2	29.97	761.1	42.8	6 0	74	Calm	0	0	.....	.....	10ks	.....	.....	Blank	Blank	.....	Capt. Wisganow.
Barnaul	29.58	751.4	30.10	764.6	31.5	— 0.3	100	SW	22	10	.....	.....	10	.....	.....	.....	.....	Snowing	Meteorological Obs.
Dorpat	29.43	747.5	29.68	753.8	34.7	1.5	94	SE	4	2	.....	.....	8ks;n	.....	.....	.....	.....	Light snow	Prof. Dr. Weihrauch.
Ekaterinburg	28.55	725.1	29.56	750.7	21 4	— 5.9	69	WSW	31	14	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	29.60	751.8	29.88	759.0	22.8	— 5 1	66	WSW	7	3	.....	.....	1	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.05	737.8	29.71	754.5	36.7	2.6	85	SW	9	4	.....	.....	10ks;n	.....	.....	.....	.....	Foggy	Physical Cabinet.
Krotkowo*	29.51	749.5	30.01	762.3	25.2	- 3.8	57	WNW	0	0	.....	.....	1	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	29.63	752.7	29.84	758.0	44.4	6.9	79	SE	9	4	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Moscow	29.36	745.7	29.93	760.2	29.8	— 1.2	67	S	4	2	.....	.....	2s	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	28.08	713.1	30.63	777.9	2.8	—16.2	91	Calm	0	0	.....	.....	0	.....	.....	Blank	Blank	.....	Meteorological Obs.
Nikolaiev	29.78	756.3	29.85	758.1	44.6	7.0	75	Calm	0	0	.....	.....	10cs	.....	.....	.....	.....	Light clouds	Kurdakof.
Nukuss	29.78	756.4	30.02	762.4	48.9	9.4	45	ESE	7	3	.....	.....	6ks	.....	.....	.....	.....	.....	.....
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	30.06	763.4	30.20	767.0	42.4	5.8	79	Calm	0	0	.....	.....	6k	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	29.68	753.9	29.70	754.3	26.2	— 3.2	98	E	7	3	.....	.....	10	.....	.....	.....	.....	Foggy	Central Physical Obs.
Tashkend	28.66	727.9	30.30	769.7	35.6	2	62	.....	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.54	724.9	29.97	761.2	50.7	10.4	61	NW	18	8	.....	.....	8k	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	29.10	739.0	29.52	749.9	42.6	5.9	88	SSW	9	4	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.19	741.5	29.62	752.3	37.8	3.2	95	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Heavy clouds	Astronomical Obs.
Yenisiesk	29.67	753.5	29.97	761.1	28.0	— 2.2	73	WSW	20	9	.....	.....	10	.....	.....	.....	.....	Snowing	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

SPANISH SERIES.

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

Barcelona, Met. Obs'y	30.01	762.2	30.11	764 9	59.9	15.5	66	E	1.0	0.47	.....	.....	2	.....	.....	0	0	.....	Antonio Rave, Director
Bilbao, Met. Obs'y	30.21	767.4	30.27	768.8	59.9	15.5	70	NW	0.5	0.24	.....	.....	10	.....	.....	0	0	Covered	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.25	692.1	.....	.....	49.5	9.7	69	E	4.0	1.78	.....	0	1	.....	.....	0	0	Almost clear	Domingo Martin y Perez.
Madrid, Royal Observatory.	27.94	709.8	30.17	766.2	61.0	16.1	65	S	1.5	0.67	.....	6	0	NW	.....	0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	29.98	761.5	30.09	764.3	72.1	22.3	52	SW	3.0	1.36	.....	0	2	.....	.....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.25	742.9	30.15	765.7	57.2	14.0	66	NE	9.4	4.2	.....	.....	2	.....	.....	0	0	Light clouds	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	30.03	762.7	30.09	764.4	73.5	23.1	84	E	3.6	1.6	.....	1c	1k	W	E	0	0	Clear	Benito Vines, S. J.
Manilla, Phillippine Islands	29.84	757.8	29.89	759.1	80.4	26.9		NNE	2.2	1.0	.....	2c	4ck	E	W	0	0	Covered	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.04	762.9	30.13	765.4	67.1	19.5	60	E	2.6	1.2	.....	0	10	.....	W	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W.I.	29.93	760.2	30.02	762.5	81.0	27.2	79	E	13.5	6.02	.....	4ck	3k	E	E	0.906	23.00	Cloudy	Enrique Gadea, Chief Eng'r

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

SWEDISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.69	754.0	29.72	755.0	— 6.5	—21.4	.....	N	.....	.....	2	.....	10	.....	.....	0	0	.....	
Umea	29.66	753.3	29.71	754.6	18.7	— 7.4	100	NW	.....	.....	2	.....	10	.....	.....	0.039	1.0	.....	
Hernosand	29.60	751.8	29.65	753.1	23.4	— 4.8	90	N	.....	.....	2	.....	8	.....	.....	0	0	.....	
Stockholm	29.34	745.1	29.51	749.6	37.8	3.2	97	NE	.....	.....	2	.....	10	.....	.....	.....	.....	Rain & fog	
Wisby	29.41	747.0	29.47	748.5	39.9	4.4	87	SSE	.....	.....	4	.....	10	.....	.....	Blank	Blank	.....	
Sub-Series.																			
Upsala	29.42	747.3	29.51	749.5	32.5	0.3	94	NNE	5.6	2.5	.....	.....	10	.....	.....	0.142	3.60	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

SWISS SERIES.

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

Geneva	28.60	726.5	30.05	763.2	47.8	8.8	63	S	.....	.....	3	.....	7	.....	.....	0.087	2.2	Cloudy	The Observatory.
Zurich	28.23	717.1	29.91	759.6	43.5	6.4	68	W	.....	.....	4	.....	8	.....	.....	0.236	6.0	Rainy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +0.2 mm.; Thermometer, —1.5 Cent.; Relative Humidity, +14 per cent.

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

TURKISH SERIES.

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

Constantinople	.....	.....	29.87	758.6	56.5	13.6	61	SW	9	4.0	.....	.....	7	.....	SW	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.93	760.2	58.1	14.5	.....	S	.....	.....	1	.....	10	.....	.....	0	0	Covered	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obsy	29.86	758.4	29.98	761.4	69.1	20.6	68	SW	.....	.....	3	.....	7n	.....	SW	0.24	6.1	D. clouds	Prof. C. V. A. van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	29.91	759.7	29.97	761.2	29.9	— 1.2	94	SW	2	0.9	.....	.....	10n	.....	.....	0.14	3.6	Light snow	G. A. Blair.
Charlottetown, P. E. Island	29.93	760.2	29.97	761.2	33.6	0.9	95	S	2	0.9	.....	.....	10n	.....	.....	0.13	3.3	Light snow	H. J. Cundall, C. E.
Cornwall, Ontario	29.60	751.8	29.80	756.9	43.1	6.2	96	W	.....	.....	1	.....	10s	.....	.....	0.23	5.8	Cloudy	James Smith, M. A.
Dalhousie, N. B	29.79	756.7	29.96	761.0	29.0	— 1.7	.....	E	.....	.....	1	.....	10n	.....	.....	0.06	1.5	Snowing	H. A. Johnson.
Father Point, Quebec	29.87	758.7	29.89	759.2	29.2	— 1.6	95	SE	5	2.2	.....	.....	10n	.....	.....	0.20	5.1	Light snow	J. McWilliams.
Fredericton, N. B	29.86	758.4	29.92	760.0	33.0	0.6	87	E	2	0.9	.....	.....	10n	.....	.....	0.36	9.1	Snowing	Prof. Harrison.
Fort Garry, Manitoba	28.91	734.3	29.75	755.6	32.5	0.3	94	S	10	4.5	.....	.....	10n	.....	.....	0	0	Cloudy	James Stewart.
Granton, Ontario	28.74	730.0	29.83	757.7	52	11.1	.....	N	.....	.....	1	.....	10n	.....	.....	0.82	20.8	Light rain	James Grant.
Halifax, N. S	29.86	758.4	29.99	761.7	34.3	1.3	97	NE	4	1.8	.....	.....	8n	.....	.....	0.02	0.5	Light snow	A. Allison, M. A.
Hamilton, Ontario	29.50	749.3	29.86	758.4	56.2	13.4	94	SW	.....	.....	1	.....	10ks	.....	SW	0.89	22.6	Cloudy	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.50	749.3	29.84	757.9	48.1	8.9	90	NW	4	1.8	.....	8ck	2s	.....	.....	0.49	12.4	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S.	29.92	760.0	29.96	761.0	35.2	1.8	89	SW	4	1.8	.....	8k	0	W	.....	0	0	Cloudy	C. H. Rigby.
Montreal, Quebec	29.61	752.1	29.82	757.4	36.0	2.2	98	N	1	0.4	.....	.....	10s	.....	.....	0.01	0.3	Overcast	C. H. McLeod, C. E.
Moose Factory, Ontario	29.95	760.7	29.98	761.5	31.4	— 0.3	94	N	.....	.....	2	.....	10	.....	.....	0.15	3.8	Cloudy	J. R. Nason.
Norwood	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. R. Mosley.
Peterboro, Ontario	29.13	739.9	29.89	759.2	37.7	3.2	90	W	.....	.....	1	.....	8ks	.....	.....	1.15	29.2	Cloudy	J. F. Jeffers, B. A.
Port Dover, Ontario	29.16	740.7	29.84	757.9	57.1	13.9	100	Calm	0	0	.....	Fog	.....	.....	.....	0.28	7.1	Foggy	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.20	741.7	29.84	757.9	54.1	12.3	97	E	4	1.8	.....	Fog	.....	E	0	0	Foggy		M. Payne.
Quebec, Quebec	29.48	748.8	29.82	757.4	33	0.6	89	E	.....	.....	5	.....	10n	.....	.....	0.20	5.1	Cloudy	Capt. Ashe, R. N.
Rockliffe, Ontario	29.38	746.2	29.85	758.2	37.0	2.8	95	Calm	0	0	.....	Haze	10s	.....	W	0	0	Cloudy	W. H. McIntyre.
St. Andrews, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Gove.
St. John, N. B	29.71	754.6	29.88	758.9	37	2.8	100	S	6	2.7	.....	.....	10n	.....	.....	0.20	5.1	Light rain	G. Murdock, C. E.
Saugeen, Ontario	29.16	740.7	29.88	758.9	46.2	7.9	90	N	9	4.0	.....	.....	9ks	.....	.....	0.22	5.6	Cloudy	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.56	725.4	29.83	757.7	50.8	10.4	94	NW	4	1.8	.....	.....	10n	.....	.....	0.446	11.33	Drizzling	C. J. MacGregor, M. A.
Sydney, C. B	29.96	761.0	30.00	762.0	35.8	2.1	83	SW	4	1.8	.....	.....	10s	.....	.....	0	0	Overcast	T. C. Hill, C. E.
Toronto, Ontario	29.51	749.5	29.89	759.2	49.9	9.9	80	N	11	4.9	.....	0	8ks	.....	W	0.41	10.4	Cloudy	Magnetic Observatory.
Windsor, N. S	29.86	758.4	29.96	761.0	34.0	1.1	95	S	2	0.9	.....	.....	10n	.....	.....	.....	.....	Snowing	Prof. John E. Oram.
Woodstock, Ontario	28.78	731.0	29.83	757.7	55.1	12.8	97	N	7	3.1	.....	.....	10s	.....	.....	1.02	25.9	Cloudy	Prof. J. Montgomery.
Yarmouth, N. S	29.82	757.4	29.89	759.2	37.8	3.2	98	SE	.....	.....	1	.....	10	.....	.....	0.03	0.8	Raining	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.67	753.6	29.93	760.2	33.0	0.6	80	N	.....	.....	.....	10k	10s	.....	.....	0.06	1.5	Cloudy	John Delany.
St. Pierre, N. F	.....	.....	29.86	758.4	37.4	3	.....	W	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	l'Hopital Maritime.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10, except Yarmouth and St. Johns on scale 0 to 20. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

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

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.64	752.8	29.87	758.7	51	10.6	93	S	6	2.7	.....	.....	10s	.....	W	0.10	2.5	Cloudy	
Alpena, Michigan	29.18	741.1	29.83	757.7	44	6.7	92	N	4	1.8	.....	0	5s	.....	SW	0.65	16.5	Fair	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	29.02	737.1	30.16	766.1	60	15.6	94	SE	5	2.2	.....	.....	Fog	.....	Calm	0	0	Dense fog	
Atlantic City, New Jersey	29.98	761.5	29.99	761.7	62	16.7	88	SW	11	4.9	.....	10c	0	NW	.....	0.02	0.5	Cloudy	
Augusta, Georgia	30.04	763.0	30.24	768.1	58	14.4	88	SE	1	0.4	.....	2cs	Fog	NW	Calm	0	0	Fair	
Baltimore, Maryland	29.96	761.0	30.01	762.2	62	16.7	83	E	4	1.8	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Barnegat, New Jersey	29.94	760.5	29.96	761.0	60	15.6	88	SW	9	4.0	.....	2c	2s	W	W	Inap.	Inap.	Fair	
Bismarck, Dakota	27.77	705.4	29.63	752.6	36	2.2	90	S	18	8.0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Boerne, Texas	28.52	724.4	29.83	757.7	55	12.8	93	NW	3	1.3	.....	.....	Fog	.....	.....	0	0	Dense fog	
Boise City, Idaho	27.02	686.3	29.98	761.5	33	0.6	79	SE	4	1.8	.....	0	5s	.....	Calm	0.21	5.3	Fair	
Boston, Massachusetts	29.67	753.6	29.82	757.4	54	12.2	87	W	7	3.1	.....	5k	2s	W	W	Inap.	Inap.	Fair	
Brackettville, Texas	28.79	731.3	29.86	758.4	47	8.3	77	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	28.69	728.7	29.69	754.1	38	3.3	91	SE	9	4.0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Brownsville, Texas	29.88	758.9	29.92	760.0	78	25.6	91	S	2	0.9	.....	2k	0	S	.....	0	0	Clear	
Buffalo, New York	29.16	740.7	29.83	757.7	57	13.9	100	N	4	1.8	.....	.....	10n;fg	.....	Calm	0.32	8.1	Light rain	
Burkes, Arizona	.....	.....	.....	.....	46	7.8	77	W	.....	.....	1	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.53	750.0	29.81	757.2	48	8.9	93	W	7	3.1	.....	.....	10ks	.....	W	0.36	9.1	Cloudy	
Cairo, Illinois	29.47	748.5	29.84	757.9	72	22.2	76	S	24	10.7	.....	.....	10s	.....	S	0.15	3.8	Cloudy	
Campo, California	27.46	697.5	30.03	762.7	30	— 1.1	89	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.21	767.3	30.22	767.6	66	18.9	89	SW	6	2.7	.....	8cs	0	Calm	.....	0	0	Cloudy	
Cape Henry, Virginia	30.07	763.8	30.09	764.3	64	17.8	83	SW	20	8.9	.....	0	2s	.....	Calm	0	0	Clear	
Cape Lookout, N. Carolina	30.21	767.3	30.23	767.8	69	20.6	85	SW	11	4.9	.....	5c	0	W	.....	0	0	Fair	
Cape May, New Jersey	29.97	761.2	30.00	762.0	65	18.3	78	SW	23	10.3	.....	5cs	5s	Calm	SW	Inap.	Inap.	Cloudy	
Castroville, Texas	29.17	740.9	29.87	758.7	59	15.0	70	NW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Cedar Keys, Florida	30.18	766.6	.....	.....	.....	.....	.....	SE	.....	.....	1	0	0	.....	.....	0	0	Clear	
Charleston, South Carolina	30.17	766.3	30.22	767.6	65	18.3	89	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Charlotte, North Carolina	29.34	745.2	30.14	765.5	62	16.7	94	SW	5	2.2	.....	5c	5s;fog	W	SW;Calm	0	0	Cloudy	
Chattanooga, Tennessee	29.32	744.7	30.12	765.0	62	16.7	88	SE	11	4.9	.....	8cs	1s	SW	Calm	0	0	Fair	
Cheyenne, Wyoming	23.73	602.7	29.67	753.6	29	— 1.7	56	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	28.96	735.6	29.62	752.3	57	13.9	87	NW	5	2.2	.....	.....	10s	.....	Calm	0.69	17.5	Cloudy	
Cincinnati, Ohio	29.25	742.9	29.87	758.7	69	20.6	70	S	14	6.3	.....	.....	10ks	.....	SW	0.07	1.8	Cloudy	
Cleveland, Ohio	29.12	739.6	29.81	757.2	66	18.9	74	SE	12	5.4	.....	.....	10s	.....	SW	0.01	0.3	Threatening	
Coleman City, Texas	28.17	715.5	29.86	758.4	45	7.2	53	SW	12	5.4	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Columbus, Ohio	29.04	737.6	29.84	757.9	66	18.9	84	S	7	3.1	.....	.....	10s	.....	S	0	0	Cloudy	
Concho, Texas	28.07	713.0	29.79	756.7	38	3.3	63	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.47	748.5	29.93	760.2	59	15.0	65	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Davenport, Iowa	28.98	736.1	29.59	751.6	56	13.3	87	SW	10	4.5	.....	0	2s	.....	W	0.66	16.8	Fair	
Deadwood, Dakota	25.00	635.0	.....	.....	36	2.2	53	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Denison, Texas	29.12	739.6	29.91	759.7	52	11.1	73	SW	8	3.6	.....	0	0	.....	.....	0.28	7.1	Clear	
Denver, Colorado	24.45	621.0	29.67	753.6	32	0.0	59	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	28.67	728.2	29.51	749.5	53	11.7	86	SW	4	1.8	.....	0	8s	.....	W	1.35	34.3	Clearing	
Detroit, Michigan	29.10	739.1	29.74	755.4	69	15.6	94	E	4	1.8	.....	.....	10n	.....	Calm	0.20	5.1	Heavy rain	
Dodge City, Kansas	27.18	690.4	29.46	748.3	41	5.0	74	NW	7	3.1	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Dubuque, Iowa	28.90	734.0	29.58	751.3	50	10.0	86	SE	3	1.3	.....	.....	10s	.....	Calm	1.18	30.0	Cloudy	
Duluth, Minnesota	29.10	739.1	29.78	756.4	40	4.4	82	NE	16	7.2	.....	.....	10s	.....	NE	0.46	11.7	Cloudy	
Eagle Pass, Texas	29.25	742.9	30.00	762.0	49	9.4	78	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	29.78	756.4	29.85	758.2	42	5.6	91	SE	10	4.5	.....	.....	10n;fg	.....	S	0.12	3.0	Light rain	
Edinburg, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10s	.....	SE	0	0	Cloudy	
El Paso, Texas	.....	.....	.....	.....	76	24.4	91	SE	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.13	739.9	29.81	757.2	66	18.9	84	SW	10	4.5	.....	.....	10s	.....	SW	2.06	52.3	Cloudy	
Escanaba, Michigan	29.18	741.1	29.84	757.9	41	5.0	74	NE	12	5.4	.....	.....	10s	.....	N	0.04	1.0	Cloudy	
Florence, Arizona	28.53	724.6	30.13	765.3	43	6.1	75	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.54	699.5	29.37	746.0	34	1.1	90	W	5	2.2	.....	10cs	0	W	.....	0	0	Cloudy	
Fort Custer, Montana	26.55	674.4	.....	.....	38	3.3	71	SW	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Davis, Texas	25.17	639.3	30.13	765.3	41	5.0	57	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter.	29.30	744.2	29.83	757.7	53	11.7	67	S	6	2.7	.....	0	0	.....	.....	0.46	11.7	Clear	
Fort Grant, Arizona	25.20	640.1	30.00	762.0	36	2.2	63	S	5	2.2	.....	0	0	.....	.....	0.03	0.8	Clear	
Fort Griffin, Texas	28.66	728.0	29.92	760.0	52	11.1	66	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.10	688.3	.....	.....	36	2.2	61	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	27.70	703.6	29.65	753.1	42	5.6	58	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Stevenson, Dakota	28.64	727.4	29.74	755.4	50	10.0	72	NW	2	0.9	.....	0	0	.....	.....	0.06	1.5	Clear	
Fort Verde, Arizona	27.72	704.1	.....	.....	34	1.1	90	S	2	0.9	.....	2c	0	Calm	.....	0	0	Fair	
Fort Yates, Dakota	.....	.....	.....	.....	38	3.3	81	S	.....	.....	1	2k	0	SW	.....	0	0	Fair	
Fredericksburg, Texas	28.96	712.7	29.55	750.6	66	18.9	59	S	10	4.5	.....	0	2s	.....	Calm	0	0	Fair	
Galveston, Texas	29.97	761.2	30.01	762.2	72	22.2	95	S	4	1.8	.....	0	2s	.....	Calm	0	0	Clear	
Graham, Texas	28.82	732.0	29.88	758.9	50	10.0	71	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.01	736.8	29.64	752.8	52	11.1	100	E	12	5.4	.....	.....	10n	.....	E	1.06	26.9	Heavy rain	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	28.94	735.1	29.86	758.4	46	7.8	77	SE	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Indianapolis, Indiana	28.97	735.8	29.70	754.4	67	19.4	84	S	14	6.3	.....	0	5s	.....	SW	1.70	43.2	Fair	
Indianola, Texas	29.96	761.0	29.98	761.5	72	22.2	95	S	5	2.2	.....	0	1s	.....	S	0	0	Clear	
Jacksboro, Texas	28.79	731.3	29.90	759.4	65	18.3	49	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.19	766.8	30.22	767.6	66	18.9	89	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Keokuk, Iowa	28.96	735.6	29.55	750.6	56	13.3	81	SW	10	4.5	.....	.....	10n	.....	SW	0.15	3.8	Light rain	
Key West, Florida	30.09	764.3	30.13	765.3	76	24.4	77	E	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Kittyhawk, North Carolina	30.07	763.8	30.10	764.5	65	18.3	91	SW	20	8.9	.....	0	Haze	.....	Calm	0	0	Clear	
Knoxville, Tennessee	29.11	739.4	30.11	764.8	58.5	14.7	88	SW	3	1.3	.....	2cs	8s	SW	SW	0	0	Cloudy	
La Crosse, Wisconsin	28.90	734.0	29.62	752.3	46	7.8	84	E	2	0.9	.....	.....	10s	.....	E	0.83	10.9	Cloudy	
La Mesilla, New Mexico	26.08	662.4	30.23	767.8	31	— 0.6	83	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.59	751.6	29.92	760.0	73	22.8	72	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	28.72	729.5	29.53	750.0	52	11.1	86	SW	11	4.9	.....	.....	10s	.....	NW	2.58	65.5	Cloudy	
Little Rock, Arkansas	29.57	751.1	29.92	760.0	68	20.0	84	SW	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Los Angeles, California	29.75	755.6	30.10	764.5	47.5	8.6	88	NE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.32	744.7	29.85	758.2	70	21.1	66	S	19	8.5	.....	.....	10s	.....	S	0.02	0.5	Cloudy	
Lynchburg, Virginia	29.42	747.3	30.09	764.3	62	16.7	82	SW	1	0.4	.....	10cs	0	W	.....	0	0	Cloudy	
Madison, Wisconsin	28.62	726.9	29.58	751.3	47	8.3	85	E	11	4.9	.....	.....	10s	.....	E	1.12	28.4	Cloudy	
Marquette, Michigan	29.13	739.9	29.83	757.7	45	7.2	61	NE	5	2.2	.....	.....	10s	.....	NE	0.09	2.3	Cloudy	
Mason, Texas	28.34	719.8	30.13	765.3	43	6.1	83	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	29.61	752.1	29.94	760.5	70	21.1	85	SE	12	5.4	.....	0	5s	.....	Calm	Inap.	Inap.	Fair	
Milwaukee, Wisconsin	28.97	735.8	29.69	754.1	46	7.8	96	NE	16	7.2	.....	.....	10n	.....	Calm	0.71	18.0	Light rain	
Mobile, Alabama	30.07	763.8	30.12	765.0	71	21.7	95	SE	4	1.8	.....	.....	10s	.....	S	Inap	Inap.	Cloudy	
Montgomery, Alabama	29.95	760.7	30.18	766.6	65	18.3	91	SE	3	1.3	.....	5c	2s	SW	SW	0	0	Fair	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Morgantown, West Virginia	29.01	736.8	29.96	761.0	70	21.1	66	SW	4	1.8	....	2ck	Sm'e	NW	Calm	0	0	Dense smoke	
Mt. Washington, N. H.	25.49	596.6	29.85	758.2	36	2.2	100	NW	78	39.3	.....	.....	Fog	.....	NW	0.60	15.2	Foggy	
Nashville, Tennessee	29.49	749.0	30.01	762.2	69	20.6	80	S	10	4.5	.....	.....	10n	.....	S	0.02	0.5	Light rain.	
New Haven, Connecticut	29.78	756.4	29.90	759.4	52	11 1	90	SW	5	2.2	.....	2cs	2s	SW	Calm	0.24	6.1	Fair	
New London, Connecticut	29.83	757.7	29.88	758.9	53	11.7	86	W	6	2.7	.....	7cs	Haze	W	Calm	0.03	0.8	Fair	
New Orleans, Louisiana	30.02	762.5	30.08	764 0	73	22.8	90	SE	7	3.1	.....	8s	Fog	Calm	Calm	0	0	Fair	
Newport, Rhode Island	29.81	757.2	29.86	758.4	53	11.7	93	SW	6	2.7	.....	5c	2s	W	Calm	0	0	Clearing	
New York, New York	29.77	756.1	29.95	760.7	53	11.7	79	W	11	4.9	.....	Haze	2s	.....	Calm	0.16	4.1	Fair	
Norfolk, Virginia	30.06	763.5	30.12	765.0	63	17.2	89	S	12	5.4	.....	5c	0	Calm	.....	0	0	Fair	
North Platte, Nebraska	26.79	680.4	29.42	747.3	27	— 2.8	82	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter.	29.64	752.8	29.68	753.9	42.5	5.8	92	S	10	4.5	.....	.....	10n	.....	Calm	0.76	19.3	Light rain	
Omaha, Nebraska	28.39	721.1	29.45	748.0	51	10.6	86	SW	5	2.2	.....	.....	10s	.....	SW	1.53	38.9	Cloudy.	
Oswego, New York	29.55	750.6	29.86	758.4	56	13.3	94	NW	3	1.3	.....	.....	10n	.....	Calm	1.35	34.3	Light rain	
Pembina, Dakota	28.85	732.8	29.70	754.4	32	0.0	100	SE	11	4.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Pensacola, Florida	30.14	765.5	30.17	766.3	71	21.7	95	S	.....	.....	1	Haze	4s	Calm	S	Inap.	Inap.	Fair	
Philadelphia, Pennsylvania	29.93	760.2	29.98	761.5	59	15.0	88	SW	12	5.4	.....	5c s	5s	Calm	Calm	Inap	Inap.	Cloudy	
Phœnix, Arizona	28.87	733.3	30.72	780.3	46	7.8	77	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.48	444.0	29.69	754.1	13	—10.6	26	SW	64	28.6	.....	1ck	0	Calm	.....	0	0	Clear	
Pilot Point, Texas	29.18	741.1	30.00	762.0	55	12.8	53	S	8	3.6	.....	0	0	.....	.....	0.04	1.0	Clear.	
Pioche, Nevada	.....	.....	.....	.....	34	1.1	79	NW	8	3.6	.....	0	8s	.....	Calm	0.05	1.3	Cloudy	
Pittsburg, Pennsylvania	29.15	740.4	29.92	760.0	67	19.4	69	W	6	2.7	.....	0	5s	.....	W	0.14	3.6	Fair	
Port Huron, Michigan	29.15	740.4	29.80	756.9	50	10.0	93	NE	14	6.3	.....	.....	10n	.....	Calm	0.40	10.2	Light rain	
Portland, Maine	29.74	755.4	29.79	756.7	49	9.4	93	SW	4	1.8	.....	.....	10s	.....	Calm	0.51	13.0	Cloudy	
Portland, Oregon	29.74	755.4	29.82	757.4	41.7	5.4	83	S	12	5.4	.....	Haze	8s	.....	.....	0.58	14.7	Threatening	
Portsmouth, N. Hampshire	.....	.....	.....	.....	66	18.9	89	SW	11	4.9	.....	5cs	0	Calm	.....	0	0	Fair	
Prescott, Arizona	24.73	628.1	30.09	764.3	42	5.6	58	S	.....	.....	2	0	5s	.....	S	0	0	Fair	
Punta Rassa, Florida	30.15	765.8	30.17	766.3	71	21.7	90	NE	6	2.7	.....	0	0	.....	.....	0.01	0.3	Clear	
Red Bluff, California	29.72	754.9	30.08	764.0	46	7.8	77	S	10	4.5	.....	.....	10s	.....	Calm	0.56	14.2	Cloudy.	
Rio Grande City, Texas	29.74	755.4	29.95	760.7	71	21.7	90	SE	2	0.9	.....	.....	10s	.....	SE	0	0	Cloudy	
Rochester, New York	29.27	743.4	29.87	758.7	56	13.3	94	NW	10	4.5	.....	.....	10n	.....	Calm	0.92	23.4	Light rain	
Roseburg, Oregon	29.38	746.2	29.96	761.0	40	4.4	95	SW	8	3.6	.....	.....	10n	.....	Calm	0.49	12.4	Light rain	
Sacramento, California	30.05	763 3	30.13	765.3	44	6.7	84	S	7	3.1	.....	.....	8s	.....	Calm	0.07	1.8	Cloudy	
St. Louis, Missouri	29.13	739.9	29.69	754.1	57	13.9	69	S	16	7.2	.....	1cs	2s	S	S	0.39	9.9	Fair	
St. Paul, Minnesota	28.89	733.8	29.71	754.6	43	6.1	75	NE	14	6.3	.....	.....	10ks	.....	NE	0.03	0.8	Cloudy	
Salt Lake City, Utah	25.47	646.9	29.80	756.9	34	1.1	70	Calm	0	0	.....	.....	10n	.....	Calm	0.02	0 5	Light snow.	
San Antonio, Texas	29.26	743.2	29.83	757.7	72	22.2	76	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
San Diego, California	30.06	763.5	30.13	765.3	48	8.9	93	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sandusky, Ohio	29.17	740.9	29.81	757.2	65	18.3	89	SW	22	9.8	.....	.....	10n	.....	SW	0.06	1.5	Light rain	
Sandy Hook, New Jersey	29.91	759.7	29.94	760.5	55	12.8	87	W	16	7.2	.....	5c	2s	W	W	0.03	0 8	Fair	
San Francisco, California	30.08	764.0	30.14	765.5	50	10.0	86	SW	7	3.1	.....	0	2s	.....	W	0.05	1.3	Fair	
Santa Fé, New Mexico	23.23	590.0	29 77	756.1	26	— 3.3	63	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.15	765.8	30.24	768.1	64	17.8	94	SE	1	0.4	.....	0	Fog	.....	Calm	0	0	Clear	
Shreveport, Louisiana	29.75	755.6	29.96	761.0	69	20.6	95	S	10	4.5	.....	0	8s	.....	S	0.02	0.5	Fair	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.21	767.3	30.23	767.8	65	18.3	94	SE	2	0.9	.....	2k	Fog	Calm	.....	0	0	Fair	
Socorro, New Mexico	25.38	644.6	29.45	748.0	31	— 0.6	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois	29.02	737.1	29.66	753.4	56	13.3	84	S	10	4.5	.....	0	2ks;s	.....	S	0.52	13.2	Fair	
Springfield, Massachusetts	29.74	755.4	29.86	758.4	49	9.4	85	Calm	0	0	.....	.....	Fog	.....	.....	Inap.	Inap.	Dense fog	
Stockton, Texas	26.99	685.5	29.99	761.7	53	11.7	19	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	29.76	755.9	29.81	757.2	51	10.6	100	W	8	3.6	.....	.....	10s	.....	NE	Inap.	Inap.	Cloudy	
Toledo, Ohio	29.11	739.4	29.76	755.9	63	17.2	94	S	14	6.3	.....	.....	10n	.....	W	0.20	5.1	Light rain	
Tucson, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon	29.47	748.5	29.97	761.2	40	4.4	82	S	3	1.3	.....	.....	10s	.....	SW	0	0	Cloudy	
Uvalde, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Vicksburg, Mississippi	29.79	756.7	30.04	763.0	71	21.7	95	SW	5	2.2	.....	0	5s	.....	SW	0.58	14.7	Fair	
Virginia City, Montana	23.97	608.8	29.45	748.0	16	— 8.9	66	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.78	756.4	30.18	766.6	39	3.9	91	S	1	0.4	.....	0	0	.....	.....	0.18	4.6	Clear	
Washington, D. C.	29.91	759.7	30.02	762.5	62	16.7	83	S	5	2.2	.....	9cs	0	W	.....	0	0	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	37	2.8	71	W	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, North Carolina	30.15	765.8	30.23	767.8	63	17.2	94	S	5	2.2	.....	5c	0	Calm	.....	0	0	Fair	
Winnemucca, Nevada	25.51	647.9	29.87	758.7	29	— 1.7	78	SW	9	4.0	.....	0	5s	.....	SW	0.05	1.3	Fair	
Wood's Holl, Massachusetts	29.82	757.4	29.86	758.4	53	11.7	86	W	18	8.0	.....	.....	10s;fg	.....	W	0	0	Threatening	
Yankton, Dakota	28.37	720.6	29.65	753.1	42	5.6	74	NW	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Yuma, Arizona	29.88	758.9	30.04	763.0	48	8.9	85	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	30.01	762.2	30.06	763.5	76	24.4	76	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.11	764.8	30.12	765.0	76	24.4	95	Calm	0	0	.....	0	Haze	.....	.....	0	0	Fair	James Gall.
Medellin, Colombia, S. A.*	25.21	640.3	.....	.....	65.2	18.4	87	Calm	.....	.....	0	.....	10s;ks	.....	.....	0.04	1.0	.....	Thomas Herran.
Navassa, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.96	761.0	29.96	761.0	83	28.3	79	SE	.....	.....	2	4c	5k	E	.....	0	0	Fair.	C. J. Hering.
Santiago de Cuba, W. I.	29.98	761.5	30.01	762.2	76	24.4	70	NNE	6	2.7	.....	0	2ks	.....	NE	0	0	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	29.88	758.9	29.94	760.5	21.0	— 6.1	93	S	11	4.9	.....	4k	5s	SW	S	0	0	Cloudy	J. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Medellin, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.53 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 m., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm. *The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

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

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

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.09‡	764.8‡			72	22.2	95	SE	4	1.8			Mist		SE	0	0			Fair	
Navy Yard, Portsmouth, N.H	29.91‡	759.7‡			45	7.2	92	SW	1	0.4			5			0	0			Pleasant	
Naval Hospital, Yokohama, Japan	30.11‡	764.8‡			48	8 9	92	Calm			0		0			Slight	Slight			Clear	
Adams, Mare I'd., Navy Yard, Cal.	30.12‡	765.0‡			53	11.7	86	W			4		10		W					Cloudy	
Alaska, Iquique, Peru *.	29.91‡	759.7‡			64	17.8	83	Calm			0		2							D. clouds	
Alliance, N. 22° 34′, W. 29° 01′	30.18‡	766.6‡			77	25.0	73	ESE			4		5		E			Smooth	ESE	D. clouds	
Colorado, New York, N. Y.	29.90‡	759.4‡			55	12 8	80	SW	3	1.3			8			0.17	4.3			Misty	
Constitution, Navy Yard, Norfolk, Va.	30.19‡	766.8‡			62	16.7	100	W	2	0.9			3		Calm					Clear	
Enterprise, N. 32° 03′, E. 26° 58′	29.93‡	760.2‡			67	19.4	84	NNE			2		8		NE			Smooth		Cloudy	
Franklin, Off Navy Yard, Norfolk, Va.	30.13‡	765.3‡			64	17.4	83	SW	9	4.0			8?		SW	0	0			Clear	
Hartford, N. 33° 28′, W. 72° 50′	30.29‡	769.4‡			74	23.3	68	W			4		5		W	0	0	Smooth		Fair	
Independence, Mare I'd, Navy Yard, Cal.	30.10‡	764.6‡			58	14.4	76	SW	6.0	2.7			3		E	0.71	18.0			Clear	
Kearsage, Norfolk, Va	30.34‡	770.6‡			65	18.3	84	WSW			0–1		2		SE	0	0			Fair	
Lackawana, N. 23° 00′. E. 179° 04′…†	30.13‡	765.3‡			79	26.1	82	E			3–4		2		E			Mod'ate	E	Clear	
Marion, Off Norfolk, Va.	30.15‡	765.8‡			66	18.9	79	SW			2		2		SW			Smooth		Clear	
Michigan, Erie, Pa.	29.79‡	756.7‡			65	18.3	59	SSW			2		10							Overcast	
Monocacy, Shanghai, China	30.32‡	770.1‡			51	10.6	93	E			1		0							Misty	
New Hampshire, Port Royal, S. C.	30.24‡	768.1‡			67	19.4	95	Calm	0	0			1		Calm	0	0			Clear	
Onward, Callao, Peru †.	29.95‡	760.7‡			64	17.8	83	Calm			0		10					Long	W	Foggy	
Palos, N. 37° 40′, E. 121° 37′	30.28‡	769.1‡			52	11.1	100	NW			3		0					Smooth		Clear	
Passaic, Washington, D. C.	30.01‡	762.2‡			63	17.2	89	W			1		10			0	0			Cloudy	
Pensacola, Callao, Peru	29.91‡	759.7‡			64	17.8	89	Calm			0		10					Smooth		Misty	
Portsmouth, Smith Point, Potomac river	30.04‡	763.0‡			62	16.7	83	SSE			2		2			0	0			Clear	
Powhatan, N. 40° 37′, W. 74° 03′	29.95‡	760.7‡			58	14.4	82	W			2		5		Calm	0	0			Fair	
Quinnebaug, Leghorn, Italy	29.81‡	757.2‡			59	15.0	70	WSW			5		10		W					Cloudy	
Ranger, N. 38° 16′, E. 150° 16′	30.06‡	763.5‡			57	13.9	75	WSW			2		10		Calm			Long	SW	Rainy	
Richmond, Shanghai, China	30.30‡	769.6‡			52	11.1	??	ESE			2		0			0	0	Smooth		Pleasant	
Rio Bravo, Brownsville, Texas †	30.01‡	762.2‡			74	23 3	100	SSE	3	1.3			5		SSE	0	0			Hazy	
Santee, Annapolis, Md	30.02‡	762.6‡			66	18.9	84	SW			2		10		Calm	0	0			Cloudy	
Shenandoah, N. 6° 00′. W. 29° —′	29.96‡	761.0‡			78	25.6	91	E			2		10		E			Smooth		Cloudy	
St. Louis, League Island, Pa.	30.02‡	762.5‡			56	13.3	94	SW	6	2.7			10		W	0	0			Cloudy	
Trenton, Villafranca, France	29.77‡	756.1‡			67	19.4	64	ESE			1		2		Calm	0	0	Smooth		Fair	
Tuscarora, N. 15° 41′, W. 96° 41′	29.87‡	758.7‡			76	24.4	91	Calm			0		1		Calm	0	0	Long	S	Clear	
Vandalia, N. 24° 55′, W. 82° 50′†	30.12‡	765.0‡			80	26.7	91	E			4		5		E			Mod'ate	E	Fair	
Wabash, Boston, Mass	29.73‡	755.1‡			53	11.7	80	W	3	1.3			8			0	0			Cloudy	
Wachusett, N. 7° —′, W 32° —′	30.03‡	762.7‡			80	26.7	96	ESE			4		8		SE			Mod'ate	ESE	Fair	
Wyoming, N. 36° 24′, W. 2° 10′	30.16‡	766.1‡			65	18.3	84	WSW			1		8		W			Smooth	W	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

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

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

CUNARD LINE MARINE SERIES.

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

S. S. Samaria																			Capt. T. Roberts.

NOTE—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitebury.
S. S. Costa Rica																			W. House & R. Lawless.
S. S. Dakota, Capt. H. G. Morse																			Capt. Connolly.
S. S. Georgia																			F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin																			Capt. A. Fuller.
S. S. Wilmington																			
S. S. Zealandia, S. 16° 27′, W. 171° 32′		29.78‡	756.4‡				SSE			5				SE		Mod'ate	NE	Clear	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The orginals give the barometer as read off; wind-force by the scale 0 to to 12; for the Brittanic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer N. 31° 30′, E. 164° 20′..†		30.06‡	763.5‡	69	20.6	95	ESE			3		5		E		Mod'ate	W	D. clouds	D. A. Joyce, 2nd Officer
S. S. Gaelic, Capt. Davidson N. 46° 32′, W. 161° 27′...†		29.66‡	753.4‡	52	11.1		SW			6		8		SW	Slight	Rough Cross		Raining	J. A. Thompson, C. O. J. G. Cameron.
S. S. Oceanic, Capt. J. Metcalf																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES

Furnished by the co-operation of A. Schumacher & Co., Agents

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undutsch.
S. S. Leipzig, Capt. F. Pfeiffer, N. 49° 53′, W. 31° 44′		29.46‡	748.0‡	60.0	15.6	100	S			8		8		S	1 h'r	Heavy	S	Cloudy	S. Rialus, 3rd Officer.
S. S. Nornberg																			Capt. A. Jaeger.
S. S. Ohio, N. 49° 35′, W. 11° 08′		30.35‡	770.9‡				NNW			4		8		NNE		S	NW	Cloudy	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 50° 34′, W. 31° 40′		29.50‡	749.3‡	56	13.3	94	SSE			8		8		WSW	Mod'ate	Heavy	SSW	Cloudy	Capt. R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents.																			
Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

Note.—The originals give the barometer as read off; do not distinguish between upper and lower clouds; sea-swell in general terms, as published. ‡Corrections for temperature, instrumental error and elevation applied at this office.

ALLAN LINE MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES—Miscellaneous.																			
Furnished by the co-operation of the Observers named.																			
Schooner Addie Fuller, Charleston, S. C.		30.26‡	768.6‡	67	19.4	79	Calm	0	0			0			0			Clear	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George" of Halifax, N. 18° 00′, W. 65° 40′ †		29.92‡	760.0‡	84	28.9		ENE			5		2		ENE	Blank	Rough	E	Clear	N. B. Foss.
Schooner Harry and Fred																			Capt. George Gardner.
Haytian																			
§ Iron Cross																			Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

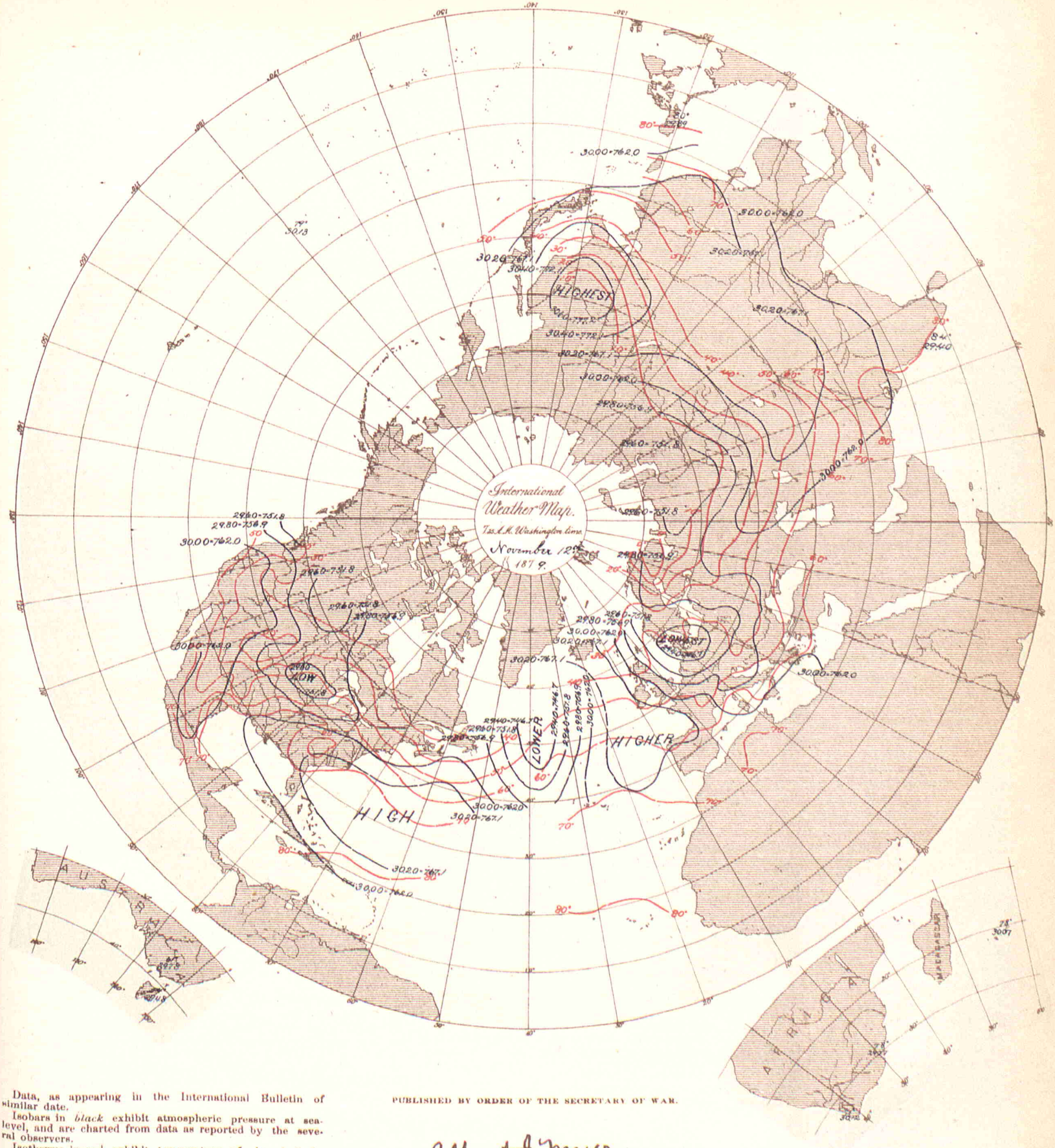
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 13, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:38 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.21	76 .3	69.6	20.9	82	SW	.....	.....	1	.....	2	.....	.....	0	0	Fair	
Nemours	.....	.....	30.11	764.9	70.9	21.6	84	Calm	.....	.....	0	.....	5	.....	.....	0	0	Cloudy	Kesxuché.
Algiers	.....	.....	30.11	764.9	65.5	18.6	75	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	Touriliere.
La Calle	.....	.....	30.06	763.5	63.1	17.3	88	WNW	.....	.....	2	.....	5	.....	.....	0.118	3.0	Cloudy	Foufrede.
Tunis	.....	.....																	Jacques.
Sfax	.....	.....																	Gau.
Saida	.....	.....	30.14	765.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Herbin.
Tebessa	.....	.....																	Watrin.
Geriville	.....	.....	30.14	765.5	62.1	16.7	50	NW	.....	.....	5	.....	0	.....	.....	0	0	Clear	Brugniaux.
Laghouat	.....	.....			65.3	18.5	35	NW	.....	.....	4	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	30.19	766.9	73.0	22.8	50	NW	.....	.....	3	.....	0	.....	.....	0	0	Clear	Chanvaux.
.....	.....	.....	30.08	764.1	73.0	22.8	50	SE	.....	.....	5	.....	2	.....	.....	0	0	Fair	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.11	739.4	29.07	753.6	41.0	5.0	66	N	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	28.71	729.2	29.48	748.9	40.6	4.8	84	WSW	4.9	2.2	.....	.....	10	.....	.....	0.114	2.9	.....	Prof. Dr. Karlinski, Dir.
Eperies	28.61	726.6	29.49	749.0	43.2	6.2	94	S	.....	.....	2	.....	10s	.....	N	0	0	.....	Julius Mikolik.
Gratz	28.40	721.3	29.06	753.4	43.2	6.2	87	NW	.....	.....	4	.....	5	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.14	714.7	29.58	751.3	40.5	4.7	81	WNW	.....	.....	2	.....	9	.....	.....	0.055	1.40	.....	Prof. A. Gottschling.
Kremsmünster	28.37	720.7	29.76	755.9	32.0	0.0	98	WNW	.....	.....	5	.....	10	.....	.....	0.268	6.8	.....	Prof. C. Wagner.
Lemberg	28.44	722.3	29.43	747.4	43.0	6.1	87	NW	.....	.....	1	.....	9	.....	.....	Inap.	Inap.	.....	Dr. T. Stanecki.
Pola	29.48	748.7	29.59	751.6	53.6	12.0	37	N	.....	.....	1	.....	4	.....	.....	0	0	.....	I.R. Hydrographic Office.
Szathmar	29.11	739.5	29.57	751.0	41.0	5.0	84	SW	.....	.....	2	.....	10	.....	.....	0.138	3.5	.....	Pet. Pancsics.
Szegedin	29.33	744.9	29.61	752.1	43.5	6.4	83	S	.....	.....	1	.....	8	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.56	750.7	29.66	753.3	53.4	11.9	31	NE	.....	.....	1	.....	1	.....	.....	0	0	Almost clear	P. Busin.
Vienna	28.90	734.1	29.64	752.9	35.8	2.1	84	W	.....	.....	5	.....	9	.....	.....	0	0	.....	I.R. Central Met. Ob'sy.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2:20, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S,, Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS	Barometer: Corrected for instru'tal error and temperature. Inches.	Barometer: Corrected for instru'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.15	765.8	30.26	768.6	35.0	1.7	.....	WNW	15	6.7	.....	.....	3	.....	.....	0.060	1.5	Blue sky.....	W. Boswell.
Ardrossan	30.32	770.1	30.33	770.4	45	7.2	.....	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	Blue sky	Wm.McNeil & G.Carrick
Armagh, (Observatory)	30.09	764.3	30.34	770.6	42.3	5.7	.....	SSW	3	1.3	.....	.....	3	.....	.....	.....	.....	D. clouds.....	S. Call.
Bidston (Liverpool Obs)	.....	.....	30.26	768.6	43.8	6.6	.....	NNW	12	5.4	.....	.....	0	.....	.....	.....	.....	Blue sky...	John Hartnup.
Bolton (Sharples)	29.68	753.9	30.20	767.1	42.9	6.1	.....	NNE	6	2.7	.....	.....	0	.....	.....	.....	.....	Blue sky....	Thomas Mackereth.
Bradford, Yorkshire	29.81	757.2	30.20	767.1	43.3	6.3	.....	NE	.....	.....	4	.....	3	.....	.....	0.01	0.3	D. clouds.....	J McLandsborough.
Bridgetown, Barbadoes	29.88	758.9	29.91	759.7	80	26.7	.....	NE	.....	.....	2	.....	6	.....	.....	.....	.....	Gloomy	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	30.00	762.0	30.10	764.5	46.0	7.8	.....	NW	.....	.....	3	.....	1	.....	.....	.....	.....	D. clouds.....	H. Todd.
Cardington	.....	.....	30.13	765.3	45.0	7.2	.....	N	.....	.....	2	.....	2	.....	.....	.....	.....	Blue sky.. ..	John McLaren.
Chatham (School M. E.)	29.98	761.5	30.11	764.8	44.1	6.7	.....	NW	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	J. Carmell, Sapper, R.E.
Donaghadee	30.06	763.6	30.30	769.6	45	7.2	.....	N	.....	.....	4	.....	3	.....	.....	.....	.....	D. clouds....	J. Mac Gowan.
Dover	29.94	760.5	29.97	761.2	44	6.7	.....	NNW	.....	.....	5	.....	4	.....	.....	.....	.....	Squally	J. Costello.
Falmouth (Observatory)	30.06	763.5	30.29	769.4	48.2	9.0	.....	NNW	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds....	The Staff.
Fort Napier, Natal	27.82	706.6	30.05	763.3	61.2	16.2	.....	E	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Galway (Queen's College)	.....	.....	30.27	768.8	43	6.1	.....	ESE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	Prof. A. H. Curtis.
Gibraltar, Mediterranean	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Sergt.Wm. Allen, A. H.
Glasgow, (Observatory)	30.06	763.5	30.26	768.6	41.8	5.4	.....	W	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	D. G. Maclean. [C.
Great Yarmouth	30.02	762.5	30.02	762.5	44	6.7	.....	NW	.....	.....	5	.....	7	.....	.....	.....	.....	Hailing.	G. T. Watson.
Greenwich (Royal Obs'y)	29.96	761.0	30.14	765.5	44.8	7.1	.....	N	.....	.....	4	.....	0	.....	.....	.....	.....	Blue sky.....	The Staff, for G.B.Airy.
Guernsey	30.01	762.2	30.23	767.8	46.5	8.1	.....	NW	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds....	Dr.S.E Hoskins, F.R.S.
Helston	30.39	771.9	30.52	775.2	50	10.0	.....	N	.....	.....	2	3ck	.....	.....	.....	0	0	Fine	M. P. Moyle.
Holyhead	30.23	767.8	30.28	769.1	45	7.2	.....	NNE	.....	.....	2	.....	2	.....	.....	.....	.....	Blue sky ..	John Tilston.
Jersey	29.96	761.0	30.26	768.6	45.1	7.3	.....	N	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds	J. Fisher.
Kew (Observatory)	30.12	765.0	30.15	765.8	45.1	7.3	.....	N	24	10.7	.....	.....	1	.....	.....	.....	.....	Blue sky.....	The Met'g'l Office.
Leicester (Museum)	29.92	760.0	30.18	766.6	45.2	7.3	.....	N	.....	.....	4	.....	.....	.....	.....	.....	.....	Blue sky.....	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	29.88	758.9	29.96	761.0	64.5	18.1	.....	W	.....	.....	2	.....	1k	.....	.....	.....	.....	Blue sky.....	A. King.
Nairn	30.17	766.3	30.26	768.6	39	3.9	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast...	W. D. Penny.
Nassau, Bahamas	.....	.....	30.13	765.3	77.2	25.1	.....	NE	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds....	C. S. Duncombe.
Nottingham (Observatory)	30.00	762.0	30.19	766.8	46.2	7.9	.....	NNW	.....	.....	3	1c	.....	NNW	.....	0	0	Blue sky.....	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.68	753.9	30.22	767.6	43.0	6.1	.....	NNW	.....	.....	2–3	.....	0	.....	.....	.....	.....	Misty.....	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)	.....	.....	30.20	767.1	44	6.7	.....	W	.....	.....	3	.....	0	.....	.....	.....	.....	Squally.....	H. E. Bellamy.
Plymouth	30.18	766.6	30.26	768.6	47.2	8.4	.....	N	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds....	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	30.25	768.3	30.34	770.6	44	6.7	.....	SE	.....	.....	2	.....	5	.....	.....	.....	.....	½ clouded...	Wm. Kennedy.
St. Ann's Head	30.11	764.8	30.28	769.1	46	7.8	.....	N	.....	.....	2	.....	2	.....	.....	.....	.....	.....	John C. Walker.
Sandwick Manse, Orkneys	.....	.....	30.27	768.8	36.2	2.3	.....	N	14	6.3	.....	.....	1	.....	.....	.....	.....	Snow-showers..	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	29.59	751.6	29.66	753.4	61.0	16.1	.....	SSW	.....	.....	3	.....	6	.....	.....	.....	.....	D. clouds...	Serg't W. H. Lyne.
Sheffield	29.94	760.5	30.23	767.8	44.6	6.7	.....	N	.....	.....	2	.....	1	.....	.....	0	0	Blue sky.....	W. F. Cooper.
Silloth Rectory	30.13	765.3	30.16	766.1	44.2	6.8	80	N	.....	.....	2	.....	0	.....	.....	0	0	Blue sky.....	Francis Redford, A. M.
Stonyhurst (Observatory)	.....	.....	30.21	767.3	42.7	5.9	.....	NNW	15	6.7	.....	.....	0	.....	.....	.....	.....	Blue sky.....	Rev. S. J. Perry.
Stratfield, Turgiss	29.96	761.0	30.19	766.8	44.3	6.8	.....	N	.....	.....	2	.....	0	.....	.....	.....	.....	Squally	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	30.22	767.6	30.27	768.8	51	10.6	.....	NE	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds....	W. Newcombe.
Valencia (Observatory)	30.26	768.6	30.29	769.4	50.5	10.3	.....	SE	15	6.7	.....	.....	10	.....	.....	.....	.....	D. clouds,.	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	30.04	763.0	30.08	764.0	78.0	25.6	48	S	15.1	6.8	.....	0	1cs	.....	.....	.....	.....	.....	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.70	652.8	.....	.....	76	24.4	.....	SE	.....	.....	.....	2c	2c	.....	.....	.....	.....	.....	Robert Burnet.
Hobart Town, Tasmania	.....	.....	29.82	757.4	56.0	13.3	72	S	.....	.....	1	.....	10n	.....	.....	0.12	3.0	Raining.....	Francis Abbott, F.R.A.S.
Leith, (Restalrig Perk)	.....	.....	30.29	769.4	42.1	5.6	.....	NW	.....	.....	1	.....	.....	.....	.....	.0	0	Fine.....	Andrew Gibb.
Mauritius (Observatory)	29.91	759.7	30.10	764.5	77.5	25.3	50	NE	14.0	6.3	.....	0	1	.....	.....	0.01	0.3	Fine..	C. Meldrum.
Melbourne (Observatory)	29.88	758.9	29.97	761.2	53.1	11.7	83	SE	3	1.3	.....	.....	9	.....	.....	.....	.....	Showery.....	R. L. J. Ellery.
Monach Lt-house, Hebrides	.....	.....	30.27	768.8	44	6.7	.....	NW	.....	.....	3	5	0	S	.....	0.2	5.	.....	J. Youngclause.
North Unst, Shetland Is	.....	.....	30.24	768.1	.....	.....	.....	N	.....	.....	6	4	7	N	.....	0	0	D. clouds.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Colesberg Bridge, unknown.

BRITISH MARINE SERIES. VESSELS.	Barometer: Corrected for instru'tal error and temperature. Inches.	Barometer: Corrected for instru'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. Alert, Kathleen Bay, Patagonia	.....	.....	29.82‡	757.4‡	45.5	7.5	.....	NNW	.....	.....	3	.....	9	.....	.....	.....	.....	Showery	Capt. J.P. Maclear, R.N.
H. M. Sloop Gannet, S. 11° 47′, W. 77° 13′	.....	.....	29.95‡	760.7‡	63.5	17.5	.....	SSW	.....	.....	1	.....	10	.....	.....	.....	.....	Drizzling.....	Commander E. Bourke, R. N.
H. M. S. Magpie, Shaweishan I'd., China	.....	.....	30.33‡	770.4‡	59.5	15.3	.....	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	Blue sky	Capt. R. H. Napier, R.N.
Brig Alliance, N. 28° 00′, W. 59° 20′	.....	.....	30.25‡	768.3‡	74	23.3	.....	NE	.....	.....	3	.....	4	.....	.....	.....	.....	D. clouds.....	Capt. W. Scott.
Barque Commewyne N. 6° 25′, W. 52° 10′	.....	.....	29.94‡	760.5‡	86.3	30.2	.....	ESE	.....	.....	5	.....	3	.....	.....	.....	.....	D. clouds.....	Capt. Jas. Buchan.
S. S. Ethiopia, N. 46° 50′, W. 48° 00′	.....	.....	29.84	757.9	38	3.3	.....	NNW	.....	.....	5	.....	10	.....	.....	5	NNW	Overcast.....	Capt. Campbell.
S. S. German, S. 26° 25′, E. 11° 10.′	.....	.....	30.12‡	765.0‡	73	22.8	.....	SE	.....	.....	6	.....	8	.....	.....	.....	.....	D. clouds.....	Capt. O. D. Coxwell.
Barque Mertole, N. 53° 10′, W. 5° 30′	.....	.....	30.30‡	769.6‡	50	10.0	.....	NNE	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast.....	Capt. Turner.
Barque Queen of Cambria, N. 12° 55′, E. 74° 10′	.....	.....	29.90‡	759.4‡	85.5	29.7	.....	NW	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky....	Capt. M. Parry.
S. S. Strathleven, Sydney, N. S. W.	.....	.....	29.79‡	756.7‡	69	20.6	.....	E	.....	.....	3	.....	6	.....	.....	.....	.....	D. clouds.....	Capt. C. W. Pearson.
Schooner Traveller, N. 51° 10′, W. 5° 40′	.....	.....	30.31	769.9	48	8.9	.....	N	.....	.....	4	.....	5	.....	.....	3	NNW	D. clouds.....	.....
S. S. Gordon Castle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
German Brig "W. von Freeden"	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. V. Freeden.
Theophane	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Greig.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level.
‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.17	664.7	29.89	759.2	68.0	20.0	88	SE	.....	.....	2	2c	5d	.....	NE	0	0	.....	Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Copenhagen	29.64	752.9	29.69	754.1	38.5	3.6	70	NNE	.....	.....	7	.....	9	.....	.....	.....	.....	.....	.....
Faröe	29.82	757.3	29.84	757.8	38.3	3.5	83	N	.....	.....	4	.....	7	.....	.....	.....	.....	.....	.....
Godthaab (Greenland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stykkisholm (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thorshavn (Faröe)	30.27	768.9	30.31	769.8	33.8	1.0	80	E	.....	.....	2	.....	7	.....	.....	.....	.....	.....	.....
Vestervig	29.77	756.1	29.88	758.9	35.8	2.1	85	NNE	.....	.....	4	.....	10	.....	.....	.....	.....	Rain & snow	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alençon, Normal School	29.66	753.3	30.21	767.3	45.5	7.5	46	N	.....	.....	1	.....	2k	.....	N	0.012	0.3	Slightly cl'dy	Collignon, Director.
Amiens, Normal School	29.92	760.0	30.04	762.9	45.0	7.2	94	W	.....	.....	2	.....	5	.....	E	0	0	Cloudy	Vaillant, Director.
Arras, Engin'r School	29.71	755.3	30.00	762.0	42.1	5.6	66	NNW	.....	.....	6	.....	.....	.....	N	0.059	1.5	.....	Klein, Commandant.
Avignon, Normal School	30.00	761.9	30.08	763.9	46.4	8	48	N	.....	.....	4	.....	0	.....	.....	0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.52	749.9	30.10	764.6	39.9	4.4	48	N	.....	.....	2	.....	2	.....	N	Inap.	Inap.	Slightly cl'dy	C. Saillard, Director
Beauvais, Normal School	29.82	757.5	30.10	764.5	43.7	6.5	59	NW	.....	.....	3	.....	5	.....	NW	0	0	Cloudy	Frere Eugene Marie
Besançon, Normal School	29.21	742.0	30.10	764.4	37.8	3.2	65	E	.....	.....	1	.....	2	.....	S	0.35	9.	Slightly cl'dy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.30	744.3	30.27	768.8	37.0	2.8	75	N	.....	.....	1	.....	5n	W	W	0.126	3.2	Cloudy	Marlot, Diretor.
Bourges, Normal School	29.59	751.5	30.15	765.8	45.0	7.2	74	WNW	.....	.....	3	.....	8k	.....	NNW	0	0	Very cloudy	M. Gence, Director.
Brest, Naval Observatory	30.02	762.6	30.26	768.7	51.1	10.6	74	NNW	.....	.....	1	.....	9	.....	NNW	0	0	Squally	Ch. de Rermaree, Dir.
Caen, Normal School	30.21	767.2	.....	.....	47.8	8.8	61	N	.....	.....	2	.....	2	.....	*NW	0	0	Slightlycl'dy	M. Bietrin, Director.
Carcassonne, N. School	29.81	757.2	30.23	767.9	48.2	9	61	NW	.....	.....	3	.....	5	NW	NW	0.004	0.1	Cloudy	September, Director.
Châlons-sur-Marne, N. Sch'	29.76	755.8	30.08	764.1	42.4	5.8	63	W	.....	.....	1	.....	0	.....	.....	.....	.....	Clear	Jadot, Director.
Chartres, Normal School	29.58	751.4	30.16	766.0	48.6	9.2	79	NW	.....	.....	2	.....	0	.....	.....	0	0	Clear	Vergier, Director.
Clermont-Fd, Puy de D. Obs	28.75	730.3	30.16	766.0	40.1	4.5	65	W	.....	.....	4	.....	10	.....	NW	0.008	0.2	.....	Alluard, Director.
Commercy, Normal School	29.14	740.2	30.04	762.9	36.5	2.5	76	W	.....	.....	3	.....	5k	W	W	0.04	1.	Cloudy	Dr. Coullet, Director.
Commune de Gréasque*	28.80	731.5	29.94	760.5	45.7	7.7	27	NW	.....	.....	6	.....	2	.....	NW	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.33	744.9	30.12	765.0	41.7	5.4	63	WNW	.....	.....	1	.....	5kn	.....	E	0.055	1.40	Cloudy	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.04	763.0	30.26	768.5	51.1	10.6	65	WNW	.....	.....	1	.....	8	.....	NW	0	0	Very cloudy	Mouillot, Director.
Le Mans, Normal School	29.90	759.5	30.22	767.5	46.0	7.8	51	N	.....	.....	1	.....	5	.....	NNW	0.008	0.2	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.22	742.1	30.14	765.5	36.9	2.7	89	WSW	.....	.....	1	.....	2k	SW	SW	0.08	2.	Slightly cl'dy	A. Baudry, Director
Lorient, Naval Observatory	30.15	765.8	30.26	768.6	51.4	10.8	75	NW	.....	.....	2	.....	.....	.....	NW	0	0	.....	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.51	749.5	30.15	765.8	39.6	4.2	65	N	.....	.....	1	.....	5	N	E	0.039	1.0	Cloudy	Ch. André, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	29.68	753.8	29.95	760.7	48.7	9.3	37	NW	.....	.....	6	.....	6	.....	NW	0	0	.....	E. Stephan, Director.
Mirecourt, Normal School	29.00	736.5	30.07	763.8	36.0	2.2	89	NNW	.....	.....	3	.....	kn	NNW	NNW	0.08	2.	.....	Barbier, Director.
Mont-Louis	24.86	631.4	30.17	766.4	38.3	3.5	56	W	20.6	9.2	.....	.....	3	.....	S	0	0	.....	M. Cave.
Nice	29.71	754.6	29.74	755.5	56.8	13.8	48	E	.....	.....	3	.....	5	NW	E	0	0	Cloudy	M. Boissieré, Director.
Nismes, Normal School	29.28	758.9	30.08	764.0	50.7	10.4	46	NW	.....	.....	3	.....	5	.....	NW	0	0	Cloudy	M. Boyer, Director.
Paris, Montsouris Obs'y	29.84	757.8	.....	.....	44.8	7.1	47	NW	.....	.....	3	.....	1	.....	NNW	Inap	Inap.	.....	Marie Davy, Director.
Perpignan	30.02	762.5	30.12	765.1	49.6	9.8	58	NE	22.4	10.0	.....	.....	6	NW	NW	Inap.	Inap.	Raining	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.51	572.6	.....	.....	34.0	1.0	.....	NNW	.....	.....	2	.....	1	.....	NNW	0	0	Clear	Gen'l de Nansouty.
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Privas, Normal School	29.03	737.4	30.14	765.5	40.1	4.5	47	N	.....	.....	1	.....	n	N	N	0	0	.....	M. Tallieu.
Puy de Dome (Summit) Obs	25.09	637.4	.....	.....	26.4	—3.1	96	WNW	.....	.....	3	.....	10	.....	.....	0.228	5.8	Fog & sleet	Alluard, Director.
Rochefort, Naval Obs'y	30.23	767.9	30.26	768.7	51.6	10.9	74	NNW	.....	.....	1	.....	8	NNW	NNW	0	0	¾ covered	Lt E. Decante, Director
Rouen, Normal School	30.05	763.2	30.13	765.4	45.7	7.6	58	NW	.....	.....	4	.....	5	.....	N	0	0	Cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.19	766.8	30.22	767.6	48.9	9.4	57	N	.....	.....	3	.....	5	NW	NW	0.048	1.23	Cloudy	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.95	760.8	30.12	765.0	45.5	7.5	51	NW	.....	.....	3	.....	.....	NNW	NW	0	0	.....	E. Renou, Director.
Tarbes, Normal School	29.15	740.4	30.23	767.7	39.2	4	83	W	.....	.....	3	.....	1	SW	SW	0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.54	750.2	30.26	768.7	47.7	8.7	51	NW	.....	.....	3	.....	2	.....	.....	0	0	Slightly cl'dy	M. Julier Mercadier.
Versailles, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cousin-Marquet.
Villefranche-sur-Saone, N.S	29.62	752.4	30.11	764.9	43.9	6.6	39	N	.....	.....	2	.....	0	.....	.....	0.043	0.11	Clear	Dr. A. Beriguy, Director
SUB-SERIES.	29.42	747.3	30.20	767.1	39.2	4	83	N	.....	.....	3	.....	5	.....	N	0	0	Cloudy	Nicot, Director.
Fort de France, Martinique	29.89	759.3	29.92	760.0	78.8	26	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.98	25.	.....	L'Abbé Marchési
Zi-Ka-Wei (near Shanghai)	30.32	770.0	30.34	770.7	48.0	8.9	90	WNW	4.0	1.8	.....	.....	0	.....	.....	0	0	Clear	Marc Dechevrens.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in gene al terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft., Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centrigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.89	733.9	29.73	755.1	36.5	2.5	91	NW	.....	.....	6	.....	10n	NW	.....	0.433	11.0	Rain & snow	Prof. Dr. Hoh.
Berlin	29.40	746.8	29.58	751.2	41.0	5.0	79	NW	.....	.....	10	.....	7	.....	.....	0.020	5.6	Raining	Prof. Dr. Arndt.
Breslau	28.98	736.0	29.50	749.3	37.9	3.3	86	NW	.....	.....	3	.....	10	.....	.....	0.124	3.16	Raining	Royal University Obs'y.
Carlsruhe	29.49	749.0	29.93	760.1	37.4	3.0	79	SW	.....	.....	4	.....	10	.....	.....	0.264	6.7	Snowing	Albert Senz.
Cassel	29.20	741.7	29.80	757.0	40.5	4.7	74	NNW	.....	.....	5	.....	8	NW	.....	0.092	2.33	Snowing	Dr. H. Möhl.
Emden	.....	.....	29.83	757.6	40.8	4.9	82	NNE	.....	.....	2	.....	5	.....	.....	0.118	3.0	.....	Prof. Dr. Prestel.
Frankfort on the Main	29.49	749.1	29.86	758.4	41.0	5.0	73	NW	.....	.....	2	.....	9	.....	.....	0.217	5.5	.....	Physical Society.
Friedrichshafen	28.52	724.3	30.00	762.0	36.3	2.4	62	W	.....	.....	9	.....	9	W	.....	0	0	.....	Chief Telegrapher Wilhelm.
Hamburg	29.70	754.3	29.77	756.1	41.9	5.5	80	N	.....	.....	3	.....	9kn	.....	.....	0.154	3.9	Fair	Captain F. Hegemann.
Kiel	29.66	753.3	29.67	753.7	32.9	0.5	80	NW	.....	.....	3	.....	10	.....	.....	0.040	1.02	.....	Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.30	744.2	29.36	746.3	35.8	2.1	96	SW	.....	.....	2	.....	10	.....	.....	0.594	15.1	Snowing	Prof. E. Luther.
Köslin	.....	.....	29.46	748.9	38.8	3.8	.....	N	.....	.....	4	.....	2	.....	.....	0.272	6.9	.....	H. Müller.
Leipsic Observatory	29.27	743.5	29.70	754.4	38.1	3.4	78	NW	.....	.....	4	.....	10	NW	.....	0.059	1.5	.....	Prof. Dr. Bruhns, Privy Counselor
Magdeburg	29.49	749.1	29.72	754.8	41.2	5.1	83	NNW	.....	.....	4	.....	8ks	NNW	.....	0.217	5.5	.....	Dr. Assmann.
Memel	29.31	744.4	29.35	745.5	35.6	2.0	96	N	.....	.....	2	.....	10n	.....	.....	.....	.....	.....	Reinbrecht & Ishermann
Munich (München)	27.98	710.7	29.83	757.7	30.7	— 0.7	87	SW	.....	.....	8	.....	10	.....	.....	0.043	1.1	Thunder-storm	Dr. C. Lang.
Neufahrwasser	29.40	746.8	29.42	747.2	43.0	6.1	79	N	.....	.....	4	.....	10	.....	.....	0.165	4.2	.....	A. Lothes.
Neustadt (Palatinate)	29.34	745.2	29.86	758.5	38.3	3.5	82	WSW	.....	.....	6	.....	10	.....	.....	0.181	4.6	.....	Reallehrer Dicknether.
Posen	29.15	740.5	29.45	747.9	39.9	4.4	87	NW	.....	.....	7	.....	10	.....	.....	0.016	0.4	Raining	Prof. Dr. Hagener.
Strassburg (in Alsace)	29.45	748.1	30.02	762.6	38.3	3.5	73	WSW	.....	.....	5	.....	10	W	.....	0.035	0.89	.....	Imp. University Observatory.
Stuttgart	28.89	733.8	29.86	758.5	35.2	1.8	78	W	.....	.....	4	.....	10	.....	.....	0.059	1.5	Rain & snow	Prof. Dr. Schoder.
Weissenburg (Bavaria)	28.28	718.4	29.84	757.8	32.5	0.3	94	W	16	7	.....	.....	10	.....	W	0.161	4.1	Snowing	Reallehrer J. Hopfner.
Wustrow	29.66	753.3	29.68	753.9	40.1	4.5	82	N	.....	.....	5	.....	10k	.....	.....	0.178	4.4	.....	E. Schütz, Director.
German Naval Series.																			
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Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.37	746.1	29.76	755.9	67.1	19.5	.....	SW	.....	.....	2.5	.....	0	.....	.....	.....	.....	Clear	Dr. J. F. J. Schmidt.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	30.02	762.6	30.08	763.9	84.4	29.1	55	NE	26	11.6	.....	.....	0	.....	.....	0	0	Blue sky	
Deesa	29.61	752.0	30.09	764.2	78.7	25.9	28	NNE	6.5	2.9	.....	.....	0	.....	.....	0	0	Blue sky	
Bombay	29.94	760.4	29.98	761.4	78.0	25.6	70	NNW	16	7.2	.....	.....	0	.....	.....	0	0	Blue sky	
Poona (Yerrowda)	28.11	713.9	29.97	761.2	78.3	25.7	28	ENE	11	4.9	.....	.....	0	.....	.....	0	0	Blue sky	
Belgaum	27.41	696.2	29.97	761.1	73.7	23.2	52	ENE	3	1.2	.....	.....	0	.....	.....	0	0	Blue sky	
Lahore	29.31	744.3	30.07	763.8	69.7	20.9	40	Calm	1.7	0.8	.....	.....	0	.....	.....	0	0	Blue sky	
Roorkee	29.13	739.9	30.06	763.5	67.8	19.9	48	Calm	0.7	0.3	.....	.....	.....	.....	.....	0	0	.....	
Agra	29.48	748.8	30.06	763.5	73.7	23.2	55	NW	3.1	1.4	.....	.....	.....	.....	.....	0	0	.....	
Nagpur	28.95	735.4	30.01	762.3	75.2	24.0	43	NE	3.7	1.7	.....	.....	3	E	.....	0	0	D. clouds	
Jubbulpore	28.65	727.7	30.04	763.1	73.0	22.8	56	ENE	2.5	1.1	.....	.....	5	.....	.....	0	0	Blue sky	
Lucknow	29.68	753.8	30.07	763.7	69.4	20.8	63	NNE	0.6	0.3	.....	.....	.....	.....	.....	0	0	Blue sky	
Allahabad	29.74	755.3	30.06	763.5	66.6	19.2	71	Calm	0.6	0.3	.....	.....	0	.....	.....	0	0	Blue sky	
Patna	29.85	758.3	30.04	763.0	77.5	25.3	48	Calm	0.1	0.04	.....	.....	0	.....	.....	0	0	Blue sky	
Hazaribagh	28.90	711.1	30.06	763.6	68.0	20.0	55	NW	3.1	1.4	.....	.....	2	.....	.....	0	0	.....	
Cuttack	29.95	760.6	30.03	762.7	75.0	23.9	71	NE	2	0.9	.....	.....	0	.....	.....	0	0	Blue sky	
Calcutta (Alipore)	29.98	761.5	30.00	762.1	75.2	24.0	56	NNW	3.0	1.3	.....	.....	0	.....	.....	0	0	Blue sky	
Goalpara	29.60	751.8	29.99	761.8	76.8	24.9	65	ENE	2.9	1.3	.....	.....	0	.....	.....	0	0	Blue sky	
Chittagong	29.89	759.1	29.98	761.5	75.7	24.3	74	Calm	2.9	1.3	.....	.....	2	.....	.....	0	0	Misty	
Sibsagar	29.70	754.5	30.05	763.3	71.8	22.1	83	ENE	1.0	0.4	.....	.....	0	.....	.....	0	0	Blue sky	
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Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,026 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	29.28	743.6	29.70	754.4	51.3	10.7	30	NE	1.8	0.8	.....	.....	8	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.21	741.9	29.73	755.2	48.7	9.3	10	NNW	.....	.....	8	.....	0	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.58	751.2	29.69	754.1	41.0	5.0	84	W	1.8	0.8	.....	.....	8	W	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	28.85	732.7	29.78	756.4	48.6	9.2	10	NW	18.1	8.1	.....	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.55	750.6	29.75	755.6	53.2	11.8	16	NE	7.4	3.3	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	27.84	707.2	29.80	757.0	45.0	7.2	4	NNW	.....	.....	8	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.58	751.4	29.63	752.6	47.5	8.6	79	NE	25.5	11.4	.....	.....	8	W	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.41	747.0	29.67	753.7	53.6	12.0	21	N	.....	.....	4	.....	5	W	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.60	751.9	29.69	754.1	55.9	13.3	26	NNW	7.4	3.3	.....	.....	0	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.45	748.1	29.63	752.7	54.3	12.4	77	W	1.8	0.8	.....	.....	10	.....	.....	0.012	0.3	.....	Prof. P. S. Ferrari.
Lecce	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. C. De Giorgi.
Cosenza	28.85	732.7	29.75	755.6	56.5	13.6	77	SSW	2.5	1.1	.....	.....	9	.....	.....	0.091	2.3	.....	Prof. D. Conti.
Cagliari	29.65	753.1	29.85	758.1	60.8	16.0	48	NW	.....	.....	6	.....	6	NW	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.58	751.4	29.84	757.9	62.4	16.9	50	WSW	9.8	4.4	.....	.....	9	WSW	.....	0	0	.....	Prof. G. Ciacciatore.
Syracuse	29.78	756.3	29.85	758.1	63.7	17.6	54	WNW	4.9	2.2	.....	.....	2	WNW	.....	0	0	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.37	746.0	29.90	759.5	51.8	11.0	41	W	0	0	.....	.....	1	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.15	765.8	30.16	766.0	48.4	9.1	83	NNE	5.6	2.5	.....	.....	3s	.....	.....	0.098	2.42	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	30.01	762.2	30.22	767.6	53.7	12.1	70	NE	1.7	0.8	.....	.....	3s	.....	.....	0.035	0.89	.....	S. Takehayashi.
Tokei, (Yeddo) Observatory	30.04	763.0	30.11	764.8	48.6	9.8	82	ENE	3.3	1.5	.....	.....	5ck;n	.....	.....	.....	.....	Light rain	The Staff.
Wakayama	30.09	764.3	30.14	765.5	48.6	9.2	87	ENE	5.3	2.4	.....	.....	2s	.....	.....	0	0	Fair	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	25.07	636.8	30.20	767.0	47.8	8.8	64	SW	.....	.....	1	.....	0	.....	.....	0	0	Fine	Prof. L. Perez.
Leon	24.44	620.8	30.14	765.6	57.9	14.4	88	N	.....	.....	3	0	0	.....	.....	0	0	.....	Prof. M. Leal.
Mazatlan	29.73	755.2	29.99	761.8	66.0	18.9	89	NE	.....	.....	3	1c	0	.....	.....	0	0	Clear	I. Guerrero, C. E.
Mexico, Central Observatory	23.09	586.5	30.15	765.8	51.3	10.7	74	Calm	0	0	.....	0	0	.....	.....	0	0	Very fine	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	50.2	10.1	75	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.52	597.5	30.46	773.7	45.0	7.2	38	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.21	614.9	30.15	765.7	60.1	15.6	40	E	.....	.....	1	.....	10	.....	E	0	0	Covered	G. Barroeta, M. D.
Tlacotalpam	29.95	760.6	29.96	760.9	75.4	24.1	94	Calm	.....	.....	0	1	0	.....	.....	0	0	Clear	Prof. M. M. Chazaro.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell
Zacatecas	22.55	572.8	30.19	766.8	53.8	12.1	67	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	A. Nuñez.

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column; the instrumental correction —0.88 mm., or —0.035 inch, has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.89	759.2	29.89	759.2	43.9	6.6	.....	NW	.....	.....	4	.....	.....	.....	.....	0.413	10.5	.....	
Groningen	29.81	757.1	29.86	758.5	43.7	6.5	.....	NNE	.....	.....	.....	.....	.....	.....	.....	0.339	8.6	.....	
Helder	29.87	758.8	29.87	758.8	43.6	6.1	.....	NNW	.....	.....	4	.....	.....	.....	.....	0.295	7.5	.....	
Hellevoetsluis	29.85	758.3	29.85	758.3	45.3	7.4	90	N	.....	.....	2	.....	.....	.....	.....	0.276	7.0	.....	
Utrecht	29.78	756.5	29.83	757.7	46.6	8.1	67	W	.....	.....	2	.....	5	.....	.....	0.031	0.8	Cloudy	H. v. d. Brink.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.98	761.4	30.03	762.8	34.5	1.4	74	N	2.9	1.3	.....	.....	0	.....	.....	0	0	.....	
Brönø	29.98	761.4	30.02	762.4	25.2	— 3.8	79	Calm	0	0	.....	.....	1	.....	.....	0	0	.....	
Christiana	29.78	756.4	29.93	760.3	32.4	0.2	67	NNE	20	9	.....	.....	0	.....	.....	0	0	.....	
Tromsö	29.94	760.4	29.98	761.5	21.2	— 6.0	71	SSW	20	9	.....	.....	9	.....	.....	0.205	5.2	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	29.76	756.0	29.95	760.8	68.7	20.4	76	SW	11.2	5.0	.....	.....	6	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.13	739.8	30.14	765.5	67.6	19.8	58	ENE	2.5	1.1	.....	.....	0	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	29.97	761.1	30.05	763.3	71.4	21.9	68	SSE	3.4	1.4	.....	.....	8	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.77	756.1	30.12	765.1	65.7	18.7	62	NE	6.3	2.8	.....	.....	5	SSE	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	29.94	760.5	30.01	762.3	72.7	22.6	74	SW	13.0	5.8	.....	.....	4	.....	.....	0.047	1.2	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.																Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa, Porto Praya, Cape Verd I'ds.	.....	.....	.....	.....	80.6	27.0	.....	NE	.....	.....	5	.....	0	.....	.....	2	NE	Blue sky.....	A. A. A. Loureiro.
Sà da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Com'd't.
Sado, Capt. J. A de Brito Capello, St. Paul de Loando	.....	.....	29.93	760.2	80.6	27.0	.....	WSW	.....	.....	4	.....	3	.....	W	.....	.....	D. clouds....	H. Mecudoneo, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	.....	.....	30.21	767.1	68.0	20.0	.....	NE	.....	.....	2	.....	0	.....	.....	0	.....	Blue sky	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between upper and lower clouds, and no humidity is given; duration of rain-fall in hours. The Sà da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	29.98	761.4	30.00	761.9	10.4	—12.0	96	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Astrakhan	30.18	766.6	30.10	764.5	41.0	5.1	66	E	2	1	.....	.....	10ks	.....	.....	.....	.....	.....	Capt. Wisganow.
Barnaul	29.59	751.5	30.11	764.7	32.0	0.1	100	SSW	9	4	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	29.28	743.8	29.53	750.1	33.3	0.7	92	E	9	4	.....	.....	10n	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	29.19	741.4	30.23	767.9	15.6	— 9.1	81	W	9	4	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	29.92	760.0	30.21	767.3	21.7	— 5.7	69	SSE	7	3	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	28.84	732.4	29.48	748.7	38.7	3.7	87	ESE	2	1	.....	.....	10ksn	.....	.....	.....	.....	.....	Physical Cabinet.
Krotkowo*	29.74	755.4	30.25	768.3	23.0	— 5.0	65	S	0	0	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	29.60	751.9	29.81	757.2	44.8	7.1	88	SE	13	6	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Moscow	29.22	742.2	29.79	756.6	31.5	— 0.3	100	SE	7.8	3.5	.....	.....	10s	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	28.11	714.1	30.63	777.9	10.4	—12.0	68	Calm	0	0	.....	.....	2	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Nikolaiev	29.56	750.8	29.63	752.6	50.9	10.5	75	SSW	13	6	.....	8ck	.....	.....	.....	.....	.....	Light clouds	Kurdakof.
Nukuss	29.74	755.5	29.98	761.5	51.8	11.0	63	Calm	0	0	.....	.....	8ks	.....	.....	.....	.....	.....	.....
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	30.48	774.1	30.62	777.7	38.3	3.5	54	NW	4	2	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	29.64	752.8	29.65	753.2	27.3	— 2.6	92	ESE	11	5	.....	.....	10n	.....	.....	.....	.....	.....	Central Physical Obs.
Tashkend	28.52	724.5	30.13	765.2	47.7	8.7	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.61	726.7	30.04	763.0	51.8	11.0	62	Calm	0	0	.....	.....	5cs	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	29.00	736.5	29.43	747.4	39.6	4.2	90	SW	7	3	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.01	736.9	29.43	747.6	40.1	4.5	92	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Heavy clouds...	Astronomical Obs.
Yenisiesk	29.62	752.4	29.92	759.9	29.5	— 1.4	85	SW	9	4	.....	.....	10	.....	.....	.....	.....	.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	29.97	761.2	30.08	763.9	56.5	13.6	58	N	0.9	0.42	.....	.....	3	.....	.....	0	0	.....	Antonio Rave, Director
Bilbao, Met. Obs'y	30.23	767.7	30.28	769.2	53.6	12.0	89	N	0.8	0.34	.....	.....	10	.....	.....	0.142	3.6	Raining...	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.24	691.8	.....	.....	48.2	9.0	72	E	6.0	2.69	.....	0	1	.....	.....	0	0	Almost clear	Domingo Martin y Perez.
Madrid, Royal Observatory	27.91	709.0	30.14	765.6	60.8	16.0	65	SW	0	0	.....	0	0	.....	.....	0	0	Clear.....	The Staff.
Murcia, Met. Obs'y	29.91	759.6	30.06	763.4	73.9	23.3	50	SW	1.9	0.83	.....	0	2	.....	.....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.21	741.8	30.10	764.4	62.6	17.0	68	NE	0	0	.....	.....	1	.....	.....	0	0	Almost clear	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.02	762.4	30.06	764.1	74.3	23.5	86	E	1.3	0.6	.....	c	1k	WNW	E	0	0	Clear...	Benito Vines, S. J.
Manilla, Phillippine Islands	29.82	757.3	29.87	758.7	78.4	25.4	.....	N	0	0	.....	.....	1s	.....	E	0.059	1.5	Fair	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.02	762.4	30.11	764.9	71.6	22.0	71	SSW	3.6	1.6	.....	0	1	.....	SW	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.93	760.2	30.02	762.5	76.3	24.6	87	E	21.5	9.62	.....	7kn	5kn	E	E	0.098	2.50	Cloudy.....	Enrique Gadea, Chief Eng'r

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.04	763.0	30.08	764.0	— 2.6	—19.2	.....	N	.....	.....	4	.....	0	.....	.....	0	0	.....	
Umea	29.91	759.7	29.96	761.0	18.7	— 7.4	95	NE	.....	.....	6	.....	10	.....	.....	0	0	.....	
Hernosand	29.87	758.8	29.93	760.1	23.4	— 4.8	81	N	.....	.....	6	.....	8	.....	.....	0	0	.....	
Stockholm	29.52	749.7	29.69	754.2	31.6	— 0.2	85	N	.....	.....	6	.....	9	.....	.....	0.197	5.0	Light snow.	
Wisby	29.45	747.9	29.50	749.4	38.5	3.6	83	ENE	.....	.....	7	.....	10	.....	.....	0.181	4.6	Snow & rain	
Sub-Series.																			
Upsala	29.64	752.8	29.72	755.0	30.0	— 1.1	84	N	18.1	8.1	.....	.....	10	.....	NNE	0.002	0.06	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director o the Observatory at Geneva.

Geneva	28.68	728.4	30.15	765.9	37.6	3.1	53	W	.....	.....	1	.....	7	.....	.....	0.138	3.5	Covered	The Observatory.
Zurich	28.38	720.8	30.09	764.2	33.4	0.8	69	W	.....	.....	4	.....	8	.....	.....	0.008	0.2	Cloudy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, +2.1 mm.; Thermometer, —1.1 Cent.; Relative Humidity, —24 per cent.
NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.71	754.7	61.9	16.6	66	SSW	22	10.0	.....	.....	8	.....	WSW	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.72	754.8	60.1	15.6	.....	S	.....	.....	1	.....	10	.....	.....	0.20	5.	Covered	A. Bertrand.
Sub-series.																			
Beirut, (Syria) Lee Obsy.	29.92	760.0	30.04	763.0	68.5	20.3	66	SW	.....	.....	2	.....	9n	.....	SW	1.08	27.4	D. clouds	Prof. C. V. A. van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B.	30.05	763.3	30.11	764.8	30.6	— 0.8	95	N	8	3.6	.....	8ck	2ks	NW	.....	0.22	5.6	Fair	G. A. Blair.
Charlottetown, P. E. Island	29.98	761.5	30.02	762.5	35.1	1.7	79	NE	9	4.0	.....	.....	9s	.....	N	0.01	0.3	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.79	756.7	29.99	761.7	34.6	1.4	85	E	.....	.....	4	.....	10s	.....	.....	0.34	8.6	Cloudy	James Smith, M. A.
Dalhousie, N. B.	.....	.....	.....	.....	30.5	— 0.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.06	1.5	.....	H. A. Johnson.
Father Point, Quebec	30.13	765.3	30.15	765.8	29.6	— 1.7	83	NE	13	5.8	.....	.....	10n	.....	.....	0.20	5.1	Cloudy	J. McWilliams.
Fredericton, N. B.	30.01	762.2	30.08	764.0	35.6	2.0	84	NE	14	6.3	.....	.....	10s	.....	NE	0	0	Overcast	Prof. Harrison.
Fort Garry, Manitoba	28.88	733.5	29.74	755.4	25.5	— 3.6	94	W	14	6.3	.....	.....	10n	.....	.....	0	0	Cloudy	James Stewart.
Granton, Ontario	28.84	732.5	29.95	760.7	44	6.7	.....	S	.....	.....	1	.....	10n	.....	.....	1.17	29.7	Cloudy	James Grant.
Halifax, N. S.	29.83	757.7	29.97	761.2	37.0	2.8	90	NE	11	4.9	.....	.....	8n	.....	.....	0.19	4.8	Cloudy	A. Allison, M. A.
Hamilton, Ontario	29.60	751.8	29.98	761.5	44.1	6.7	92	NE	.....	.....	1	.....	10cs	.....	NE	1.06	26.9	Cloudy	Geo. Dickson, M. A.
Heart's Content, N. F.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.69	754.1	30.04	763.0	36.5	2.5	87	NE	13	5.8	.....	.....	10s	.....	.....	0.83	21.1	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S.	29.96	761.0	30.00	762.0	25.7	— 3.5	68	NE	10	4.5	.....	8k	0	N	.....	0	0	Cloudy	C. H. Rigby.
Montreal, Quebec	29.86	758.4	30.07	763.8	33.8	1.0	81	NE	20	8.9	.....	9k	1ke	NE	.....	0.01	0.3	Cloudy	C. H. McLeod, C. E.
Moose Factory, Ontario	29.95	760.7	29.98	761.5	29.0	— 1.7	93	S	.....	.....	3	.....	10	.....	.....	0	0	Cloudy	J. R. Nason.
Norwood	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. R. Mosley.
Peterboro, Ontario	29.22	742.2	29.99	761.7	38.5	3.6	95	NE	.....	.....	1	.....	10n	.....	.....	1.05	26.7	Overcast	J. F. Jeffers, B. A.
Port Dover, Ontario	29.28	743.7	29.98	761.5	46.5	8.1	92	Calm	0	0	.....	10k	0	.....	.....	1.38	35.1	Fair	H. Morgan.
Port Hastings, N. S.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.31	744.5	29.97	761.2	44.6	7.0	97	W	1	0.4	.....	.....	10n	.....	SW	0.86	21.8	Cloudy	M. Payne.
Quebec, Quebec	29.79	756.7	30.13	765.3	32	0.0	90	NE	3	1.3	.....	.....	10s	.....	.....	0.05	1.3	Cloudy	Capt. Ashe, R. N.
Rockliffe, Ontario	29.58	751.3	30.07	763.8	36.0	2.2	80	E	6	2.7	.....	Haze	10s	.....	SE	0.20	5.1	Cloudy	W. H. McIntyre.
St. Andrews, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Gove.
St. John, N. B.	29.84	757.9	30.00	762.0	36	2.2	95	NE	13	5.8	.....	.....	10s	.....	.....	0	0	Overcast	G. Murdock, C. E.
Saugeen, Ontario	29.20	741.7	29.93	760.2	41	5.0	95	SW	6	2.7	.....	.....	Fog	.....	.....	0.82	20.8	Foggy	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	29.65	753.1	29.94	760.5	42.4	5.8	98	SW	4	1.8	.....	.....	Fog	.....	.....	1.146	29.11	Foggy	C. J. MacGregor, M. A.
Sydney, C. B.	29.96	761.0	30.01	762.2	34.8	1.6	74	NE	9	4.0	.....	.....	10n	.....	.....	0	0	Overcast	T. C. Hill, C. E.
Toronto, Ontario	29.61	752.1	30.00	762.0	43.0	6.1	96	E	13	5.8	.....	.....	10n	.....	.....	1.18	30.0	Cloudy	Magnetic Observatory.
Windsor, N. S.	29.86	758.4	29.95	760.7	35.5	1.9	95	E	9	4.0	.....	.....	10n	.....	.....	0.13	3.3	Overcast	Prof. John E. Oram.
Woodstock, Ontario	28.89	733.8	29.96	761.0	45.4	7.4	93	S	8	3.6	.....	.....	10ks	.....	.....	0	0	Cloudy	Prof. J. Montgomery.
Yarmouth, N. S.	29.76	755.9	29.82	757.4	39.4	4.1	95	E	.....	.....	2	.....	10n	.....	.....	0.18	4.6	Raining	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.73	755.1	29.99	761.7	32.0	0.0	100	N	.....	.....	.....	10k	10s	.....	.....	Inap.	Inap.	Cloudy	John Delany.
St. Pierre, N. F.	.....	.....	29.85	758.2	35.6	2	.....	E	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	l'Hopital Maritime.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10, except Yarmouth and St. Johns on scale 0 to 20. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.72	754.9	29.95	760.7	42	5.6	91	N	10	4.5	.....	.....	10s	.....	N	0.51	13.0	Cloudy	
Alpena, Michigan	29.26	743.2	29.90	759.4	43	6.1	92	SE	7	3.1	.....	.....	10s	.....	S	0.60	15.2	Cloudy	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	29.60	736.6	30.12	765.0	66	18.9	94	S	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy	
Atlantic City, New Jersey	29.99	761.7	30.00	762.0	60	15.6	73	W	8	3.6	.....	Haze	0	Calm	.....	Inap.	Inap.	Clear	
Augusta, Georgia	30.00	762.0	30.20	767.1	63	17.2	89	SW	1	0.4	.....	5ck	2s	SW	Calm	0	0	Fair	
Baltimore, Maryland	29.99	761.7	30.04	763.0	62	16.7	72	NW	6	2.7	.....	0	Haze	.....	Calm	0	0	Clear	
Barnegat, New Jersey	29.95	760.7	29.97	761.2	60	15.6	65	NW	11	4.9	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Bismarck, Dakota	28.01	711.4	29.86	758.4	25	— 3.9	87	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Boerne, Texas	28.51	724.1	29.78	756.4	68	20.0	100	S	6	2.7	.....	.....	10s	.....	S	0	0	Cloudy	
Boise City, Idaho	27.14	689.3	30.11	764 8	30	— 1.1	84	SE	2	0.9	.....	0	0	.....	.....	0.08	2.0	Clear	
Boston, Massachusetts	29.78	756.4	29.94	760.5	41	5.0	91	N	17	7.6	.....	.....	10s	.....	N	0.41	10.4	Cloudy	
Brackettville, Texas	28.78	731.0	29 80	756.9	70	21.1	100	E	5	2.2	.....	.....	10n	.....	Calm	1.02	25.9	Light rain	
Breckenridge, Minnesota	28.70	731.3	29.81	757.2	31	— 0.6	89	NW	11	4.9	.....	2ck	0	Calm	.....	0.06	1.5	Fair	
Brownsville, Texas	29.90	759.4	29.94	760.5	77	25.0	91	S	4	1.8	.....	0	8s	.....	S	0	0	Fair	
Buffalo, New York	29.25	742.9	29.95	760.7	49	9.4	78	W	7	3.1	.....	0	5s	.....	SW	0.99	25.1	Fair	
Burkes, Arizona	.....	.....	.....	.....	46	7.8	84	Calm	.....	.....	0	0	8s	.....	Calm	0	0	Cloudy	
Burlington, Vermont	29.75	755.6	30.05	763.3	35	1.7	90	N	9	4.0	.....	.....	10s	.....	N	1.33	33.8	Cloudy.	
Cairo, Illinois	29.61	752.1	29.99	761.7	67	19.4	84	SW	3	1.3	.....	0	5s	.....	SW	0	0	Fair	
Campo, California	27.45	697.2	30.02	762.5	43	6.1	92	E	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Cape Hatteras, N. Carolina	30.12	765.0	30.13	765.3	68	20.0	90	W	16	7.2	.....	5cs	0	W	.....	0	0	Fair	
Cape Henry, Virginia	30.01	762.2	30.02	762.5	67	19.4	74	SW	15	6.7	.....	0	Haze	.....	Calm	0	0	Clear	
Cape Lookout, N. Carolina	30.14	765.5	30.15	765.8	68	20.0	90	W	16	7.2	.....	5cs	0	W	.....	0	0	Fair	
Cape May, New Jersey	29.98	761.5	30.01	762.2	61	16.1	76	SW	17	7.6	.....	0	Haze	.....	.....	0	0	Cloudy	
Castroville, Texas	29.16	740 7	29.83	757.7	74	23.3	81	SE	4	1.8	.....	.....	10s	.....	SE	0	0	Threatening	
Cedar Keys, Florida	30.1	766.6	.....	.....	.....	.....	.....	E	.....	.....	1	0	8	.....	.....	0	0	Clear	
Charleston, South Carolina	30.14	765.5	30.19	766.8	67	19.4	89	SW	4	1.8	.....	2c	0	NE	.....	0	0	Clear	
Charlotte, North Carolina	29.27	743.4	30.07	763.8	66	18.9	79	SW	4	1.8	.....	10ok	Haze	W	Calm	0	0	Cloudy	
Chattanooga, Tennessee	29.32	744.7	30.10	764.5	66	18.9	95	Calm	0	0	.....	5k	2ks	SW	S	Inap.	Inap.	Fair	
Cheyenne, Wyoming	23.95	607.6	29.81	758.4	28	— 2.2	77	W	1	0.4	.....	.....	10n	.....	Calm	0.03	0.8	Light snow	
Chicago, Illinois	29.27	743.4	29.86	758.4	50	10.0	79	SW	3	1.3	.....	.....	10s	.....	SW	0.31	7.9	Cloudy	
Cincinnati, Ohio	29.35	745.5	29.98	761.5	65	18.3	89	SW	5	2.2	.....	4k	0	SW	.....	Inap.	Inap.	Fair	
Cleveland, Ohio	29.27	743.4	29.99	761.7	50	10.0	79	SE	7	3.1	.....	0	Fog	.....	Calm	0.74	18.8	Clear	
Coleman City, Texas	28.17	715.5	29.82	757.4	56	13.3	81	S	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Columbus, Ohio	29.14	740.1	29.96	761.0	57	13.9	81	S	2	0.9	.....	.....	10ks	.....	S	0	0	Cloudy	
Concho, Texas	28.06	712.7	29.72	754.9	53	11.7	79	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Corsicana, Texas	29.47	748.5	29.93	760.2	68	20.0	95	S	3	1.3	.....	0	8ks	.....	S	0	0	Cloudy	
Davenport, Iowa	29.17	740.9	29.80	756.9	48	8.9	85	SE	4	1.8	.....	0	0	.....	.....	0.03	0.8	Clear	
Deadwood, Dakota	25.92	640.6	.....	.....	22	— 5.6	72	Calm	0	0	.....	0	0	.....	.....	0.08	2.0	Clear	
Decatur, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Denison, Texas	29.10	739.1	29.87	758.7	64	17.8	94	S	10	4.5	.....	.....	10s	.....	SW	0	0	Cloudy	
Denver, Colorado	24.64	625.8	29.86	758.4	28	— 2.2	54	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	28.91	734.3	29.78	756.4	50	10.0	93	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Detroit, Michigan	29.28	743.7	29.94	760.5	49	9.4	93	SW	3	1.3	.....	.....	10s	.....	SW	0.45	11.4	Cloudy	
Dodge City, Kansas	27.52	663.9	29.67	753.6	32	0.0	74	NW	10	4.5	.....	2c	0	W	.....	0	0	Fair	
Dubuque, Iowa	29.14	740.1	29.83	757.7	47	8.3	55	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Duluth, Minnesota	29.05	737.9	29.72	754.9	40	4.4	91	Calm	0	0	.....	.....	10n	.....	Calm	0.05	1.3	Light rain	
Eagle Pass, Texas	29.17	740.9	29.87	758.7	72	22.2	85	E	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Eastport, Maine	29.88	758.9	29.95	760.7	39	3.9	82	NE	29	13 0	.....	.....	10s	.....	NE	0.18	4.6	Cloudy	
El Paso, Texas	.....	.....	.....	.....	76	24.4	95	SE	.....	.....	4	.....	10s	.....	S	0	0	Cloudy	
Erie, Pennsylvania	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Escanaba, Michigan	29.25	742.9	29.96	761.0	50	10.0	86	SW	5	2.2	.....	0	1s	.....	Calm	0.96	24.4	Clear	
Florence, Arizona	29.16	740.7	29.81	757.2	43	6.1	92	NE	1	0.4	.....	.....	Fog	.....	Calm	0.28	7.1	Foggy	
Fort Assiniboine, Montana	28.47	723.1	30.07	763.8	43	6.1	75	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort Buford, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Custer, Montana	27.44	697.0	29.64	752.8	23	— 5.0	86	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	26.66	677.2	.....	.....	25	— 3.9	75	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	25.16	638.8	30.11	764.8	38	3.3	45	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort Grant, Arizona	29.32	744.7	29.84	757.9	61	16.1	82	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	25.16	639.0	29.96	761.0	43	6.1	16	S	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	28.63	727.2	29.88	758.9	59	15.0	70	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	27.28	692.9	.....	.....	23	— 5.0	38	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	27.67	702.8	29.53	750.0	66	18.9	89	S	4	1.8	.....	.....	10s	.....	S	0	0	Cloudy	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.66	728.0	29.77	756.1	45	7.2	68	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	27.98	710.7	.....	.....	18	— 7.8	84	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort Verde, Arizona	.....	.....	.....	.....	42	5.6	74	W	.....	.....	1	5k	0	W	.....	0	0	Fair	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.12	714.2	29.63	752.6	65	18.3	73	S	6	2.7	.....	0	5ks	.....	Calm	0	0	Fair	
Galveston, Texas	29.99	761.7	30.03	762.7	73	22.8	95	S	4	1.8	.....	1k	0	Calm	.....	0	0	Clear	
Graham, Texas	28.70	731.5	29.84	757.7	55	12.8	87	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.20	741 7	29.85	758.2	46	7.8	84	SE	6	2.7	.....	10cs	0	Calm	.....	0.63	16.0	Cloudy	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	28.92	734.6	29.83	757.7	51	10.6	72	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Indianapolis, Indiana	29.14	740.1	29.90	759.4	54	12.2	74	S	4	1.8	.....	0	0	.....	.....	0.39	9.9	Clear	
Indianola, Texas	29.98	761.5	30.00	762 0	72	22.2	95	S	6	2.7	.....	0	1s	.....	S	0.01	0.3	Clear	
Jacksboro, Texas	28.78	731.0	29.87	758.7	65	18.3	68	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.19	766.8	30.22	767.6	66	18 9	84	Calm	0	0	.....	2cs	0	.....	.....	0	0	Clear	
Keokuk, Iowa	29.12	739.6	29.72	754.9	47	8.3	92	SE	6	2.7	.....	0	Fog	.....	Calm	0.01	0.3	Clear	
Key West, Florida	30.05	764.0	30.12	765.0	75	23.9	86	E	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Kittyhawk, North Carolina	30.08	764.0	30.10	764.5	65	18.3	89	SW	16	7.2	.....	0	Haze	.....	Calm	0	0	Clear	
Knoxville, Tennessee	29.14	740.1	30.12	765.0	64.5	18.1	92	SW	1	0.4	.....	Haze	2ks	Calm	W	Inap	Inap	Cloudy	
La Crosse, Wisconsin	29.03	737.3	29.76	755.9	49	9.4	85	SW	1	0.4	.....	.....	10s	.....	Calm	0.35	8.9	Cloudy	
La Mesilla, New Mexico	26.05	661.7	30.2	767.1	30	— 1.1	78	Calm	0	0	.....	0	1s	.....	Calm	0	0	Clear	
Laredo, Texas	29.64	751.8	29.93	760.2	72	22.2	67	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	28.91	734.3	29.74	755.4	47	8.3	92	S	1	0.4	.....	2cs	0	.....	.....	0	0	Clear	
Little Rock, Arkansas	29.65	753.1	30.0	762 0	67	19.4	95	S	2	0.9	.....	0	1s	.....	Calm	0	0	Clear	
Los Angeles, California	29.75	755.6	30.10	764.5	45.0	7.2	80	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.14	747.8	29.99	761.7	65	18.3	89	S	6	2.7	.....	0	8s	.....	SW	0	0	Clearing	
Lynchburg, Virginia	29.39	746.5	30.06	763.5	64	17.8	78	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Madison, Wisconsin	28.80	731.5	29.77	756.1	45	7.2	92	S	8	3.6	.....	.....	Fog	.....	.....	0	0	Dense fog	
Marquette, Michigan	29.68	738.6	29.78	756.4	45	7.2	84	SE	4	1.8	.....	.....	10s	.....	SE	0.04	1.0	Cloudy	
Mason, Texas	28.31	719.1	30.04	763.0	62	16.7	90	Calm	0	0	.....	.....	10s	.....	S	0	0	Cloudy	
Memphis, Tennessee	29.68	753.9	30.02	762.5	68	20.0	94	S	4	1.8	.....	.....	10s	.....	S	0.03	0.8	Cloudy	
Milwaukee, Wisconsin	29.29	743.9	29.81	757.2	49	9.4	93	S	4	1.8	.....	.....	Fog	.....	.....	0.17	4.3	Foggy	
Mobile, Alabama	30.10	764.5	30.15	765.8	70.5	21.4	97	S	1	0.4	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Montgomery, Alabama	29.94	760.5	30.17	766.3	70	21.1	90	S	4	1.8	.....	2c	5ks	SW	SW	Inap	Inap	Rain	

UNITED STATES SERIES—CONTINUED.

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Morgantown, West Virginia	29.06	738.1	30.05	763.3	53	11.7	86	Calm	0	0	.....	5k	Fog	SW	Calm	0.13	3.3	Fair	
Mt. Washington, N. H.	23.64	600.4	30.00	762.0	30	— 1.1	100	NW	15	6.7	.....	....	Fog	.....	NW	0.22	5.6	Foggy	
Nashville, Tennessee	29.54	750.3	30.06	763.5	68	20.0	84	Calm	0	0	.....	0	5ks	.....	S	0.08	2.0	Fair	
New Haven, Connecticut	29.78	756.4	29.90	759.4	58	14.4	70	N	4	1.8	.....	0	2s	.....	Calm	0.08	2.0	Clear	
New London, Connecticut	29.85	758.2	29.90	759.4	53	11.7	86	N	12	5.4	.....	.....	9ks	.....	N	0.11	2.8	Cloudy	
New Orleans, Louisiana	30.06	763.5	30.11	764.8	74	23.3	90	SE	3	1.3	.....	.....	Fog	.....	Calm	Inap	Inap.	Dense fog	
Newport, Rhode Island	29.87	758.7	29.92	760.0	46	7.8	84	N	17	7.6	.....	.....	10s	.....	N	0.18	4.6	Cloudy	
New York, New York	29.75	755.6	29.92	760.0	60	15.6	65	NW	13	5.8	.....	2k	Haze	Calm	Calm	0.01	0.3	Fair	
Norfolk, Virginia	30.00	762.0	30.05	763.3	67	19.4	64	SW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
North Platte, Nebraska	26.98	685.3	29.59	751.6	37	2.8	81	N	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Olympia, Washington Ter.	29.65	753.1	29.69	754.1	41.0	5.0	87	S	8	3.6	.....	.....	10n	.....	Calm	0.53	13.5	Light rain.	
Omaha, Nebraska	28.68	728.5	29.78	756.4	43	6.1	83	NW	13	5.8	.....	5s	0	NW	.....	0	0	Fair	
Oswego, New York	29.68	753.9	30.00	762.0	42	5.6	83	NE	10	4.5	.....	.....	10s	.....	NE	0.76	19.3	Cloudy	
Pembina, Dakota	28.88	733.5	29.74	755.4	25	— 3.9	100	W	12	5.4	.....	0	5s	.....	Calm	0.01	0.3	Fair	
Pensacola, Florida	30.15	765.8	30.18	766.6	72	22.2	90	S	.....	.....	1	7k	2s	S	S	0	0	Clearing	
Philadelphia, Pennsylvania	29.94	760.5	29.99	761.7	60	15.6	60	W	6	2.7	.....	0	Fog	.....	Calm	0.01	0.3	Clear	
Phœnix, Arizona	28.82	732.0	30.66	778.7	47	8.3	85	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.44	443.0	29.65	753.1	2	—16.7	100	SW	22	9.8	.....	.....	Fog	.....	.....	0	0	Foggy	
Pilot Point, Texas	29.19	741.4	29.99	761.7	67	19.4	90	S	12	5.4	.....	5k	2s	SE	S	0	0	Fair	
Pioche, Nevada	.....	.....	.....	.....	25	— 3.9	75	SW	4	1.8	.....	0	0	.....	.....	Inap	Inap.	Clear	
Pittsburg, Pennsylvania	29.22	742.2	30.03	762.7	51	10.6	86	Calm	0	0	.....	.....	10s	.....	NW	0.54	13.7	Cloudy	
Port Huron, Michigan	29.28	743.7	29.94	760.5	47	8.3	85	SE	6	2.7	.....	.....	10s	.....	Calm	0.66	16.8	Cloudy	
Portland, Maine	29.88	758.9	29.93	760.2	39	3.9	82	N	20	8.9	.....	2k	5s	N	N	0 64	16.3	Clearing	
Portland, Oregon	29.76	755.9	29.84	757.9	40.3	4.6	84	S	3	1.3	.....	.....	10n	.....	.....	0.10	2.5	Light rain	
Portsmouth, N. Hampshire	.....	.....	.....	.....	67	19.4	89	SW	20	8.9	.....	5c	0	Calm	.....	0	0	Fair	
Prescott, Arizona	24.68	626.9	30.04	763.0	43	6.1	59	S	.....	.....	1	0	5s	.....	SW	0	0	Fair	
Punta Rassa, Florida	30.15	765.8	30.16	766.1	70	21.1	85	NE	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Red Bluff, California	29.79	756.7	30.16	766.1	46	7.8	88	S	13	5.8	.....	.....	10s	.....	S	0.07	1.8	Cloudy	
Rio Grande City, Texas	29.75	755.6	29.96	761.0	74	23.3	90	SE	5	2.2	.....	.....	10s	.....	SE	0	0	Cloudy	
Rochester, New York	29.38	746.2	30.00	762.0	45	7.2	92	SE	3	1.3	.....	.....	10n	.....	Calm	0.78	19.8	Light rain	
Roseburg, Oregon	29.39	746.5	29.97	761.2	42.5	5.8	71	SE	6	2.7	.....	.....	10n	.....	Calm	0.07	1.8	Light rain	
Sacramento, California	30.09	764.3	30.18	766.6	42	5.6	83	SE	4	1.8	.....	.....	10s	.....	Calm	0.23	5.8	Cloudy	
St. Louis, Missouri	29.30	744.2	29.86	758.4	55	12.8	62	S	12	5.4	.....	0	0	.....	.....	0	0	Clear	
St. Paul, Minnesota	28.90	734.0	29.72	754.9	45	7.2	84	SW	5	2.2	.....	.....	10s	.....	Calm	0.16	4.1	Cloudy	
Salt Lake City, Utah	25.58	649.7	29.91	759.7	28	— 2.2	54	Calm	0	0	.....	0	0	.....	.....	0.07	1.8	Clear	
San Antonio, Texas	29.26	743.2	29.82	757.4	75	23.9	77	SE	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
San Diego, California	30.07	763.8	30.14	765.5	52	11.1	86	W	1	0.4	.....	0	2ks	.....	W	0	0	Fair	
Sandusky, Ohio	29.31	744.5	29.97	761.2	52	11.1	73	S	11	4.9	.....	0	0	.....	.....	0.90	22.9	Clear	
Sandy Hook, New Jersey	29.92	760.0	29.95	760.7	59	15.0	70	W	14	6.3	.....	5k	0	N	.....	0	0	Fair	
San Francisco, California	30.11	764.8	30.18	766.6	49	9.4	85	SW	3	1.3	.....	0	0	.....	.....	0.16	4.1	Clear	
Santa Fé, New Mexico	23.19	589.2	29.73	755.1	29	— 1.7	56	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.13	765.3	30.22	767.6	68	20.0	90	SW	6	2.7	.....	0	Sm'e	.....	Calm	0	0	Clear	
Shreveport, Louisiana	29.79	756.7	30.00	762.0	71	21.7	90	S	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.17	766.3	30.20	767.1	66	18.9	95	SW	7	3.1	.....	1c	Haze	W	.....	0	0	Clear	
Socorro, New Mexico	25.31	642.9	29.38	746.2	40	4.4	48	S	12	5.4	.....	0	5s	.....	SW	0	0	Fair	
Springfield, Illinois	29.18	741.1	29.85	758.2	51	10.6	76	SE	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Springfield, Massachusetts	29.81	757.2	29.94	760.5	50	10.0	79	NE	9	4.0	.....	.....	10s	.....	NE	0.15	3.8	Threatening	
Stockton, Texas	27.01	686.0	30.01	762.2	52	11.1	23	NE	4	1.8	.....	0	.....	.....	.....	0	0	Clear	
Thatcher's Island, Mass	29.92	760.0	29.97	761.2	40	4.4	100	NE	38	17.0	.....	.....	10s	.....	NE	0.33	8.4	Cloudy	
Toledo, Ohio	29.26	743.2	29.95	760.7	52	11.1	79	SW	4	1.8	.....	0	0	.....	.....	0.35	8.9	Clear	
Tucson, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon	29.68	751.3	30.08	764.0	32.0	0.0	89	SE	4	1.8	.....	0	8s	.....	.....	0	0	Cloudy	
Uvalde, Texas	29.02	737.1	29.81	757.2	71	21.7	85	S	1	0.4	.....	.....	10s	.....	S	0	0	Cloudy	
Vicksburg, Mississippi	29.83	757.7	30.08	764.0	71	21.7	100	S	4	1.8	.....	.....	10s	.....	SW	0	0	Cloudy	
Virginia City, Montana	24.08	611.6	29.56	750.8	14	—10.0	64	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.77	756.1	30.15	765.8	45	7.2	88	NW	1	0.4	.....	0	5s	.....	Calm	0	0	Fair	
Washington, D. C.	29.94	760.5	30.05	763.3	63	17.2	67	SW	5	2.2	.....	0	1s	.....	Calm	0	0	Clear	
Wickenburg, Arizona	.....	.....	.....	.....	37	2.8	90	W	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, North Carolina	30.09	764.3	30.17	766.3	68	20.0	89	W	7	3.1	.....	5c	0	Calm	.....	0	0	Fair	
Winnemucca, Nevada	25.60	650.2	29.96	761.0	24	— 4.4	87	SW	4	1.8	.....	.....	8s	.....	SW	0.19	4.8	Cloudy	
Wood's Holl, Massachusetts	29.82	757.4	29.86	758.4	46	7.8	85	N	20	8.9	.....	.....	10ks	.....	NE	0.23	5.8	Threatening	
Yankton, Dakota	28.57	725.7	29.88	758.9	39	3.9	73	NW	3	1.3	.....	2c	0	SW	.....	0	0	Fair	
Yuma, Arizona	29.87	758.7	30.04	763.0	61	10.6	65	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	29.99	761.7	30.04	763.0	76	24.4	81	Calm	0	0	.....	0	2ks?	.....	E	0	0	Cloudy?	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.14	765.5	30.15	765.8	76	24.4	87	Calm	0	0	.....	8c	2cs	Calm	.....	0	0	Hazy	James Gall.
Medellin, Colombia, S. A.*	25.20	640.1	.....	.....	65.5	18.6	80	Calm	.....	.....	0	4k	4ks	.....	.....	0.23	5.8	.....	Thomas Herran.
Navassa, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.94	760.5	29.94	760.5	83	28.3	75	E	.....	.....	2	3k	5k	E	.....	0.050	1.27	Fair	C. J. Hering.
Santiago de Cuba, W. I.	29.99	761.7	30.02	762.5	78	25.6	78	NNE	7.2	3.2	.....	0	2s	.....	NE	0	0	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	29.74	755.4	29.80	756.9	22.0	— 5.6	93	S	16	7.2	.....	4ck	4s	W	SW	0	0	Cloudy	J. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Medellin, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,8 6.2 m.; Coleman City, 1,7 7 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,596 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,395.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm. *The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-Fall or melted snow in the past 24 hours. Inches.	Rain-Fall or melted snow in the past 24 hours. Millimeters.	Sea-Swell. Character.	Sea-Swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.09‡	764.3‡	.....	.....	73	22.8	95	SE	2	0.9	.....	.....	Mist	.....	SE	0	0	.....	.....	Fair	
Navy Yard, Portsmouth, N.H.	29.70‡	754.4‡	.....	.....	39	3.9	75	NNE	3	1.3	...	.....	10	.....	.....	0	0	.....	.....	Overcast	
Naval Hospital, Yokohama, Japan	30.17‡	766.3‡	.....	.....	53	11.7	86	Calm	.....	.....	0	.....	9s	.....	SW	0	0	.....	.....	Cloudy	
Adams, Mare I'd., Navy Yard, Cal.	30.14‡	765.5‡	.....	.....	51	10.6	93	W	.....	....	1	.....	10	.....	W	.....	.....	.....	.....	Cloudy	
Alaska, Iquique, Peru	*. 29.96‡	761.0‡	.....	.....	65	18.3	89	Calm	.....	....	0	.....	2	.....	.....	.....	.....	.....	.....	D. clouds	
Alliance, N. 21° 30′, W. 30° 29′	..... 30.17‡	766.3‡	.....	.....	77	25.0	73	E	.....	.....	3	.....	6	.....	E	.....	.....	Smooth	E	D. clouds	
Colorado, New York, . Y.	..... 29.91‡	759.7‡	.....	.....	58	14.4	70	WSW	5	2.2	....	.....	8	.....	NW	0.02	0.5	.....	.....	Cloudy	
Constitution, Navy Yard, Norfolk, Va.	30.09‡	764.3‡	.....	.....	67	19.4	89	SW	5	2.2	....	.....	4	.....	Calm	.....	.....	.....	.....	Hazy	
Enterprise, Alexandria, Egypt	..... 30.10‡	764.5‡	.....	.....	72	22.2	67	WNW	.....	....	3	.....	5	.....	WNW	....	.....	Smooth	.....	Cloudy	
Franklin, Off Navy Yard, Norfolk, Va.	30.06‡	763.5‡	.....	.....	68	20.0	74	WSW	7	3.1	.....	.....	0	.....	.....	0	0	.....	.....	Hazy	
Hartford, N. 36° 14′, W. 73° 15′	..... 30.06‡	763.5‡	.....	.....	74	23.3	86	W	.....	.....	6	.....	10	.....	W	0	0	Rough	W	Cloudy	
Independence, Mare I'd, Navy Yard, Cal.	30.16‡	766.1‡	.....	.....	57	13.9	81	Calm	0	0	.....	.....	6?	.....	Calm	0.176	4.46	.....	.....	Overcast	
Kearsage, Norfolk, Va	..... 30.33‡	770.4‡	.....	.....	62	16.7	94	WSW	.....	.....	1	.....	10?	.....	W	0	0	.....	.....	Clear?	
Lackawana, N. 24° 43′ E. 179° 15′	†. 30.11‡	764.8‡	.....	.....	77	25.0	86	E	.....	.....	3–4	.....	2	.....	E	.....	.....	Mod'ate	E	Fair	
Marion, Off Norfolk, Va.	..... 30.05‡	763.3‡	.....	.....	65	18.3	78	NW	.....	.....	2	.....	2	.....	.....	.....	.....	Smooth	.....	Hazy	
Michigan, Erie, Pa.	..... 29.92‡	760.0‡	.....	.....	49	9.4	100	SW	.....	...	4	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Monocacy, Shanghai, China	..... 30.30‡	769.6‡	.....	.....	56	13.3	75	WNW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Fair?	
New Hampshire, Port Royal, S. C.	..... 30.20‡	767.1‡	.....	.....	69	20.6	95	SW	5	2.2	.....	.....	1	.....	W	0	0	.....	.....	Clear	
Onward, Callao, Peru	..... †. 29.95‡	760.7‡	.....	.....	64	17.8	83	S	.....	.....	1	.....	10	.....	.....	.....	.....	Long	W	Misty	
Palo-, Taku Bar, China	..... 30.59‡	777.0‡	.....	.....	47	8.3	70	ENE	.....	.....	2–3	.....	0	.....	.....	.....	.....	Smooth	.....	Clear	
Passaic, Washington, D. C.	..... 29.99‡	61.7‡	.....	.....	64	17.8	94	SW	....	....	2	.....	5	.....	.....	0	0	.....	.....	Fair	
Pensacola, Callao, Peru	..... 29.95‡	760.7‡	.....	.....	64	17.8	89	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Smooth	.....	Hazy	
Portsmouth, Alexandria, Va.	..... 30.05‡	763.3‡	.....	.....	63	17.2	67	W	.....	.....	3	.....	2	.....	.....	0	0	.....	.....	Clear	
Powhatan, New York City, N. Y.	29 93‡	760.2‡	.....	.....	58	14.4	76	NW	.....	.....	3	.....	8	.....	NW	....	.....	.....	.....	Cloudy	
Quinnebaug, Leghorn, Italy	....	29.64‡	752.8‡	.....	.....	57	13.9	47	N	.....	.....	5	.....	0	.....	.....	.....	.....	.....	Clear	
Ranger, N. 38° 40′, E. 151° 45′	..... 30.25‡	768.3‡	.....	.....	55	12.8	68	WSW	.....	.....	2	.....	2	...	Calm	.....	.....	Smooth	.....	Clear	
Richmond, Shanghai, China	..... 30.36‡	771 1‡	.....	.....	58	14.4	70	NW	.....	.....	2	.....	0	.....	.....	0	0	Smooth	.....	Misty	
Rio Bravo, Brownsville, Texas	... †. 30.02‡	762 5‡	.....	.....	75	23.9	100	SSE	4	1.8	... ..	.....	10	.....	SSE	0	0	.....	.....	Cloudy	
Santee, Annapolis, Md	..... 30.04‡	763.0‡	.....	.....	64	17 8	68	W	....	.....	1	.....	2	.....	W	0	0	....	.....	Clear	
Shenandoah, N. 5° 10′, W. 29° —′	... ... 29.95‡	760.7‡	.....	.....	80	26.7	87	SE	.....	.....	3	.....	10	.....	E	.....	.....	Smooth	.....	Cloudy	
St. Louis, League Island, Pa.	..... 30.02‡	762.5‡	.....	.....	55	12 8	74	NW	6	2.7	.....	.....	0	.....	.....	0.01	0.3	.....	.....	Clear	
Trenton, Villafranca, France	.... 29.69‡	754.1‡	....	.....	58	14.4	48	ESE	.....	.....	2	.....	5	.....	SE	0	0	Smooth	.....	Fair	
Tuscarora, N. 15° 45′, W. 96° 55′	..... 29.85‡	758.2‡	.....	.....	78	25.6	86	NE	.....	.....	1	.....	2	.....	Calm	0	0	Long	S	Fair	
Vandalia, N. 24° 27′, W. 81° 30′	..... 30.09‡	764.3‡	.....	.....	80	26.7	91	E	.....	.....	4	.....	2	.....	E	.....	.....	Mod'ate	E	Clear	
Wabash, Boston, Mass.	..... 29.83‡	757.7‡	.....	.....	41	5.0	75	N	19	8.5	.....	.....	8	.....	.....	0.12	3.0	.....	.....	Cloudy	
Wachusett, N. 7° —′, W 31° —′	..... 30.02‡	762.7‡	.....	.....	77	25.0	100	E	.....	.....	4	.....	10	.....	E	.....	.....	Mod'ate	E	Squally	
Wyoming, Malaga, Spain	..... 30.06‡	764.0‡	.....	.....	70	21.1	61	SSW	.....	.....	1–2	.....	2	.....	SW	.....	... .	Smooth	SSW	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL. Inches.	BAROMETER REDUCED TO SEA-LEVEL. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL. CHARACTER.	SEA-SWELL. DIRECTION FROM—	WEATHER.	OBSERVER.
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S. S. Samaria																			Capt. T. Roberts.
NOTE.—†Aneroid. *The error of the barometer is not known.																			
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitebury.
S. S. Costa Rica																			W. House & R. Lawless.
S. S. Dakota, Capt. H. G. Morse																			Capt. Connolly.
S. S. Georgia																			F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin																			Capt. A. Fuller.
S. S. Wilmington																			
S. S. Zealandia, S. 21° 23′, W. 173° 29′		29.80‡	756.9‡				SW		4				NE		Mod'ate	NE	Clear		R. C. Ghest, 1st Officer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
NOTE.—The orginals give the barometer as read off; wind-force by the scale 0 to to 12; for the Brittanic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer N. 32° 23′, E. 149° 05′...†.		30.07‡	763.8‡	68	20.0	79	Calm	0	0			2			Smooth		D. clouds		D. A. Joyce, 2nd Officer
S. S. Gaelic, Capt. Davidson N. 45° 40′, W. 156° 04′...†.		30.15‡	765.8‡	48	8.9		WSW		5			11	W	0	Rough	WSW	D. clouds		J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andreasen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undutsch.
S. S. Leipzig, Capt. F. Pfeiffer, N. 49° 04′, W. 36° 40′		29.32‡	744.7‡	54.5	12.5	71	N		6		8		N	4 h'rs	Cross	S;N	Cloudy		S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 49° 53′, W. 4° 51′		30.26‡	768.6‡				N		5		5		NE		3	ENE	Cloudy?		Capt. G. Meyer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 49° 03′, W. 38° 20′		29.34‡	745.2‡	53	11.7	??	NNW			8		9		N	Heavy	Heavy	NW	Cloudy	Capt. R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.
RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents.																			
Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES—Miscellaneous.																			
Furnished by the co-operation of the Observers named.																			
Schooner Addie Fuller, Charleston, S. C.		30.22‡	767.6‡	69	20.6	80	W					0			0			Clear	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George" of Halifax, Arroyo, Porto Rico, W. I.†		29.90‡	759.4‡	80	26.7		ENE			5		2		ENE	Blank	Rough	ESE	Clear	N. B. Foss.
Schooner Harry and Fred																			Capt. George Gardner.
Haytian																			
§ Iron Cross																			Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; do not distinguish between upper and lower clouds; sea-swell in general terms, as published. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

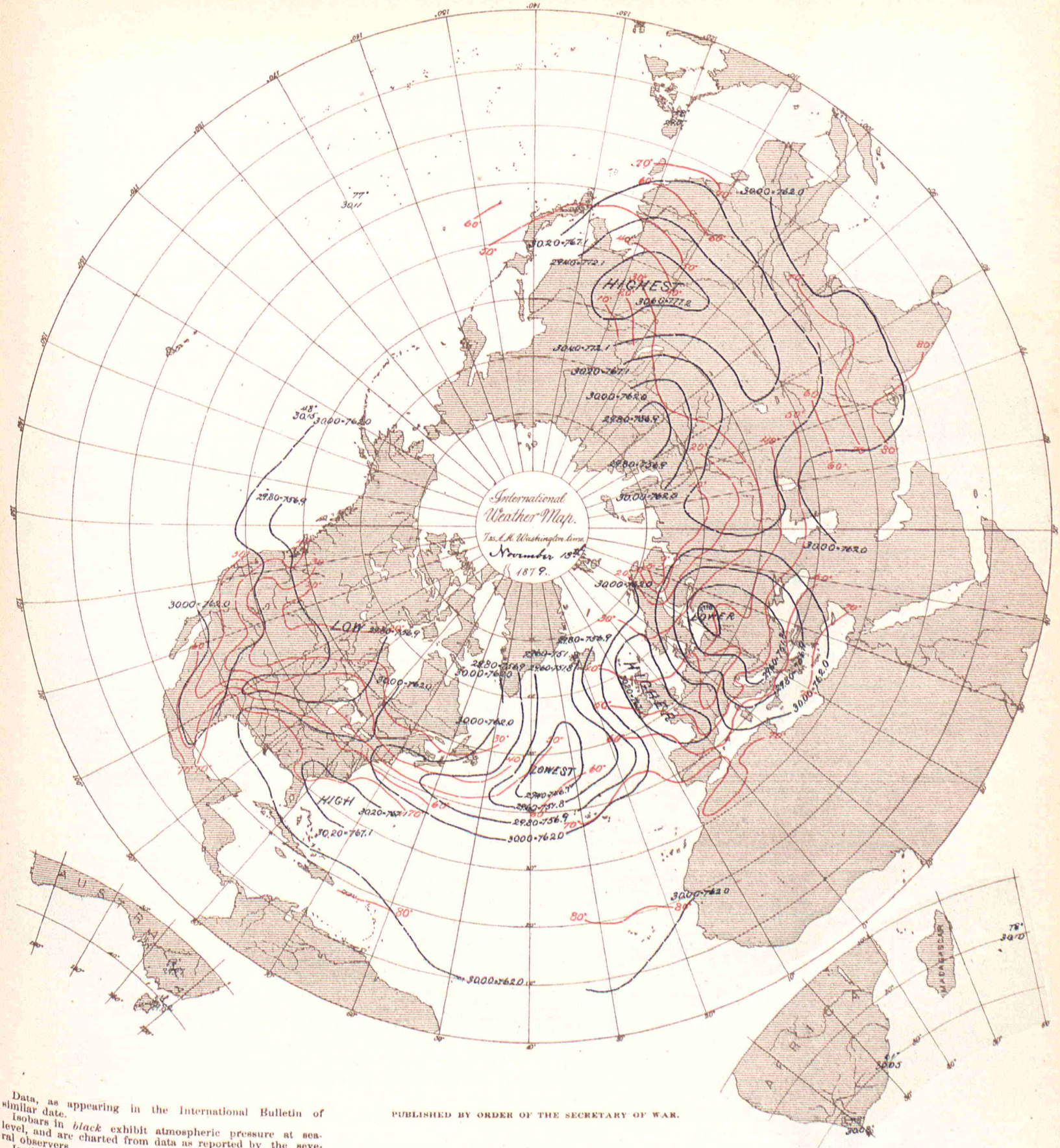
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.,) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 14, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0·43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.23	767.8	68.7	20.4	81	SW	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	
Nemours	.....	.....	30.10	764.4	71.2	21.8	84	E	.....	.....	1	.....	8	.....	.....	0	0	Very cloudy	Kesxuche.
Algiers	.....	.....	30.09	764.2	64 4	18.0	74	ENE	.....	.....	3	.....	0	.....	.....	0	0	Clear	Touriliere.
La Calle	.....	.....	30.08	763.9	59.4	15.2	78	NW	.....	.....	3	.....	10	.....	.....	0.130	3.3	Raining	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.039	1.0	.....	Jacques.
Sfax	.....	.....	30.17	766.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Herbin.
Tebessa	.....	.....	30.14	765.6	58.0	14.8	61	N	.....	.....	3	.....	8	.....	.....	0	0	Very cloudy	Watrin.
Geriville	.....	.....	.....	.....	65.1	18.4	46	WNW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Brugniuax.
Laghouat	.....	.....	30.18	766.6	74.5	23.6	56	NW	.....	.....	4	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	30.07	763.8	73.8	23.2	68	SSE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0-4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.33	745.0	29.89	759.3	41.7	5.4	67	S	.....	.....	2	.....	6	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.02	737.1	29.81	757.2	36.3	2.4	75	WSW	8.1	3.6	.....	.....	10	.....	.....	0.091	2.3	.....	Prof. Dr. Karlinski, Dir.
Eperies	28.80	731.4	29.69	754.2	39.0	3.9	88	NW	.....	.....	2	.....	9ks	.....	SE	0	0	.....	Julius Mikolik.
Gratz	28.63	727.1	29.90	759.4	42.4	5.8	49	NW	.....	.....	3	.....	5	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.22	716.8	29.69	754.0	35.6	2.0	65	NW	.....	.....	4	.....	10	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.58	725.8	29.97	761.3	32.7	0.4	94	WNW	.....	.....	2	.....	10	.....	.....	0.220	5.6	.....	Prof. C. Wagner.
Lemberg	28.58	725.9	29.58	751.3	40.3	4.6	89	NW	.....	.....	2	.....	9	.....	.....	0.079	2.0	.....	Dr. T. Stanecki.
Pola	29.78	756.4	29.89	759.3	49.6	9.8	36	WNW	.....	.....	1	.....	2	.....	.....	0	0	.....	I.R.Hydrographic Office.
Szathmar	29.26	743 3	29.74	755.5	35.6	2.0	96	S	.....	.....	2	.....	10	.....	.....	0	0	.....	Pet. Pancsics.
Szegedin	29.48	748.7	29.76	756.0	42.6	5.9	81	NW	.....	.....	3	.....	10	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.81	757.1	29.91	759.7	51.1	10.6	29	NNE	.....	.....	1	.....	5	.....	.....	0	0	.....	P. Busin.
Vienna	29.17	740.9	29.89	759.2	37.8	3.2	76	W	.....	.....	3	.....	5	.....	.....	0 126	3.2	.....	I.R.Central Met. Ob'sy.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2:20, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Clouds. Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.26	768.6	30.36	771.1	38.6	3.6		W	3	1.3			2			0	0	Misty	W. Boswell.
Ardrossan	30.32	770.1	30.33	770.4	39	3.9		E			2		3					Misty	Wm. McNeil & G. Carrick
Armagh, (Observatory)	30.08	764.0	30.32	770.1	39.5	4.2		SSW	1	0.4			9					Foggy	S. Call.
Bidston (Liverpool Obs)			30.35	770.9	40.2	4.6		SE	3	1.3			3					Foggy	John Hartnup.
Bolton (Sharples)	29.78	756.4	30.31	769.9	40.5	4.7		N	6	2.7			5					D. clouds	Thomas Mackereth.
Bradford, Yorkshire	30.04	763.0	30.44	773.2	40.1	4.5		NE			4		4			0	0	D. clouds	J McLandsborough.
Bridgetown, Barbadoes	29.88	758.9	29.91	759.7	80	26.7		NE			1		9					Overcast	Pvt. G. Surgener, A.H.C.
Cambridge (Observatory)	30.22	767.6	30.32	770.1	40.0	4.4		N			1		7					D. clouds	H. Todd.
Cardington			30.30	769.6	40.0	4.4		N			0–1		2					Blue sky	John McLaren.
Chatham (School M. E.)	30.17	766.3	30.31	769.9	41.1	5.1		NW			1		4					D. clouds	J. Carmell, Sapper, R.E.
Donaghadee	30.27	768.8	30.31	769.9	45	7.2		SW			2		5					D. clouds	J. Mac Gowan.
Dover	30.22	767.6	30.25	768.3	41	5.0		N			5		2					¾ clouded	J. Costello.
Falmouth (Observatory)	30.08	764.0	30.32	770.1	48.1	8.9		SSE			1		4					D. clouds	The Staff.
Fort Napier, Natal	27.81	706.4	30.04	763.0	69.8	21.0		N			2		8					Overcast	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone																			
Galway (Queen's College)			30.18	766.6	47	8.3		SE			1		4					D. clouds	Prof. A. H. Curtis.
Gibraltar, Mediterranean																			Sergt. Wm. Allen, A. H.
Glasgow, (Observatory)	30.13	765.3	30.33	770.4	35.3	1.8		WSW			2							Foggy	D. G. Maclean. [C.
Great Yarmouth	30.23	767.8	30.24	768.1	42	5.6		NNE			4		4					Squally	G. T. Watson.
Greenwich (Royal Obs'y)	30.14	765.5	30.32	770.1	41.7	5.4		N			1		2					Blue sky	The Staff, for G. B. Airy.
Guernsey	30.08	764.0	30.31	769.9	46	7.8		NNW			1		0					Blue sky	Dr. S. E Hoskins, F.R.S.
Helston	30.43	772.9	30.55	776 0	49	9.4		SE			2	2c				0	0	Fine	M. P. Moyle.
Holyhead	30.26	768.6	30.32	770.1	41	5.0		S			2		1					Blue sky	John Tilston.
Jersey	30.06	763.5	30.36	771.1	47.1	8.4		NNE			1		2					D. clouds	J. Fisher.
Kew (Observatory)	30.28	769.1	30.32	770.1	40.8	4.9		NNE	11	4.9			2					Misty	The Met'g'l Office.
Leicester (Museum)	30.07	763.8	30.34	770.6	42.0	5.6		NE			1		10					Misty	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	29.87	758.7	29.95	760.7	61	16.1		NW			3		2k					Blue sky	A. King.
Nairn	30.21	767.3	30.31	769.9	35	1.7		Calm			0		0					Clear	W. D. Penny.
Nassau, Bahamas			30.10	764.5	77.0	25.0		NE			2		6					D. clouds	C. S. Duncombe.
Nottingham (Observatory)	30.14	765.5	30.34	770.6	41.9	5.5		N			2	ck	7k		N	0	0	D. clouds	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.80	756.9	30.34	770.6	41.2	5.1		NNE			1–2		1					Blue sky	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)			30.34	770.6	42	5.6		NW			1		0					Blue sky	H. E. Bellamy.
Plymouth	30.24	768.1	30.32	770.1	46.8	8.2		E			2		0						John Merrifield.
Prince Town																			W. H. Tooker.
*Roche's Point	30.20	767.1	30.29	769.4	48	8.9		SSE			3		8					¾ clouded	Wm. Kennedy.
St. Ann's Head	30.14	765.5	30.30	769.6	47	8.3		ESE			2		4					D. clouds	John C. Walker.
Sandwick Manse, Orkneys			30.32	770.1	37.2	2.9		SE	8	3.6			10					Overcast	Rev. C. Clouston, L.L.D.
Scutari Cemetery, Turkey	29.52	749.8	29.58	751.3	45.6	7.6		NW			4		10					Raining	Serg't W. H. Lyne.
Sheffield	30.08	764.0	30.37	771.4	39.1	3.9		N			1		3			0	0	D. clouds	W. F. Cooper.
Silloth Rectory	30.32	770.1	30.35	770.9	37.9	3.3	79	W			2		0			0	0	Blue sky	Francis Redford, A. M.
Stonyhurst (Observatory)			30.23	767.8	39.5	4.2		NE			2		1					Misty	Rev. S. J. Perry.
Strathfield, Turgiss	30.12	765.0	30.34	770.6	41.2	5.1		N			1		0					Blue sky	Rev. C. H. Griffith, F.M.S.
Truro (Royal Institution)	30.26	768.6	30.32	770.1	55	12.8		SE			2		4					D. clouds	W. Newcombe.
Valencia (Observatory)	30.17	766.3	30.19	766.8	51.3	10.7		SE	22	9.8			6					D. clouds	The Met'g'l Office.
Sub-Series.																			
Cape Town (C. G. H. Obs'y)	30.02	762.5	30.06	763.5	76.9	24.9	55	SE	6.3	2.8		1	2cs						The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.66	651.8			87	30.6		WNW				3k	5k						Robert Burnet.
Hobart Town, Tasmania			29.92	760.0	48.0	8.9	86	S			2		0			0.01	0.3	Clear	Francis Abbott, F.R.A.S.
Leith, (Restalrig Perk)			30.37	771.4	36.2	2.3		E			1		0			0	0	Hazy	Andrew Gibb.
Mauritius (Observatory)	29.92	760.0	30.11	764.9	77.3	25.2	56	NNE	8.0	3.6		0	8			0	0	Cloudy	C. Meldrum.
Melbourne (Observatory)	29.99	761.7	30.08	764.0	56.0	13.3	71	SE	6	2.7			9			0.01	0.3	Dull	R. L. J. Ellery.
Monach Lt-house, Hebrides			30.21	767.3	46	7.8		S			7		10			0	0		J. Youngclause.
North Unst, Shetland Is			30.32	770.1				N			4	3	5	NE		0	0		

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Colesberg Bridge, unknown.

British Marine Series. Vessels.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Clouds. Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0—9.	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. Alert, Kathleen Bay, Patagonia	29.58‡	751.3‡	45.8	7.7		NW			3		10					Showery	Capt. J. P. Maclear, R.N.
H. M. Sloop Gannet, S. 11° 47′, W. 77° 13′	29.99‡	761.7‡	64	17.8		S			2		10					Drizzling	Commander E. Bourke, R. N.
H. M. S. Magpie, Shaweishan I'd., China	30.36‡	771.1‡	54.5	12.6		NNE			3		10					Misty	Capt. R. H. Napier, R.N.
Brig Alliance, N. 28° 10′, W. 59° 30′	30.22‡	767 6‡	73	22.8		NNE			2		4					D. clouds	Capt. W. Scott.
Barque Commewyne N. 6° 15′, W. 54° 10′	29.88‡	758.9‡	85	29.4		SE			3		1					Blue sky	Capt. Jas. Buchan.
S. S. Ethiopia, N. 44° 00′, W. 54° 00′	30.26	768.6	46	7.8		NNW			2		2			3	NNW	Blue sky	Capt. Campbell.
S. S. German, S. 22° 30′, E. 7° 30′	30.10‡	764.5‡	74	23.3		SE			4		8					D. clouds	Capt. O. D. Coxwell.
Barque Mertole, N. 52° 25′, W. 6° 00′	30.34‡	770.6‡	53.8	12.1		SSE			3		8					D. clouds	Capt. Turner.
Barque Queen of Cambria, N. 13° 45′, E. 74° 05′	29 89‡	759.2‡	83	28.3		NW			3		0					Blue sky	Capt. M. Parry.
S. S. Strathleven, Sydney, N. S. W.	29.64‡	752.8‡	69	20.6		S			5		10					Raining	Capt. C. W. Pearson.
Schooner Traveller, Off Sandy I'd., St. George's Cha'l., Eng	30.37	771.4	47	8.3		ESE			3		1					Misty	
S. S. Gordon Castle																	Capt. H. V. Freeden.
German Brig "W. von Freeden"																	Capt. Greig.
Theophane																	Capt. B. Boyes.
S. S. Amanda																	

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level.
‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. L'w'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
San José	26.19	665.2	29.91	759.7	67.6	19.8	88	SE			1	5cs				0.4	10.		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.96	760.9	30.00	762.1	31.1	—0.5	73	NNE			7		9					Snowing	
Faröe	30.16	766.0	30.18	766.5	31.5	—0.3	76	NNE			6		1						
Godthaab (Greenland)																			
Stykkisholm (Iceland)																			
Thorshavn (Faröe)	30.10	764.5	30.13	765.4	45.0	7.2	86	S			2		10						
Vestervig	30.11	764.9	30.23	767.7	28.9	—1.7	82	NNE			4		6					Snowing	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.77	756.1	30.32	770.1	44.6	7	57	N			1		5ku		N	0	0	Cloudy	Collignon, Director.
Amiens, Normal School	30.07	763.8	30.19	766.7	44.2	6.8	71	N			1		5		E	0	0	Cloudy	Vaillant, Director.
Arras, Engin'r School	29.95	760.8	30.23	767.7	35.4	1.9	100	NNE			1		10		NE	0.150	3.8	Light rain	Klein, Commandant.
Avignon, Normal School	30.05	763.2	30.13	765.2	47.1	8.4	52	N			4		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.62	752.3	30.19	766.9	41.2	5.1	56	NE			2		8		NNE	0.031	0.8	Very cloudy	C. Saillard, Director
Beauvais, Normal School	29.98	761.4	30.25	768.4	43.2	6.2	59	N			2		8		N	0	0	Very cloudy	Frere Eugene Marie
Besançon, Normal School	29.26	743.2	30.19	766.8	36.7	2.6	91	SW			1		8		S	0	0	Very cloudy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.32	744.8	30.30	769.6	37.8	3.2	93	W			3		5n	N	N	0.071	1.8	Cloudy	Marlot, Director.
Bourges, Normal School	29.69	754.2	30.27	768.8	42.4	5.8	70	NNW			3		5n		NNW	0	0	Cloudy	M. Gence, Director.
Brest, Naval Observatory	30.13	765.2	30.37	771.4	54.0	12.2	71	ESE			1		0			0.010	0.25		Ch. de Rermaree, Dir.
Caen, Normal School	30.31	769.8			45.3	7.4	64	NNW			1		2		NNW	0.031	0.8	Slightly cl'dy	M. Bietrix, Director.
Carcassonne, N. School	29.69	754.2	30.12	765.0	48.9	9.4	48	WNW			2		1		WNW	0	0	V. slightly cloudy	September, Director.
Châlons-sur-Marne, N. Sch'	29.88	759.0	30.22	767.5	41.0	5.0	71	WNW			1		5	ENE	ENE			Cloudy	Jadot, Director.
Chartres, Normal School	29.69	754.0	30.27	768.7	47.1	8.4	84	NW			2		4		SE	0	0		Vergier, Director.
Clermont-Fd, Puy de D. Obs	28.82	731.9	30.22	767.6	40.3	4.6	56	N			3		5		N	0.024	0.6		Alluard, Director.
Commercy, Normal School	29.24	742.8	30.13	765.4	39.0	3.9	81	NW			3		5k	NW	NW	0.083	2.1	Cloudy	Dr. Coullet, Director.
Commune de Gréasque*	28.90	734.1	30.04	763.1	45.1	7.3	44	NW			4		2		NW	0	0		L. Kina, Director.
Grenoble, Normal School	29.41	746.9	30.21	767.2	39.2	4	67	NE			1		ku	NE		0	0		Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.12	765.0	30.34	770.6	42.8	6.0	67	NNE			1		0			0	0	Clear	Mouillot, Director.
Le Mans, Normal School	30.01	762.0	30.32	770.0	45.3	7.4	42	N			1		2		N	0	0	Slightly cl'dy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.26	743.1	30.20	767.1	33.3	0.7	92	SW			1		10			0.04	1.	Snowing	A. Baudry, Director
Lorient, Naval Observatory	30.23	767.9	30.34	770.7	46.8	8.2	61	ESE			1		0			0	0	Clear	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.56	750.9	30.21	767.3	39.2	4.0	83	WNW			1			SSW	NNW	0 028	0.7		Ch. André, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.75	755.6	30.02	762.5	48.7	9.3	61	NNW			4		0			0	0	Clear	E. Stephan, Director.
Mirecourt, Normal School	29.08	738.6	30.16	766.0	36.5	2.5	85	N			3		k	N	N	0	0		Barbier, Director.
Mont-Louis	24.87	631.6	30.18	766.6	41.0	5.0	42	E	22.4	10.0			2		SE	0	0		M. Cave.
Nice	29.93	760.1	29.96	760.9	57.2	14.0	53	W			4		1	NW	W	0	0	Clear	M. Boissieré, Director.
Nismes, Normal School	29.91	759.7	30.12	765.0	50.0	10	42	N			3		2		NW	0	0	Slightly cl'dy	M. Boyer, Director.
Paris, Montsouris Obs'y	29.97	761.1			43 3	6.3	55	NNW			3		3		NNW	0.004	0.1		Marie Davy, Director.
Perpignan	30.06	763.5	30.16	766.1	48.9	9.2	64	NE	16.8	7.5			2		WNW	0	0		Dr. Fines.
Pic du Midi (Plantade) H. P.	22.53	572.2			35.4	1.9		SW			2		1		SW	0	0	Clear	Gen'l de Nansouty.
Pic du Midi (Summit) H. P.																			M. Baylac.
Privas, Normal School	29.01	736.8	30.11	764.9	41.0	5	66	NE			1	c		NE	NE	0	0		M. Tallieu.
Puy de Dome (Summit) Obs	25.17	639.2			23.2	—4.9	98	NNW			2		8			0.441	11.2	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	30.28	769.1	30.31	769.9	46.0	7.8	59	NE			1		0			0	0	Clear	Lt E. Decante, Director
Rouen, Normal School	30.19	766.9	30.28	769.1	43.0	6.1	60	NNW			3		8		N	0	0	Very cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.30	769.6	30.33	770.4	48.7	9.3	45	NE			1		0			0	0	Clear	Lt. Hercouet, Director.
Saint Maur (near Paris)	30.08	764.0	30.24	768.2	43.0	6.1	54	NW			3				NNW	0.012	0.3		E. Renou, Director.
Tarbes, Normal School	29.11	739.4	30.19	766.9	38.3	3.5	100	E			1		1	NW	NW	0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.54	750.2	30.26	768.7	44.2	6.8	60	NNW			2		0			0.031	0.8	Clear	M. Julier Mercadier.
Tours	30.07	763.8	30.27	768.8	45 5	7.5	55	NNE			2		1		N	0	0	Almost clear	Cousin-Marquet.
Versailles, Observatory	29.75	755.6	30.24	768.2	42.1	5.6	56	N			2					0	0		Dr. A. Berigny, Director
Villefranche-sur-Saone, N. S	29.48	748.7	30.23	767.7	37.6	3.1	89	NW			1		10			0 024	0.6	Covered	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.90	759.5	29.93	760.2	75.2	24										5.55	140.		L'Abbé Marchési
Zi-Ka-Wei (near Shanghai)	30.35	771.0	30.38	771.7	50.0	10.0	74	NNW	1.8	0.8			10			0	0	Covered	Marc Dechevrens.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in gene al terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer, corrected for instrum'tal error and temperature.		Barometer, reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind. Direction.	Wind. Velocity.		Wind. Force.	Clouds. Amount.		Clouds. Direction.		Rain-fall or melted snow in the past 24 hours.		Weather.	Observer.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centrigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0–10.	Up'er 0–10.	Lo'er 0–10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
Bamberg	29.10	739.2	29.95	760.6	31.6	— 0.2	89	W			4		10n	W		0.078	1.9	Rain & snow	Prof. Dr. Hoh.
Berlin	29.74	755.5	29.92	760.0	35.6	2.0	60	N			10		10			0.055	1.4		Prof. Dr. Arndt.
Breslau	29.34	745.1	29.86	758.5	33.1	0.6	88	NW			4		1n			0.166	4.22		Royal University Obs'y.
Carlsruhe	29.63	752.6	30.08	763.9	33.4	0.8	78	NW			2		10	NW		0.269	6.8	Snowing	Albert Senz.
Cassel	29.44	747.8	30.06	763.5	34 0	1.1	69	N			4		7	NW		0.116	2.94	Snowing	Dr. H. Möhl.
Emden			30.14	765.5	33.8	1.0	60	NE			5		0			0.110	2.8		Prof. Dr. Prestel, Physical Society.
Frankfort on the Main	29.69	754.2	30.07	763.7	37.0	2 8	60	NNE			3		5			0.031	0.8		
Friedrichshafen	28.57	725.6	30.06	763.4	36.1	2.3	79	W			3		10	W		0 252	6.4	Light snow.	Chief Telegrapher Wilhelm.
Hamburg	30.01	762 2	30.08	764.1	29.5	— 1.4	98	N			3		8k			0,020	0.5	Snowing	Captain F. Hegemann.
Kiel	30.04	763.1	30.06	763.5	33 3	0.7	84	N			5		9			0.032	0.81		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.51	749.6	29.60	751.7	38.1	3.4	86	NE			2		6			0.130	3.3		Prof. E. Luther.
Köslin			29.82	757 3	35.4	1 9		N			4		6			0.331	8.4		H. Müller.
Leipsic Observatory	29.56	750.7	29.99	761.8	33.4	0 8	61	NNW			2		6	N		0.043	1.1		Prof.Dr.Bruhns,Privy Counselor Dr. Assmann.
Magdeburg	29.79	756.7	30.02	762.5	36.7	2.6	70	NNW			5		6ks	NNW		0.008	0.2		
Memel	29 58	751 2	29.62	752.4	41.0	5.0	88	N			3		10n					Raining	Reinbrecht & Ishermann
Munich (München)	28.11	713.9	29.97	761.1	34.7	1.5	75	SW			4		10	SW		0.071	1.8	Snowy	Dr. C. Lang.
Neufahrwasser	29.63	752.5	29.64	752 9	37.0	3.3	92	NW			5		10			0.555	14.1	Raining	A. Lothes.
Neustadt (Palatinate)	29.50	749.3	30.03	762.7	37 2	2.9	79	WNW			1		8	W		0.094	2.4	Light snow.	Reallehrer Dicknether.
Posen	29.53	750.1	29.83	757.7	35.8	2.1	85	NW			7		9					Light snow.	Prof. Dr. Magener.
Strassburg (in Alsace)	29.54	750.3	30.11	764 8	38.8	3.8	64	NNW			3		6	WNW		0.002	0.04	Snow & sleet	Imp. University Observatory.
Stuttgart	29.04	737.5	30.02	762.4	34.5	1.4	80	W			3		9	W		0.035	0.9		Prof. Dr. Schoder.
Weissenburg (Bavaria)	28.40	721.3	29.97	761.1	33.8	0.7	87	WNW	9	4			10			0.071	1.8	Light snow.	Reallehrer J. Hopfner.
Wustrow	29.96	761.0	29.98	761.6	32 2	0.1	100	N			4		10			0.024	0.6		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.36	745.8	29.75	755.7	62.4	16.9		SW			3.0		5					⅓ clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	30.04	763.0	30.09	764.3	83.0	28.3	70	NW	14	6.3			0			0	0	Blue sky	
Deesa	29.60	752.0	30.09	764.2	77.7	25.4	27	E	9.6	4.3			0			0	0	Blue sky	
Bombay	29.92	759.9	29.96	760.8	78 3	25.7	74	NW	14	6.3			0			0	0	Blue sky	
Poona (Yerrowda)	28.10	713.6	29.95	760.8	80.3	26.8	29	E	7	3.1			1		ESE	0	0	D. clouds	
Belgaum	27.40	695.9	29.95	760.6	74.9	23.8	56	ENE	4	1.8			1		E	0	0	D. clouds	
Lahore	29.30	744.1	30.07	763.8	66.6	19.2	50	Calm	0.7	0.3			0			0	0	Blue sky	
Roorkee	29.13	739.8	30.05	763.4	68.2	20.1	37	NW	1.3	0.6						0	0		
Agra	29.47	748 6	30.05	763.3	73.7	23.2	5	N	3.8	1.6						0	0		
Nagpur	28.96	735.5	30.02	762.4	74.7	23.7	42	NNE	3.5	1.6			2	NE		0	0	D. clouds	
Jubbulpore	28.63	727.2	30.03	762.8	69.7	20.9	43	E	2.0	0.9						0	0	Blue sky	
Lucknow	29.66	753.3	30.05	763.2	68.3	20.2	63	Calm	0.3	0.1						0	0	Blue sky	
Allahabad	29.73	755.1	30.05	763.3	65.8	18.8	73	Calm	0.3	0.1			0			0	0	Blue sky	
Patna	29.85	758.2	30.06	763.6	73.7	23.2	54	Calm	0.1	0.05			0			0	0	Blue sky	
Hazaribagh	27.98	710.6	30.04	763.0	67.8	19.9	51	NW	3.1	1.4			1			0	0		
Cuttack	29.92	760.1	30.01	762.2	73.3	22.9	74	NE	1	0.4			7			0	0	D. clouds	
Calcutta (Alipore)	29.96	760.9	29.98	761.4	75.5	24.2	68	N	2.0	0.9			0			0	0	Blue sky	
Goalpara	29.59	751.7	29.99	761.7	75.2	24.0	65	ENE	4.3	1.9			0			0	0	Blue sky	
Chittagong	29.00	759.3	29.99	761.7	77.4	25.2	75	Calm	1.7	0.8			1			0	0		
Sibsagar	29.70	754.3	30.04	763.1	75.5	23.1	80	ENE	0.9	0.4			8			0	0	D. clouds	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,361 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	Barometer, corrected for instrum'tal error and temperature. Inches.	Barometer, corrected for instrum'tal error and temperature. Millimeters.	Barometer, reduced to sea-level. Inches.	Barometer, reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.60	749.2	29.92	760.0	46.6	8.1	31	Calm	0	0	.....	.....	7	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.38	746.2	29.91	759.6	48.7	9.3	32	SW	.....	.....	2	.....	1	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.80	756.8	29.91	759.7	49.1	9.5	20	SSE	1.8	0.8	.....	.....	0	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.00	736.7	29.94	760.4	46.0	7.8	27	S	2.5	1.1	.....	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.74	755.5	29.94	760.4	52.5	11.4	10	NW	3.8	1.7	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	27.98	710.8	29.95	760.6	48.3	9.3	12	E	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.92	759.9	29.97	761.2	48.2	9.0	35	SW	2.5	1.1	.....	.....	4	W	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.68	753.8	29.92	760.0	45.5	7.5	42	N	.....	.....	2	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.84	758.0	29.93	760.2	50.9	10.5	32	NW	5.6	2.5	.....	.....	0	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.74	755.3	29.92	759.9	52.8	11.3	33	N	3.8	1.7	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. C. De Giorgi.
Cosenza	28.98	736.0	29.88	758.9	53.2	11.8	74	SW	1.8	0.8	.....	.....	0	.....	.....	0.154	3.9	.....	Prof. D. Conti.
Cagliari	29.76	755.8	29.95	760.8	55.2	12.9	40	NW	.....	.....	6	.....	4	NW	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.67	753.5	29.93	760.1	54.5	12.5	67	N	4.9	2.2	.....	.....	10	.....	.....	0.043	1.1	.....	Prof. G. Ciacciatore.
Syracuse	29.84	757.9	29.91	759.7	60.4	15.8	60	W	2.5	1.1	.....	.....	6	SW	.....	0	0	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.37	746.0	29.90	759.5	51.8	11.0	71	W	0	0	.....	.....	1	.....	.....	0	0	.....	Prof. F. Brioschi.
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NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.28	769.1	30.29	769.3	42.7	5.9	82	NE	2.1	0.9	.....	.....	1s	.....	.....	0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	30.06	763.5	30.27	768.8	47.8	8.8	61	E	8.7	3.9	.....	.....	0	.....	.....	0	0	Clear	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.97	761.2	30.04	763.0	42.1	5.6	58	NNW	16.6	7.4	.....	0	0	.....	.....	0	0	Clear	The Staff.
Wakayama	30.17	766.3	30.22	767.6	47.1	8.4	54	NNE	7.4	3.3	.....	.....	5ks;s	.....	.....	0	0	Fair	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	25.04	636.0	30.15	765.7	49.1	9.5	63	Calm	.....	.....	0	.....	0	.....	.....	0	0	Fine	Prof. L. Perez.
Leon	24.43	620 4	30.11	764.8	59 0	15.0	84	NW	.....	.....	1	0	0	.....	.....	0	0	Light haze	Prof. M. Leal.
Mazatlan	29.71	754.6	29.97	761.2	66.4	19.1	60	NW	.....	.....	2	3c	0	SW	.....	0	0	Clear	I. Guerrero, C. E.
Mexico, Central Observatory	23.08	586.2	30.16	766.1	49.6	9.8	76	Calm	0	0	.....	0	0	.....	.....	0	0	Very fine	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	51.4	10.8	73	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.56	598.3	30.49	774.5	45.0	7.2	43	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.20	614.6	30.12	765.1	60.8	16 0	52	E	.....	.....	1	8	1	W	E	0	0	Hazy	G. Barroeta, M. D.
Tlacotalpam	29.90	759.5	29.91	759.8	77.0	25.0	96	S	.....	.....	1	1	9	N	SW	Inap.	Inap.	Threatening	Prof. M. M. Chazaro.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell
Zacatecas	22.53	572.2	30.17	766.4	52.0	11.1	64	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	J. C. Castrillon.
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NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column; the instrumental correction —0.88 mm., or —0.035 inch, has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.19	766.8	30.19	766.8	39.6	4.2	.....	NE	.....	.....	4	.....	.....	.....	.....	0.295	7.5	.....	.....
Groningen	30.10	764.5	30.15	765.9	35.6	2.0	.....	NE	.....	.....	.....	.....	.....	.....	.....	0.264	6.7	.....	.....
Helder	30.19	766.8	30.19	766.8	35.8	2.1	.....	ENE	.....	.....	4	.....	.....	.....	.....	0.181	4.6	.....	.....
Hellevoetsluis	30.16	766.0	30.16	766.0	39 7	4 3	80	NE	.....	.....	3	.....	.....	.....	.....	0.256	6.5	.....	.....
Utrecht	30.15	765.7	30.19	766.9	38.1	3.4	60	ENE	.....	.....	2	.....	5	.....	.....	0.098	2.5	Cloudy	H. v. d. Brink.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer, corrected for instrum'tal error and temperature, Inches.	Barometer, corrected for instrum'tal error and temperature, Millimeters.	Barometer, reduced to sea-level. Inches.	Barometer, reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.26	768.7	30.32	770.1	39.2	— 1.0	84	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	
Brönö	30.34	770.5	30.37	771.5	23.4	— 4.8	53	E	9	4	.....	.....	3	.....	.....	0	0	.....	
Christiana	30.19	766.7	30.34	770.7	27.3	— 2.6	48	NNE	11	5	.....	.....	0	.....	.....	0	0	.....	
Tromsö	30.07	763.6	30.11	764.7	25.7	— 3.5	60	SSW	34	15	.....	.....	10	.....	.....	0.157	4.0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally the weather by Vienna symbols The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	29.74	755.3	29.93	760.1	65.8	18.8	83	SSW	5.6	2.5	.....	.....	4	.....	.....	0.315	8.0	.....	Dr. J. A. Sampaio.
Campo Major	29.06	738.1	30.08	764.0	63.7	17.6	14	E	0.7	0.3	.....	.....	10	.....	.....	0.039	1.0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	30.02	762.6	30.11	764.8	69.8	21.0	75	SW	8.1	3.6	.....	.....	6	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.62	752.4	29.98	761.5	63.1	17.3	98	SSW	18.6	8.3	.....	.....	10	.....	.....	1.201	30.5	.....	The Staff.
Ponta Delgada (Azores)	29.89	759.3	29.97	761.1	70.5	21.4	70	SW	0.7	0.3	.....	.....	3	.....	.....	0.134	3.4	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.																Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa, Porto Praya, Cape Verd I'ds.	.....	.....	.....	.....	79.5	26.4	.....	NE	.....	.....	4	.....	0	.....	.....	2	NE	Blue sky	A. A. A. Loureiro.
Sà da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Com'd't.
Sado, Capt. J. A. de Brito Capello, St. Paul de Loando	.....	.....	29.95	760.6	80.2	26.8	.....	WSW	.....	.....	4	.....	5	.....	WSW	.....	.....	D. clouds	H. Mecadoneo, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	.....	.....	30.21	767 4	68.4	20.2	.....	NE	.....	.....	3	.....	0	.....	.....	1	NE	Blue sky	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between upper and lower clouds, and no humidity is given; duration of rain-fall in hours. The Sà da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	30.33	770.4	30.35	770.9	5.7	—14.6	96	Calm	0	0	.....	.....	2cs	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Astrakhan	30.24	768.0	30.15	765.9	39.0	3.9	75	ESE	4	2	.....	10cp	.....	.....	.....	.....	.....	.....	Capt. Wisganow.
Barnaul	30.02	762.4	30.56	776.3	11.3	—11.5	92	SW	9	4	.....	.....	8	.....	.....	.....	.....	Snowing	Meteorological Obs.
Dorpat	29.44	747.8	29.69	754.2	29.8	— 1.2	94	NNE	16	7	.....	.....	10n	.....	.....	.....	.....	Snowing	Meteorological Obs.
Ekaterinburg	29.49	749.1	30.54	775.7	17.4	— 8.1	82	Calm	0	0	.....	c	4cs	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	29.97	761.1	30.25	768.4	25.7	— 3.5	76	SSE	9	4	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	28.86	733.0	29.51	749.5	34.9	1.6	89	NW	7	3	.....	.....	10cks;n	.....	.....	.....	.....	.....	Physical Cabinet.
Krotkowo*	29.78	756.4	30.29	769.3	24.8	— 4.0	75	SSE	4	2	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	29.40	746.8	29.60	751.9	52.3	11.3	61	ESE	34	15	.....	.....	9	.....	.....	Blank	Blank	.....	Meteorological Obs.
Moscow	29.11	739.3	29.67	753.6	34.2	1.2	96	SE	7.8	3.5	.....	.....	10s	.....	.....	.....	.....	Light rain	Meteorological Obs.
Nertchinsk	27.92	709.2	30.40	772.1	13.1	—10.5	72	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	29.48	748.8	29.55	750.6	39.6	4.2	87	N	9	4	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	29.81	757.2	30.05	763.2	50.9	10.5	62	Calm	0	0	.....	.....	4ks	.....	.....	.....	.....	.....	
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	30.22	767.5	30.36	771.1	34.9	1.6	69	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	29.83	757.6	29.84	758.0	29.5	— 1.4	86	NE	20	9	.....	.....	10n	.....	.....	.....	.....	.....	Central Physical Obs.
Tashkend	28.54	725.0	30.17	766.4	51.8	11	83	.....	.....	.....	.....	.....	9	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.67	728.1	30.09	764.2	55.9	13.3	52	Calm	0	0	.....	3c	.....	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	29.21	741.8	29.64	752.8	36.9	2.7	79	WNW	18	8	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.09	738.8	29.52	749.7	36.3	2.4	94	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Heavy clouds	Astronomical Obs.
Yenisiesk	29.91	759.7	30.22	767.5	18.7	— 7.4	77	WNW	7	3	.....	.....	10	.....	.....	.....	.....	.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	30.01	762.2	30.11	764.9	56.8	13.8	52	S	3.8	1.72	.....	.....	4k	.....	.....	0	0	.....	Antonio Rave, Director
Bilbao, Met. Obs'y	30.16	766.0	30.21	767.4	57.6	14.2	64	SE	1.9	0.83	.....	3	0	NW	.....	0	0	Almost clear	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.17	690.0	.....	.....	51.1	10.6	42	E	3.7	1.67	.....	2	1	SW	.....	0	0	Light clouds	Domingo Martin y Perez.
Madrid, Royal Observatory	27.87	707.9	30.09	764.3	59.4	15.2	51	SE	2.2	1.00	.....	3	0	.....	.....	0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	29.94	760.5	30.09	764.3	70.0	21.1	72	NE	1.8	0.81	.....	0	2	.....	.....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.08	738.5	29.95	760.8	67.3	19.6	58	NE	0	0	.....	.....	0	.....	.....	0	0	Clear	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.02	762.4	30.08	764.1	73.1	22.8	87	E	2.2	1.0	.....	7c	0	W	.....	0	0	Fair	Benito Vines, S. J.
Manilla, Philippine Islands	29.85	758.2	29.90	759.5	*80.4	26.9	.....	NE	0	0	.....	.....	2s	.....	E	0	0	Clear	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.02	762.4	30.11	764.9	70.3	21.3	86	WSW	3.6	1.6	.....	0	2	.....	SW	0.140	3.6	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.88	759.0	29.97	761.3	78.1	25.6	84	E	8.2	3.67	.....	5cks	4kn	E	E	2.638	67.00	Overcast	Enrique Gadea, Chief Eng'r

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature.		Reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind. Direction.	Velocity		Force.	Clouds. Amount.		Clouds. Direction.		Rain-fall or melted snow in the past 24 hours.		Weather.	OBSERVER.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0–10.	Up'er 0–10.	Lo'er 0–10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
Haparanda	30.41	772.5	30.45	773.5	—14.1	—25.6	.....	N	.....	.....	2	.....	0	.....	.....	0	0	.....	
Umea	30.32	770.2	30.37	771.5	13.6	—10.2	87	N	.....	.....	4	.....	9	.....	.....	0	0	.....	
Hernosand	30.32	770.0	30.37	771.3	18.7	— 7.4	73	NNW	.....	.....	6	.....	3	.....	.....	0	0	.....	
Stockholm	29.85	758.2	30.03	762.7	29.3	— 1.5	74	NE	.....	.....	7	.....	10	.....	.....	0	0	.....	
Wisby	29.72	755.0	29.78	756.5	35.6	2.0	85	NE	.....	.....	7	.....	10	.....	.....	0.303	7.7	Snow & rain.	
Sub-Series.																			
Upsala	29.97	761.1	30.05	753.3	30.6	— 0.8	66	NNE	25.1	11.2	.....	.....	10	.....	E	0	0	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.70	728.9	30.17	766.3	38.5	3.6	68	SSW	.....	.....	3	.....	10	.....	.....	0.020	0.5	Foggy	The Observatory.
Zurich	28.40	721.3	30.10	764 6	35.1	1.7	85	W	.....	.....	1	.....	10	.....	.....	0.157	4.0	Snowing.	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +2.6 mm.; Thermometer, —3.4 Cent.; Relative Humidity, —9 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.61	752.0	46.8	8.2	91	NNW	22	10.0	.....	.....	10	.....	NNW	1.087	27.6	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.90	759.4	50.7	10.4	.....	NW	.....	.....	2	.....	5	.....	.....	0	0	Cloudy.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obsy	29.97	761.2	30.08	764.1	70.0	21.1	61	SW	.....	.....	1	.....	7k	.....	SW	0	0	0 clouds	Prof. C. V. A. van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B.	30.17	766.3	30.24	768.1	30.0	— 1.1	94	S	5	2.2	.....	.....	10s	.....	.....	0	0	Cloudy.....	G. A. Blair.
Charlottetown, P. E. Island	30.25	768.3	30.29	769.4	33.4	0.8	86	SW	6	2.7	.....	.....	10s	.....	.....	0	0	Cloudy.....	H. J. Cundall, C. E.
Cornwall, Ontario	29.71	754.6	29.90	759.4	39.7	4.3	95	NE	.....	.....	1	.....	Fog	.....	.....	Inap.	Inap.	Cloudy.	James Smith, M. A.
Dalhousie, N. B.	29.99	761.7	30.16	766.1	29.8	— 1.2	.....	S	.....	.....	1	.....	10n	.....	.....	.....	.....	Snowing.....	H. A. Johnson.
Father Point, Quebec	30.02	762.5	30.04	763.0	34.4	1.3	90	SW	25	11.2	.....	.....	10n	.....	.....	0	0	Threatening	J. McWilliams.
Fredericton, N. B.	30.19	766.8	30.26	768.6	35.0	1.7	80	S	6	2.7	.....	.....	10s	.....	.....	0.03	0.8	Overcast....	Prof. Harrison.
Fort Garry, Manitoba	28.61	726.7	29.48	748.8	17.6	— 8.0	95	SW	4	1.8	.....	0	2ks	.....	.....	0	0	Fine.....	James Stewart.
Granton, Ontario	28.60	726.4	29.68	753.9	54	12.2	.....	S	.....	.....	1	.....	10n	.....	.....	0	0	Cloudy	James Grant.
Halifax, N. S.	30.23	767.8	30.36	771.1	29.4	— 1.4	94	W	2	0.9	.....	.....	8n	.....	.....	0	0	Cloudy.....	A. Allison, M. A.
Hamilton, Ontario	29.43	747.5	29.81	757.2	44.7	7.1	87	NE	.....	.....	1	.....	Fog	.....	.....	0	0	Foggy	Geo. Dickson, M. A.
Heart's Content, N. F.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.54	750.3	29.87	758.7	51.7	10.9	81	S	22	9.8	.....	2c	8ks	.....	.....	0.04	1.0	Cloudy.....	S. Woods, M. A.
Little Glace Bay, N. S.	30.28	769.1	30.32	770.1	35.0	1.7	95	SW	4	1.8	.....	5ck	0	SW	.....	0	0	Fair.....	C. H. Rigby.
Montreal, Quebec	29.77	756.1	29.97	761.2	46.1	7.8	89	S	21	9.4	.....	10k;ck	0	E	.....	0.21	5.3	Cloudy.....	C. H. McLeod, C. E.
Moose Factory, Ontario	29.68	753.9	29.71	754.6	32.9	0.4	95	Calm	.....	.....	0	.....	10	.....	.....	0.10	2.5	Cloudy.....	J. R. Nason.
Norwood	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. R. Mosley.
Peterboro, Ontario	29.05	737.9	29.80	756.9	42.7	5.9	99	N	.....	.....	1	.....	10n	.....	.....	0	0	Overcast.....	J. F. Jeffers, B. A.
Port Dover, Ontario	29.08	738.6	29.77	756.1	54.1	12.3	87	SW	.....	.....	6	6ck	5n	SW	S	0	0	Threatening	H. Morgan.
Port Hastings, N. S.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.10	739.1	29.74	755.4	55.1	12.8	93	E	4	1.8	.....	2cs	5ks	S	SW	0	0	Cloudy.....	M. Payne.
Quebec, Quebec	29.75	755.6	30.08	764.0	36	2.2	100	Calm	.....	.....	0	.....	Fog	.....	.....	0.06	1.5	Foggy	Capt. Ashe, R. N.
Rockdiffe, Ontario	29.31	744.2	29.78	756.4	38.0	3.3	75	E	8	3.6	.....	Haze	10s	.....	E	0.25	6.3	Heavy rain.	W. H. McIntyre.
St. Andrews, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Gove.
St. John, N. B.	30.10	764.5	30.27	768.8	36	2.2	90	S	14	6.3	.....	.....	10ks	.....	.....	0	0	Overcast.....	G. Murdock, C. E.
Saugeen, Ontario	28.91	734.3	29.60	751.8	55.1	12.8	91	S	27	12.1	.....	.....	9ks	.....	.....	0.17	4.3	Raining.....	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.44	722.4	29.71	754.6	49.1	9.5	99	SE	6	2.7	.....	.....	10s	.....	.....	0	0	Cloudy	C. J. MacGregor, M. A.
Sydney, C. B.	30.29	769.4	30.33	770.4	34.3	1.3	76	SW	3	1.3	.....	2c	0	.....	.....	0.01	0.3	Fine.....	T. C. Hill, C. E.
Toronto, Ontario	29.40	746.7	29.78	756.4	48.5	9.2	94	E	8	3.6	.....	5cs	5ks	W	.....	Inap.	Inap.	Cloudy.....	Magnetic Observatory.
Windsor, N. S.	30.22	767.6	30.32	770.1	28.0	— 2.2	83	SW	3	1.3	.....	.....	10k;ks	.....	.....	0	0	Overcast....	Prof. John E. Oram.
Woodstock, Ontario	28.64	727.4	29.70	754.4	52.3	11.3	96	SE	11	4.9	.....	.....	10ks;s	.....	W	1.09	27.7	Cloudy.....	Prof. J. Montgomery.
Yarmouth, N. S.	30.26	768.6	30.33	770.4	38.6	3.7	80	E	.....	.....	1	6c;ck	0	W	.....	0.20	5.1	Fair.....	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.96	761.0	30.22	767.6	30.0	— 1.1	89	N	.....	.....	0	0	0	.....	.....	0	0	Clear.....	John Delany.
St. Pierre, N. F.	.....	.....	30.13	765.3	33.8	1	.....	NW	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	l'Hopital Maritime.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10, except Yarmouth and St. Johns on scale 0 to 20. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.92	760.0	30.15	765.8	49	9.4	78	S	16	7.2	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Alpena, Michigan	28.88	733.5	29.51	749.5	46	7.8	100	E	4	1.8	.....	.....	Fog	.....	.....	0	0	Dense fog	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	28.94	735.1	30.06	763.5	65	18.3	89	S	5	2.2	.....	10k	0	S	.....	0	0	Cloudy	
Atlantic City, New Jersey	30.19	766.8	30.20	767.1	54	12.2	93	SE	16	7.2	.....	10k	0	Calm	.....	0.02	0.5	Threatening	
Augusta, Georgia	29.97	761.2	30.07	763.8	63	17.2	89	Calm	0	0	.....	3ek;cs	Hz;1s	NW	Calm;NW	0	0	Fair	
Baltimore, Maryland	30.09	764.3	30.14	765.5	58	14.4	82	E	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Barnegat, New Jersey	30.17	766.3	30.20	767.1	54	12.2	87	SE	16	7.2	.....	.....	10s	.....	E	0	0	Cloudy	
Bismarck, Dakota	27.62	701.5	29.47	748.5	23	— 5.0	86	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Boerne, Texas	28.39	721.1	29.65	753.1	69	20.6	95	SW	16	7.2	.....	0	5ks	.....	S	0	0	Cloudy	
Boise City, Idaho	26.92	683.8	29.88	758.9	37	2.8	81	S	3	1.3	.....	0	5s	.....	Calm	0.12	3.0	Fair	
Boston, Massachusetts	30.11	764.8	30.27	768.8	46	7.8	84	S	8	3.6	.....	0	8s	.....	S	0.08	2.0	Clearing	
Brackettville, Texas	28.67	728.2	29.68	753.9	70	21.1	100	E	7	3.1	.....	.....	10n	.....	Calm	Inap.	Inap.	Light rain	
Breckenridge, Minnesota	28.47	723.1	29.47	748.5	28	— 2.2	88	SE	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Brownsville, Texas	29.79	756.7	29.84	757.9	79	26.1	81	S	12	5.4	.....	2k	0	S	.....	0	0	Clear	
Buffalo, New York	29.10	739.1	29.77	756.1	62	16.7	67	S	14	6.3	.....	5k	2s;sm	S	S;Calm	0.04	1.0	Cloudy	
Burkes, Arizona	.....	.....	.....	.....	40	4.4	73	N	.....	.....	1	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.74	755.4	30.03	762.7	47	8.3	85	S	27	12.1	.....	8cs	2ks	SW	S	0.02	0.5	Cloudy	
Cairo, Illinois	29.42	747.3	29.80	756.9	73	22.8	76	S	28	12.5	.....	.....	10s	.....	S	0	0	Cloudy	
Campo, California	27.45	697.2	30.02	762.5	29	— 1.7	89	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.14	765.5	30.15	765.8	70	21.1	95	S	4	1.8	.....	2k	5s	NW	S	0	0	Cloudy	
Cape Henry, Virginia	30.09	764.3	30.11	764.8	63	17.2	89	SE	18	8.0	.....	5k	2s	W	Calm	0	0	Cloudy	
Cape Lookout, N. Carolina	30.14	765.5	30.15	765.8	68	20.0	90	SW	12	5.4	.....	8cs	0	SW	.....	0	0	Cloudy	
Cape May, New Jersey	30.14	765.5	30.17	766.3	58	14.4	88	E	20	8.9	.....	.....	10s	.....	SW	0	0	Cloudy	
Castroville, Texas	29.04	737.6	29.71	754.6	74	23.3	81	SE	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Cedar Keys, Florida	30.14	765.5	.....	.....	.....	.....	.....	SE	.....	.....	1	1c	0	SE	.....	0	0	Clear	
Charleston, South Carolina	30.00	762.0	30.16	766.1	66	18.9	89	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Charlotte, North Carolina	29.26	743.2	30.06	763.5	63	17.2	89	SW	6	2.7	.....	8cs	Sm'e	W	Calm	0	0	Fair	
Chattanooga, Tennessee	29.25	742.9	30.02	762.5	68	20.0	84	Calm	0	0	.....	8ck	0	SW	.....	0.01	0.3	Fair	
Cheyenne, Wyoming	23.61	599 7	29.55	750.6	31	— 0.6	69	W	22	9.8	.....	0	0	.....	.....	0.02	0.5	Clear	
Chicago, Illinois	28.83	732.3	29.48	748.8	60	15.6	82	SW	10	4.5	.....	.....	10s	.....	Calm	0.22	5.6	Cloudy	
Cincinnati, Ohio	29.15	740.4	29.76	755.9	70	21.1	80	S	14	6.3	.....	.....	10ks	.....	SW	0.03	0.8	Threatening	
Cleveland, Ohio	29.05	737.9	29.74	755.4	62	16.7	77	SE	10	4.5	.....	5cs;1ck	Haze	S;SW	Calm	0	0	Fair	
Coleman City, Texas	28.11	714.0	29.73	755.1	62	16.7	83	S	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Columbus, Ohio	28.94	735.1	29.95	760.7	62	16.7	83	S	7	3.1	.....	.....	10n	.....	SW	0.12	3.0	Light rain	
Concho, Texas	27.94	709.7	29.56	750.8	63	17.2	89	SE	4	1.8	.....	.....	10ks	.....	S	0	0	Cloudy	
Corsicana, Texas	29.37	746.0	29.82	757.4	70	21.1	90	S	4	1.8	.....	.....	8ks	.....	S	0.02	0.5	Cloudy	
Davenport, Iowa	28.91	734.3	29.52	749.8	49	9.4	93	W	5	2.2	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy	
Deadwood, Dakota	24.83	630.7	.....	.....	29	— 1.7	67	SW	4	1.8	.....	0	5s	.....	SW	0	0	Fair	
Decatur, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Denison, Texas	28.96	735.6	29.72	754.9	68	20.0	79	SW	12	5.4	.....	.....	10n	.....	SW	Inap.	Inap.	Light rain	
Denver, Colorado	24.42	620.3	29.64	752.8	26	— 3.3	63	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	28.73	729.7	29.59	751.6	47	8.3	85	NW	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Detroit, Michigan	28.96	735.6	29.59	751.6	61	16.1	82	SW	12	5.4	.....	2k	8k	S	S	0	0	Cloudy	
Dodge City, Kansas	27.17	690.1	29.51	749.5	28	— 2.2	88	W	7	3.1	.....	.....	Fog	.....	Calm	0	0	Dense fog	
Dubuque, Iowa	28.89	733.8	29.57	751.1	47	8.3	85	W	2	0.9	.....	.....	10ks	.....	W	0	0	Cloudy	
Duluth, Minnesota	28.91	734.3	29.58	751.3	40	4.4	82	N	4	1.8	.....	0	5s	.....	NW	0.02	0.5	Fair	
Eagle Pass, Texas	29.05	737.9	29.74	755.4	73	22.8	90	SE	4	1.8	.....	.....	10ks	.....	SE	0	0	Cloudy	
Eastport, Maine	30.19	766.8	30.26	768.6	41	5.0	74	S	11	4.9	.....	.....	10s	.....	SW	0.02	0.5	Cloudy	
Edinburg, Texas	.....	.....	.....	.....	76	24.4	91	E	.....	.....	4	.....	10s	.....	SE	0	0	Cloudy	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.06	738.1	29.75	755.6	62	16.7	72	S	13	5.8	.....	5c	0	SW	.....	0	0	Fair	
Escanaba, Michigan	28.83	732.3	29.48	748.8	39	3.9	82	N	12	5.4	.....	.....	10s	.....	N	0	0	Cloudy	
Florence, Arizona	28.44	722.4	30.04	763.0	38	3.3	72	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.20	690.4	29.12	739.6	27	— 2.8	88	S	3	1.3	.....	10cs	0	Calm	.....	0	0	Cloudy	
Fort Custer, Montana	26.25	666 7	.....	.....	39	3.9	34	W	12	5.4	.....	0	5s	.....	W	0	0	Fair	
Fort Davis, Texas	25.11	637.8	30.07	763.8	44	6.7	45	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.16	740.7	29.68	753.9	59	15.0	88	NW	6	2.7	.....	.....	10s	.....	.....	0.70	17.8	Cloudy	
Fort Griffin, Texas	25.18	639.6	29.98	761.5	37	2.8	63	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	28.54	724.9	29.78	756.4	61	16.1	80	W	12	5.4	.....	0	5s	.....	Calm	0	0	Fair	
Fort McKavett, Texas	26.82	681.2	.....	.....	28	— 2.2	77	Calm	0	0	.....	5ks	0	Calm	.....	0	0	Fair	
Fort McKavett, Texas	27.56	700.0	29.39	746.5	65	18.3	89	S	5	2.2	.....	.....	10s	.....	S	0	0	Threatening	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Stevenson, Dakota	28.57	725.7	29.67	753.6	48	8.9	93	N	10	4.5	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy	
Fort Verde, Arizona	27.56	700.0	.....	.....	23	— 5.0	86	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Yates, Dakota	.....	.....	.....	.....	33	0.6	70	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fredericksburg, Texas	28.00	711.2	29.50	749.3	65	18.3	73	S	4	1.8	.....	.....	10s	.....	Calm	0.13	3.3	Cloudy	
Galveston, Texas	29.87	758.7	29.91	759.7	73	22.8	95	SE	8	3.6	.....	.....	10ks	.....	S	0.09	2.3	Cloudy	
Graham, Texas	28.71	729.2	29.72	754.9	65	18 3	89	Calm	0	0	.....	.....	10s	.....	SE	0	0	Threatening	
Grand Haven, Michigan	28.85	732.8	29.47	748.5	59	15.0	82	S	20	8.9	.....	10cs	0	W	.....	0	0	Cloudy	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	28.83	732.3	29.74	755.4	57	13.9	58	W	12	5.4	.....	0	2s	.....	W	0	0	Clear	
Indianapolis, Indiana	28.85	732.8	29.58	751.3	69	20.6	80	S	18	8.0	.....	.....	10s	.....	S	0.01	0.3	Threatening	
Indianola, Texas	29.86	758.4	29.89	759.2	74	23.3	95	S	12	5.4	.....	.....	10s	.....	S	0	0	Cloudy	
Jacksboro, Texas	28.77	730.7	29.64	752.8	70	21.1	75	NW	6	2.7	.....	0	5s	.....	NW	0	0	Fair	
Jacksonville, Florida	30.15	765.8	30.17	766.3	69	20 6	85	SE	1	0.4	.....	5k	0	SE	.....	0	0	Fair	
Keokuk, Iowa	28.96	735.6	29.56	750.8	50	10.0	93	SW	8	3.6	.....	.....	Fog	.....	Calm	0.10	2.5	Dense fog	
Key West, Florida	30.06	763.5	30.10	764.5	76	24.4	82	E	10	4.5	.....	2k	0	E	.....	0.20	5.1	Fair	
Kittyhawk, North Carolina	30.14	765.5	30.16	766.1	66	18.9	74	S	8	3.6	.....	.....	10ks	.....	SW	0	0	Cloudy	
Knoxville, Tennessee	29.13	737.3	30.00	762.0	69	20.6	80	SW	10	4 5	.....	.....	10ks	.....	SW	0	0	Cloudy	
La Crosse, Wisconsin	28.78	731.0	29.50	749 3	44	6 7	92	N	1	0.4	.....	.....	10s	.....	Calm	0.10	2.5	Cloudy	
La Mesilla, New Mexico	26.02	660.9	30.17	766.3	33	0.6	67	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.47	748.5	29.79	756.7	75	23.9	60	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	28.84	732.3	29.66	753.4	49	9.4	93	SW	15	6.7	.....	.....	10s;fg	.....	SW	0	0	Cloudy	
Little Rock, Arkansas	29.50	749.3	29.84	757.9	71	21.7	75	S	13	5.8	.....	0	8s	.....	SW	0.45	11.4	Cloudy	
Los Angeles, California	29.74	755.4	30.09	764.3	47.0	8.3	66	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.24	742 7	29.77	756.1	73	22.8	72	S	19	8.5	.....	.....	10s	.....	S	Inap.	Inap.	Cloudy	
Lynchburg, Virginia	29.41	747.0	30.00	764 3	55	12.8	81	Calm	0	0	.....	2cs	0	SW	.....	0	0	Clear	
Madison, Wisconsin	28.52	724 4	29.47	748.5	51	10.6	91	S	4	1.8	.....	.....	Fog	.....	.....	0	0	Dense fog	
Marquette, Michigan	28.85	732.8	29.54	750.3	43	6.1	83	NW	4	1.8	.....	.....	10n	.....	Calm	0.23	5.8	Light rain	
Mason, Texas	28.20	716.3	29.88	758.9	69	20.6	70	S	4	1.8	.....	1cs	5s	SW	SW	0	0	Fair	
Memphis, Tennessee	29.56	750.8	29.89	759.2	72	22.2	80	S	10	4.5	.....	.....	10s	.....	S	0	0	Cloudy	
Milwaukee, Wisconsin	28.76	730.5	29.46	748.3	48	8.9	93	W	2	0.9	.....	.....	Fog	.....	.....	0	0	Foggy	
Mobile, Alabama	30.01	762.2	30.05	763.3	70	21.1	95	S	6	2.7	.....	0	1s	.....	S	0	0	Clear	
Montgomery, Alabama	29.98	758.6	30.11	764.8	65	18.3	94	S	4	1.8	.....	0'c	0	S	.....	0	0	Cloudy	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Morgantown, West Virginia	28.96	735.6	29.91	759.7	64	17.8	75	SW	4	1.8	.....	.....	10n	.....	SW	Inap	Inap.	Light rain..	
Mt. Washington, N. H.	25.83	605.3	30.19	766.8	33	0.6	100	NW	30	13.4	.....	.....	Fog	.....	NW	0	0	Foggy	
Nashville, Tennessee	29.42	747.3	29.94	760.5	70	21.1	75	S	9	4.0	.....	2k	0	SW	.....	Inap	Inap.	Fair.....	
New Haven, Connecticut	30.13	765.3	30.25	768.3	52	11.1	90	S	7	3.1	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy.	
New London, Connecticut	30.23	767.8	30.28	769.1	50	10.0	93	SE	12	5.4	.....	.....	10n	.....	SE	0.06	1.5	Light rain..	
New Orleans, Louisiana	29.95	760.7	30.01	762.2	72	22.2	90	SE	6	2.7	.....	Haze	Fog	Calm	Calm	0	0	Foggy.....	
Newport, Rhode Island	30.25	768.3	30.30	769.6	49.5	9.7	97	SE	8	3.6	.....	.....	10n	.....	S	0.01	0.3	Light rain..	
New York, New York	29.90	759.4	30.08	764.0	52	11.1	79	SE	9	4.0	.....	.....	10s	.....	Calm	0.04	1.0	Cloudy.....	
Norfolk, Virginia	30.14	765.0	30.10	764.5	66	18.9	84	SE	6	2.7	.....	5k	0	W	.....	0	0	Fair.....	
North Platte, Nebraska	26.73	678.9	29.40	746.7	18	— 7.8	84	W	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Olympia, Washington Ter.	29.70	754.4	29.74	755.4	42.0	5.6	87	S	6	2.7	.....	.....	10n	.....	Calm	0.77	19.6	Light rain..	
Omaha, Nebraska	28.52	724.4	29.61	752.1	41	5.0	82	W	7	3.1	.....	0	2s	.....	SW	0	0	Clear.....	
Oswego, New York	29.60	751.8	29.92	760.0	63	17.2	80	S	14	6.3	.....	5c	0	W	.....	0.01	0.3	Fair.....	
Pembina, Dakota	28.57	725.7	29.42	747.3	25	— 3.9	100	S	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Pensacola, Florida	30.07	763.8	30.10	764.5	73	22.8	85	SE	.....	.....	2	Haze	0	Calm	.....	0	0	Clear.....	
Philadelphia, Pennsylvania	30.13	765.3	30.18	766.6	54	12.2	87	SE	13	5.8	.....	5cs	5s	W	Calm	0	0	Cloudy.....	
Phœnix, Arizona	28.88	733.5	30.74	780.8	43	6.1	83	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Pike's Peak, Colorado	17.34	440.4	29.55	750.6	2	—16.7	44	W	48	21.5	.....	2ck	0	Calm	....	0	0	Clear.....	
Pilot Point, Texas	29.01	736.8	29.80	756.9	70	21.1	90	S	16	7.2	.....	.....	10n	.....	S	Inap.	Inap.	Light rain..	
Pioche, Nevada	.....	.....	.....	.....	34	1.1	61	S	18	8.0	.....	0	5s	....	Calm	0	0	Fair	
Pittsburg, Pennsylvania	29.10	739.1	29.87	758.7	65	18.3	63	S	13	5.8	.....	1k	0	W	.....	0	0	Fair..	
Port Huron, Michigan	28.94	735.1	29.57	751.1	61	16.1	82	S	18	8.0	.....	.....	10k	.....	S	0	0	Cloudy.. ...	
Portland, Maine	30.21	767.3	30.26	768.6	45	7.2	92	SW	4	1.8	.....	.....	10s	.....	Calm	0.17	4.3	Cloudy	
Portland, Oregon	29.80	756.9	29.88	758.9	44.0	6.7	84	S	12	5.4	.....	.....	10s	....	.....	0.42	10.7	Threatening	
Portsmouth, N. Hampshire	.....	.....	.....	.....	67	19.4	94	SW	8	3.6	.....	10k	0	SW	.....	0	0	Cloudy.....	
Prescott, Arizona	24.75	628.6	30.11	764.8	28	— 2.2	77	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear..... ...	
Punta Rassa, Florida	30.09	764.3	30.11	764.8	71	21.7	90	E	7	3.1	.....	0	0	....	....	0	0	Clear	
Red Bluff, California	29.74	755.4	30.11	764.8	50	10.0	90	SE	12	5.4	.....	.....	10n	....	....	1.04	26.4	Light rain..	
Rio Grande City, Texas	29.62	752.3	29.83	757.7	73	22.8	85	SE	10	4.5	.....	0	0	.....	.....	0	0	Clear.....	
Rochester, New York	29.24	742.7	29.84	757.9	58	14.4	76	SW	6	2.7	.....	9cs	0	SW	.....	Inap.	Inap.	Cloudy.....	
Roseburg, Oregon	29.45	748.0	30.02	762.5	45.5	7.5	84	SW	4	1.8	.....	.....	10ks	.....	SW	1.22	31.0	Cloudy.....	
Sacramento, California	30.05	763.3	30.13	765.3	48	8.9	97	SE	14	6.3	.....	.....	10n	.....	Calm	0.14	3.6	Light rain..	
St. Louis, Missouri	29.10	739.1	29.65	753.1	59	15.0	88	S	5	2.2	.....	.....	10n	.....	Calm	0.55	14.0	Light rain..	
St. Paul, Minnesota	28.69	728.7	29.51	749.5	39	3.9	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Salt Lake City, Utah	25.38	644.6	29.71	754.6	37	2.8	71	S	18	8.0	....	.....	10s	....	Calm	0.05	1.3	Threatening	
San Antonio, Texas	29.15	740.4	29.70	754.4	75	23.9	81	SE	4	1.8	.....	.....	10s	.....	SE	0	0	Cloudy.....	
San Diego, California	30.06	763.5	30.13	765.3	47	8.3	85	NE	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	
Sandusky, Ohio	29.05	737.9	29.69	754.1	64	17.8	83	S	18	8.0	.....	5k	2ks	W	W	0	0	Fair	
Sandy Hook, New Jersey	30.19	766.8	30.22	767.6	53	11.7	86	SE	16	7.2	.....	.....	10s	.....	SE	0	0	Cloudy.	
San Francisco, California	30.08	764.0	30.15	765.8	57	13.9	94	SW	10	4.5	.....	.....	10n	.....	Calm	0.37	9.4	Light rain..	
Santa Fé, New Mexico	23.22	589.8	29.76	755.9	23	— 5.0	60	N	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Savannah, Georgia	30.09	764.3	30.18	766.6	65	18.3	94	S	1	0.4	.....	0	Fog	.....	Calm	0	0	Clear..	
Shreveport, Louisiana	29.68	753.9	29.90	759.4	71	21.7	90	S	4	1.8	.....	0	5s	.....	S	0	0	Fair.....	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.15	765.8	30.19	766.8	68	20.0	89	SW	5	2.2	.....	2k	0	S	.....	0	0	Fair...	
Socorro, New Mexico	25.34	643.6	29.40	746.7	31	— 0.6	69	Calm	0	0	.....	0	0	....	....	0	0	Clear.....	
Springfield, Illinois	28.97	735.8	29.61	752.1	58.5	14.7	85	S	11	4.9	.....	.....	10n	... .	SW	0.63	16.0	Light rain..	
Springfield, Massachusetts	30.11	764.8	30.24	768.1	47	8.3	77	Calm	0	0	.....	.....	Fog	.....	.....	Inap.	Inap	Dense fog ...	
Stockton, Texas	27.01	686.0	30.01	762.2	53	11.7	19	NE	12	5.4	.....	0	0	.....	.....	0	0	Clear.....	
Thatcher's Island, Mass	30.23	767.8	30.28	769.1	50	10.0	93	SE	16	7.2	.....	.....	10s	.....	SE	0.05	1.3	Cloudy.....	
Toledo, Ohio	28.97	735.8	29.62	752.3	63	17.2	89	S	14	6.3	.....	8cs	2ks	W	W	0	0	Threatening	
Tucson, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon	29.48	748.8	29.97	761.2	42.5	5.8	63	SW	16	7.2	.....	0	1s	.....	W	0	0	Clear.....	
Uvalde, Texas	28.91	734.3	29.70	754.4	73	22.8	81	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Vicksburg, Mississippi	29.73	755.1	29.98	761.5	69	20.6	95	S	7	3.1	.....	.....	10s	.....	SW	0.04	1.0	Cloudy.....	
Virginia City, Montana	23.80	604.5	29.28	743.7	20	— 6.7	70	SW	18	8.0	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Visalia, California	29.78	756.4	30.16	766.1	46	7.8	84	E	2	0.9	....	0	5s	.....	Calm	0	0	Fair..... ...	
Washington, D. C.	30.00	762.0	30.12	765.0	54	12.2	87	NE	7	3.1	.....	.....	10s;fg	....	Calm	0	0	Cloudy.....	
Wickenburg, Arizona	.....	.....	.....	.....	34	1.1	79	NW	.....	.....	1	0	0	.....	.....	0	0	Clear.....	
Wilmington, North Carolina	30.09	764.3	30.16	766.1	66	18.9	83	SW	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	
Winnemucca, Nevada	25.50	647.7	29.86	758.4	42	5.6	63	SW	16	7.2	.....	.....	8s	.....	SW	0.12	3.0	Cloudy.....	
Wood's Holl, Massachusetts	30.25	768.3	30.28	769.1	50	10.0	78	S	12	5.4	.....	.....	10ks	.....	SW	0.04	1.0	Cloudy.....	
Yankton, Dakota	28.28	718.3	29.58	751.3	33	0.6	69	SW	12	5.4	... .	0	0	.....	.....	0	0	Clear	
Yuma, Arizona	29.92	760.0	30.09	764.3	45	7.2	68	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	29.99	761.7	30.04	763.0	77	25.0	82	SE	2.4	1.1	.....	8cs	0	Calm	.....	0	0	Fair.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.14	765.5	30.15	765.8	77	25.0	87	Calm	0	0	.....	2k	2cs	Calm	.....	0	0	Fair.	James Gall.
Medellin, Colombia, S. A.*	25.19	639.8	.....	.....	64.5	18.1	89	Calm	.....	.....	0	.....	10n	.....	.....	0.10	2.5	.....	Thomas Herran.
Navassa, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. Hering.
Santiago de Cuba, W. I.	29.98	761.5	29.98	761.5	83	28.3	67	SE	....	.....	2	0	5k	.....	.....	0	0	Fair.	Robert Mason.
St. Thomas, W. I.	29.99	761.7	30.02	762.5	77	25.0	76	NNE	.....	.....	2	2ck	2s	NE	.....	0	0	....	G. O. Gellich.
York Factory, B. A.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.
.....	29.82	757.4	29.88	758.9	11.0	—11.7	100	W	9	4.0	.....	.....	10n	.....	NW	0.04	1.0	Snowing.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Medellin, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.26 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm. *The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.14‡	765.5‡	.....	.....	74	23.3	95	SSE	9	4.0	.....	.....	Mist	.....	SSE	0	0	.....	.....	Fair	
Navy Yard, Portsmouth, N.H	29.90‡	759.4‡	.....	.....	44	6.7	48	SW	2	0.9	.....	.....	10	.....	.....	0	0	.....	.....	Overcast	
Naval Hospital, Yokohama, Japan	30.00‡	762.0‡	.....	.....	45	7.2	48	N	.....	.....	6	.....	0	.....	.....	0	0	.....	.....	Clear	
Adams, Mare I'd., Navy Yard, Cal.	30.15‡	765.8‡	.....	.....	55	12.8	100	E	.....	.....	2	.....	10	.....	E	.....	.....	.....	.....	Cloudy	
Alaska, Iquique, Peru *.	29.98‡	761.5‡	.....	.....	65	18.3	84	SW	.....	.....	1	.....	2	.....	NE	.....	.....	.....	.....	D. clouds	
Alliance, N. 20° 46′, W. 32° 00′	30.11‡	764.8‡	.....	.....	75	23.9	81	ENE	.....	.....	3	.....	7	.....	E	.....	.....	Smooth	E	D. clouds	
Colorado, New York, N. Y.	30.18‡	766 6‡	.....	.....	52	11.1	93	SE	25	11.2	.....	.....	10	.....	S	0.20	5.1	.....	.....	Misty	
Constitution, Navy Yard, Norfolk, Va.	30.16‡	766.1‡	.....	.....	66	18.9	100	Calm	0	0	.....	.....	7	.....	S	.....	.....	.....	.....	Cloudy	
Enterprise, Alexandria, Egypt	30.15‡	765.8‡	.....	.....	71	21.7	66	NW	.....	.....	4	.....	1	.....	NW	.....	.....	Smooth	.....	Clear	
Franklin, Off Navy Yard, Norfolk, Va.	30.12‡	765.0‡	.....	.....	66	18.9	89	SSE	7.2	3.2	.....	.....	8	.....	SW	0	0	.....	.....	Fair	
Hartford, N. 38° 24′, W. 72° 50′	30.20‡	767.1‡	.....	.....	76	24.4	20	ESE	.....	.....	4	.....	2	.....	ESE	0	0	Smooth	.....	Fair	
Independence, Mare I'd, Navy Yard, Cal.	30.11‡	764.8‡	.....	.....	60	15.6	88	S	1.8	0.8	.....	.....	10	.....	SE	0.14	3.6	.....	.....	Cloudy	
Kearsage, Norfolk, Va	30.4 ‡	772.1‡	.....	.....	65	18.3	89	NNE	.....	.....	0–1	.....	0	.....	.....	0	0	.....	.....	Clear	
Lackawana, N. 26° 00′ E. 178° 54′	30.09‡	764 3‡	.....	.....	77	25.0	86	ENE	.....	.....	3	.....	1	.....	ENE	.....	.....	Smooth	E	Clear	
Marion, Off Norfolk, Va.	30.11‡	764.8‡	.....	.....	66	18.9	89	SE	.....	.....	2	.....	8	.....	SE	.....	.....	Smooth	.....	Cloudy	
Michigan, Erie, Pa.	29.72‡	754.9‡	.....	.....	63	17.2	78	S	.....	.....	7	.....	5	.....	SW	.....	.....	.....	.....	Fair	
Monocacy, Shanghai, China.	30.40‡	772.1‡	.....	.....	52	11.1	86	NE	.....	.....	1	.....	10	.....	NE	.....	.....	.....	.....	Cloudy	
New Hampshire, Port Royal, S. C.	30 16‡	766.6‡	.....	.....	70	21.1	90	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Onward, Callao, Peru †.	29.97‡	761.2‡	.....	.....	64	17.8	89	S	.....	.....	1	.....	10	.....	.....	.....	.....	Long	W	Misty	
Palos, Taku Bar, China	30.39‡	771.9‡	.....	.....	40	4.4	75	WSW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Passaic, Washington, D. C.	30.10‡	764.5‡	.....	.....	55	12 8	93	NE	.....	.....	1	.....	10	.....	.....	0	0	.....	.....	Cloudy	
Pensacola, Callao, Peru	29.97‡	761.2‡	.....	.....	64	17.8	89	SSE	.....	.....	0–1	.....	10	.....	.....	.....	.....	.....	.....	Hazy	
Portsmouth, Alexandria, Va.	30.12‡	765.0‡	.....	.....	54	12.2	93	NNE	.....	.....	2	.....	2?	.....	.....	0	0	.....	.....	Cloudy?	
Powhatan, New York City, N. Y.	30.20‡	767.1‡	.....	.....	55	12.8	87	SSE	.....	.....	2	.....	10	.....	Calm	.....	.....	.....	.....	Cloudy	
Quinnebaug, Leghorn, Italy	29.92‡	760.0‡	.....	.....	55	12.8	40	NE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Ranger, N. 39° 05′, E. 153° 15′	29.47‡	748.5‡	.....	.....	62	16.7	88	NW	.....	.....	3	.....	2	.....	NW	.....	.....	Long	NNW	Clear	
Richmond, Shanghai, China	30.39‡	771.9‡	.....	.....	54	12.2	67	NE	.....	.....	1	.....	10	.....	W	0	0	Smooth	.....	Cloudy	
Rio Bravo, Brownsville, Texas. †	29.94‡	760.5‡	.....	.....	75	23.9	100	SSE	5	2.2	.....	.....	8	.....	SSE	0	0	.....	.....	Cloudy	
Santee, Annapolis, Md	30.13‡	765.3‡	.....	.....	57	13.9	100	SE	.....	.....	2	.....	10	.....	E	0	0	.....	.....	Cloudy	
Shenandoah, N. 3° 50′, W. 29° —′	29.90‡	759.4‡	.....	.....	81	27.2	87	SE	.....	.....	5	.....	10	.....	.....	.....	.....	Mod'ate	SE	Cloudy	
St. Louis, League Island, Pa.	30.16‡	766.6‡	.....	.....	53	11.7	93	ESE	12	5.4	.....	.....	8	.....	SW	0	0	.....	.....	Fair	
Trenton, Villafranca, France	29.94‡	760.5‡	.....	.....	57	13.9	47	W	.....	.....	3	.....	0	.....	.....	0	0	Smooth	.....	Clear	
Tuscarora, N. 15° 47′, W. 97° 06′	29.89‡	759.2‡	.....	.....	77	25 0	86	NNE	.....	.....	1	.....	2	.....	Calm	0	0	Long	S	Fair	
Vandalia, Key West, Fla.	30.09‡	764.3‡	.....	.....	79	26.1	86	E	.....	.....	1	.....	5	.....	E	.....	.....	.....	.....	Fair	
Wabash, Boston, Mass.	30.20‡	767.1‡	.....	.....	43	6.1	75	Calm.	0	0	.....	.....	8	.....	.....	0.02	0.5	.....	.....	Cloudy	
Wachusett, N. 6° —′, W 31° —′	30.05‡	763.3‡	.....	.....	79	26.1	91	ESE	.....	.....	5	.....	10	.....	ESE	.....	.....	Mod'ate	ESE	Squally	
Wyoming, Malaga, Spain	30.09‡	764.3‡	.....	.....	66	18.3	84	ESE	.....	.....	2	.....	8	.....	SE	.....	.....	Smooth	SE	Cloudy	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections supplied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		CHARACTER.	DIRECTION FROM—		

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S. S. Samaria																			Capt. T. Roberts.

NOTE—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitebury.
S. S. Costa Rica																			W. House & R. Lawless.
S. S. Dakota, Capt. H. G. Morse																			Capt. Connolly.
S. S. Georgia																			F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin																			Capt. A. Fuller.
S. S. Wilmington																			
S. S. Zealandia, S. 25° 26′, W. 176° 01′		29.70‡	754.4‡				NW			5				NE		Mod'ate	SE	Clear	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The orginals give the barometer as read off; wind-force by the scale 0 to to 12; for the Brittanic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer N. 33° 19′, E. 144° 23′	†	29.74‡	755.4‡	65	18.3	68	N			8		5		N		Heavy	N	Showery	D. A. Joyce, 2nd Officer
S. S. Gaelic, Capt. Davidson N. 45° 14′, W. 150° 12′	†	30.28‡	769.1‡	50	10.0		W			5		ks		W	0	Mod'ate Rough	W	D. clouds	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES

Furnished by the co-operation of A. Schumacher & Co., Agents

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undutsch.
S. S. Leipzig, Capt. F. Pfeiffer, N. 48° 12′, W. 40° 39′		29.65‡	753.1‡	46.0	7.8	80	NNW			6		8		N	1 h'r	Rough	NNW	Cloudy	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 51° 06′, E. 1° 14′		30.28‡	769.1‡				NNW			5		2		ENE		4	ENE	Fair	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 47° 49′, W. 43° 47′		29.72‡	754.6‡	45	7.2	92	NNW			8		7		NW	Heavy	Heavy	NW	Fair	Capt. R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.
RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents.																			
Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES—Miscellaneous.																			
Furnished by the co-operation of the Observers named.																			
Schooner Addie Fuller, Charleston, S. C.		30.21‡	767.3‡	70	21.1	75	Calm	0	0			0			0			Clear	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George" of Halifax, Arroyo, Porto Rico, W. I.†		29.86‡	758.4‡	78	25.6		ENE			5		10		ENE	Blank	Rough	ESE	Cloudy	N. B. Foss.
Schooner Harry and Fred																			Capt. George Gardner.
Haytian																			
§ Iron Cross																			Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; do not distinguish between upper and lower clouds; sea-swell in general terms, as published. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

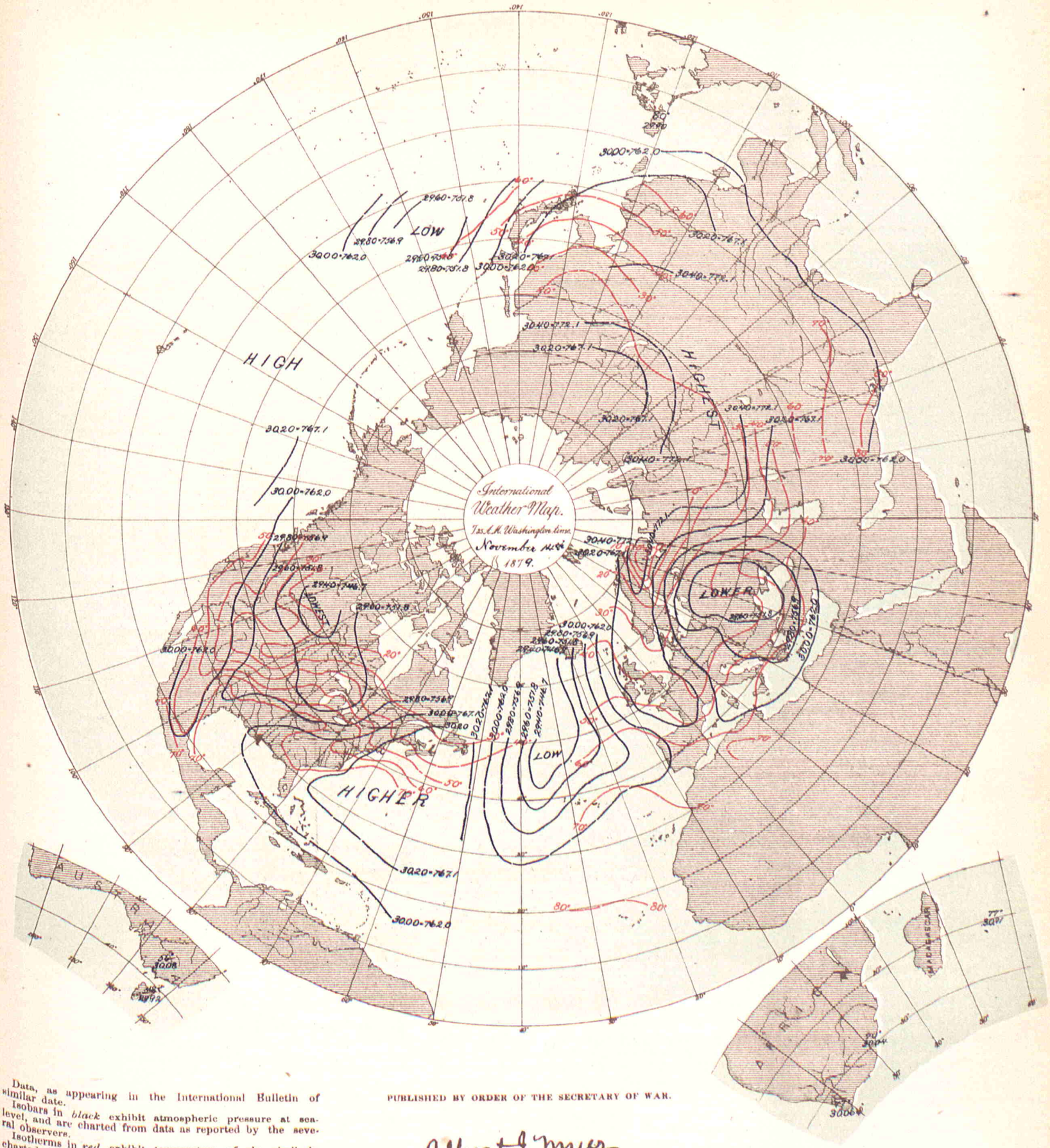
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg'd,) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 15, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0·43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.25	768.4	66.7	19.3	86	NW	.....	.....	1	.....	2	.....	.....	0	0	Fair	Kesxuche.
Nemours	.....	.....	30.09	764.2	69.8	21.0	82	NNW	.....	.....	3	.....	5	.....	.....	0	0	Cloudy	Tourilliere.
Algiers	.....	.....	30.09?	763 9	64.4	18.0	72	SW	.....	.....	1	.....	10	.....	.....	Inap.	Inap.	Covered	Foufrede.
La Calle	.....	.....	30.05	763.3	67.6	19.8	68	W	.....	.....	2	.....	5	.....	.....	0.071	1.8	Cloudy	Jacques.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Sfax	.....	.....	30.08	764.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Herbin.
Saida	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Watrin.
Tebessa	.....	.....	30.08	764.1	61.2	16.2	55	NW	.....	.....	5	.....	10	.....	.....	0.004	0.1	Covered	Brugniuax.
Geriville	.....	.....	.....	.....	60.7	19 3	43	WNW	.....	.....	4	.....	5	.....	.....	0	0	Cloudy	Bertrand.
Laghouat	.....	.....	30.10	764.4	70.9	21.6	90	SW	.....	.....	3	.....	5	.....	.....	0	0	Cloudy	Chanvaux.
Biskra	.....	.....	30.00	762.0	60.1	15.6	66	SE	.....	.....	1	.....	2	.....	.....	0	0	Fair	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.48	748.7	30.05	763.2	37.8	3.2	57	E	.....	.....	3	.....	2	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.11	739.5	29.92	759.9	30.2	—1.0	96	SW	11.0	4.9	.....	.....	10	.....	.....	0.004	0.1	.....	Prof. Dr. Karlinski, Dir.
Eperies	28.93	734.9	29.84	758.0	35 8	2.1	85	Calm	.....	.....	0	c	5s	.....	NE	0	0	.....	Julius Mikolik.
Gratz	28.78	731.0	30.08	764.0	35.1	1.7	41	W	.....	.....	4	.....	0	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.48	723.3	29.95	760.8	37.2	2.9	74	NW	.....	.....	3	.....	10	.....	.....	0.031	0.8	.....	Prof. A. Gottschling.
Kremsmünster	28.79	731.3	30.28	767.7	25.5	—3 6	82	WSW	.....	.....	3	.....	10	.....	.....	0 004	0.1	.....	Prof. C. Wagner.
Lemberg	28.76	730.5	29.78	756.3	36.3	2.4	82	NW	.....	.....	4	.....	9	.....	.....	0.079	2.0	.....	Dr. T. Stanecki.
Pola	29.86	758.1	29.97	761.1	42.1	5.6	52	E	.....	.....	4	.....	10	.....	.....	0	0	.....	I.R. Hydrographic Office.
Szathmar	29.45	748 7	29 96	76..0	36.5	2 5	79	SW	.....	.....	2	.....	10	.....	.....	0	0	.....	Pet. Pancsics.
Szegedin	29.74	755 5	30.04	762.9	37.8	3.2	86	NW	.....	.....	3	.....	5	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.93	76 .1	30.03	762.7	42.6	5 9	26	ENE	.....	.....	2	.....	10	.....	.....	0	0	.....	P. Busin.
Vienna	29.32	744.7	30.01	762.3	29.1	—1.6	74	W	.....	.....	5	.....	7	.....	.....	0.252	6.4	.....	I.R. Central Met. Ob'sy.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2:20, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S,, Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.23	767.8	30.33	770.4	39.2	4.0	.....	S	10	4.5	.....	.....	1	.....	.....	0.005	0.13	Misty	W. Boswell.
Ardrossan	30.33	770.4	30.35	770.9	41	5.0	.....	SSW	.....	.....	5	.....	8	.....	.....	.....	.....	Overcast	Wm.McNeil &G.Carrick
Armagh, (Observatory)	30.08	764.0	30.32	770.1	47.7	8.7	.....	S	11	4.9	.....	.....	3	.....	.....	.....	.....	D. clouds	S. Call.
Bidston (Liverpool Obs)	.....	.....	30.41	772.4	39.0	3.9	.....	SE	17	7.6	.....	.....	1	.....	.....	.....	.....	Blue sky	John Hartnup.
Bolton (Sharples)	29.86	758.4	30.39	771.9	38.2	3.4	.....	SE	6	2.7	.....	.....	5	.....	.....	.....	.....	D. clouds	Thomas Mackereth.
Bradford, Yorkshire	30.02	762.5	30.41	772.4	38.1	3.4	.....	NW	.....	.....	2	.....	0	.....	.....	0	0	D. clouds	J McLandsborough.
Bridgetown, Barbadoes	29.87	758 7	29 90	759.4	78	24.4	.....	NE	.....	.....	1	.....	9	.....	.....	.....	.....	Overcast	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	30.30	769.6	30.40	772.1	43.0	6.1	.....	NW	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds	H. Todd.
Cardington	.....	.....	30.42	772.7	38.0	3.3	.....	SW	.....	.....	0–1	.....	1	.....	.....	.....	.....	Blue sky	John McLaren.
Chatham (School M. E.)	30.31	769.9	30.45	773.4	41.1	5.1	.....	N	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds	J. Carmell, Sapper, R.E.
Donaghadee	30.29	769.4	30.34	770.6	48	8.9	.....	S	.....	.....	2	.....	10	.....	.....	.....	.....	Misty	J. Mac Gowan.
Dover	30.39	771.9	30.42	772.7	38	3.3	.....	N	.....	.....	4	.....	7	.....	.....	.....	.....	¾ clouded	J. Costello.
Falmouth (Observatory)	30.17	766.3	30.40	772.1	46.9	8.3	.....	ESE	.....	.....	2	.....	7	.....	.....	.....	.....	Overcast	The Staff.
Fort Napier, Natal	27.69	703.3	29.92	760.0	66.8	30.4	.....	E	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Galway (Queen's College)	.....	.....	30.21	767.3	52	11.1	.....	S	.....	.....	2	.....	8	.....	.....	.....	.....	Gloomy	Prof. A. H. Curtis, Sergt.Wm. Allen, A. H.
Gibraltar, Mediterranean	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Foggy	D. G. Maclean. [C.
Glasgow, (Observatory)	30.14	765.5	30.35	770.9	37.7	3.2	.....	NE	.....	.....	1	.....	.....	.....	.....	.....	.....	Misty	G. T. Watson.
Great Yarmouth	30.40	772.1	30.40	772.1	39	3.9	.....	NW	.....	.....	2	.....	6	.....	.....	Blank	Blank	Blue sky	The Staff, for G.B.Airy.
Greenwich (Royal Obs'y)	30.26	768.6	30.44	773.2	40.0	4.4	.....	NE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky	Dr. S.E Hoskins, F.R.S.
Guernsey	30.16	766.1	30.38	771.6	44	6.7	.....	ENE	.....	.....	2	.....	0	.....	.....	.....	.....	Fine	M. P. Moyle.
Helston	30.50	774.7	30.62	777.7	50	10.0	.....	E	.....	.....	2	3c	.....	.....	.....	0	0	Overcast	John Tilston.
Holyhead	30.32	770.1	30.38	771.6	43	6.1	.....	SSW	.....	.....	9	.....	10	.....	.....	.....	.....	Blue sky	J. Fisher.
Jersey	30.13	765.3	30.43	772.9	44.0	6.7	.....	ESE	.....	.....	2	.....	0	.....	.....	.....	.....	Foggy	The Met'g'l Office.
Kew (Observatory)	30.41	772.4	30.45	773.4	33.7	0.9	.....	N	2	0.9	.....	.....	.....	.....	.....	.....	.....	Foggy	Wm.J.Harrison, F.G.S.
Leicester (Museum)	30.18	766.6	30.45	773.4	29.5	— 1.4	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Blue sky	A. King.
Malta, Mediterranean	29.91	759.7	29.98	761.5	61	16.1	.....	NW	.....	.....	2	.....	3kn	.....	.....	.....	.....	Overcast	W. D. Penny.
Nairn	30.14	765.5	30.23	767.8	41	5.1	.....	Calm	.....	.....	0	.....	8	.....	.....	.....	.....	¾ clouded	C. S. Duncombe.
Nassau, Bahamas	.....	.....	30.09	764.3	77.0	25.0	.....	E	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds	E. J. Lowe, F. R. S.
Nottingham (Observatory)	30.25	768.3	30.45	773.4	33.0	0.6	.....	Calm	.....	.....	0	.....	0	.....	.....	0.008	0.20	Blue sky	Rev. Stephen J. Whitty.
Oscott (St. Mary's College)	29.90	759.4	30.44	773.2	41.8	5.4	.....	E	.....	.....	1	.....	1	.....	.....	.....	.....	Blue sky	H. E. Bellamy.
Oxford (Radcliffe Obs'y)	.....	.....	30.45	773.4	40	4.4	.....	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	D. clouds	John Merrifield.
Plymouth	30.32	770.1	30.40	772.1	45.2	7.3	.....	E	.....	.....	3	.....	2	.....	.....	.....	.....	.....	W. H. Tooker.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Wm. Kennedy.
*Roche's Point	30.24	768.1	30.34	770.6	51	10.6	.....	S	.....	.....	5	.....	5	.....	.....	.....	.....	⅗ clouded	John C. Walker.
St. Ann's Head	30.22	767.6	30.30	771.9	44	6.7	.....	SE	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds	Rev. C.Clouston, L.L.D.
Sandwick Manse, Orkneys	.....	.....	30.23	767.8	42.7	5.9	.....	S	20	8.9	.....	.....	0	.....	.....	.....	.....	Blue sky	Serg't W. H. Lyne.
Scutari Cemetery, Turkey	29.85	758.2	29.92	760.0	47.2	8.4	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Light rain	W. F. Cooper.
Sheffield	30.17	766.3	30.47	773.9	40.0	4.4	.....	S	.....	.....	1	.....	2	.....	.....	0	0	Misty	Francis Redford, A. M.
Silloth Rectory	30.36	771.1	30.40	772.1	38.0	3.3	85	Calm	.....	.....	0	.....	0	.....	.....	0	0	Blue sky	Rev. S. J. Perry.
Stonyhurst (Observatory)	.....	.....	30.40	772.1	36.3	2.4	.....	SSE	3	1.3	.....	.....	.....	.....	.....	.....	.....	Misty	Rev.C.H.Griffith, F.M.S.
Stratfield, Turgiss	30.23	767.5	30.45	773.4	39.7	4.3	.....	N	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky	W. Newcombe.
Truro (Royal Institution)	30.33	770.4	30.39	771.9	51	10.6	.....	S	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds	The Met'g'l Office.
Valencia Observatory)	30.24	768.1	30.27	768.8	52.9	11.6	.....	SE	28	12.5	.....	.....	10	.....	.....	.....	.....	Gloomy	
SUB-SERIES.																			The Staff, for D. Gill.
Cape Town (C. G. H. Obs'y)	29.88	758.9	29.92	760.0	84.9	29.4	52	SSE	10.9	4.9	.....	0	10s;s	.....	.....	.....	.....	.....	Robert Burnet.
Colesberg Bridge, Cape Col.	25.68	652.3	.....	.....	90	32.2	.....	NW	.....	.....	.....	2c	5ck	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Hobart Town, Tasmania	.....	.....	29.94	760.5	57.0	13.9	72	S	.....	.....	1	.....	5	.....	.....	0.01	0.3	.....	Andrew Gibb.
Leith, (Restalrig Perk)	.....	.....	30.37	771.4	37.8	3.2	...	SE	.....	.....	1	.....	8k	W	.....	S	0	0	Cloudy	C. Meldrum.
Mauritius (Observatory)	29.84	757.9	30.03	762.8	77.1	25.1	60	NNE	10.0	4.5	.....	0	8	.....	.....	.....	0	0	Cloudy	R. L. J. Ellery.
Melbourne (Observatory)	29.88	758.9	29.97	761.2	58.3	14.6	73	E	4	1.8	.....	.....	1	.....	.....	.....	0	0	Very fine	J. Youngclause.
Monach Lt-house, Hebrides	.....	.....	30.11	764.8	49	9.4	.....	S	.....	.....	6	.....	10	.....	.....	0.2	5.	.....	
North Unst, Shetland Is	.....	.....	30.24	768.1	.....	.....	.....	S	.....	.....	4	2	4	SW	.....	0	0	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Colesberg Bridge, unknown.

BRITISH MARINE SERIES. VESSELS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. Alert, Kathleen Bay, Patagonia	.....	.....	29.32‡	744.7‡	46	7.8	.....	NNW	.....	.....	4	.....	10	.....	.....	.....	.....	Raining	Capt.J.P. Maclear, R.N.
H. M. Sloop Gannet, S. 11° 47′, W. 77° 13′	.....	.....	29.95‡	760.7‡	61.5	16.4	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Raining	Commander E. Bourke, R. N.
H. M. S. Magpie, Shaweishan I'd., China	.....	.....	30.22‡	767.6‡	55.5	13.1	.....	NNE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	Capt. R. H. Napier, R.N.
Brig Alliance, N. 28° 35′, W. 59° 20′	.....	.....	30.25‡	768.3‡	75.6	24.3	.....	ENE	.....	.....	3	.....	9	.....	.....	.....	.....	Overcast	Capt. W. Scott.
S. S. Ethiopia, N. 42° 10′, W. 61° 55′	.....	.....	30.03	762.7	57	13.9	.....	SW	.....	.....	3	.....	9	.....	.....	4	SSW	Overcast	Capt. Campbell.
S. S. German, S. 18° 15′, E. 4° 15.′	.....	.....	30.06‡	763.5‡	69	20.6	.....	ESE	.....	.....	3	.....	8	.....	.....	.....	.....	D. clouds	Capt. O. D. Coxwell.
Barque Mertole, N. 51° 30′, W. 8° 25′	.....	.....	30.32‡	770.1‡	51.6	10.9	.....	S	.....	.....	5	.....	7	.....	.....	.....	.....	D. clouds	Capt. Turner.
Barque Queen of Cambria, N. 14° 25′, E. 73° 55′	.....	.....	29.88‡	758.9‡	84.5	29.2	.....	WNW	.....	.....	1	.....	1	.....	.....	.....	.....	Blue sky	Capt. M. Parry.
S. S. Strathleven, Sydney, N. S. W.	.....	.....	29.76‡	755.9‡	67.5	19.7	.....	W	.....	.....	5	.....	3	.....	.....	.....	.....	D. clouds	Capt. C. W. Pearson.
S. S. Sunbeam, N. 36° 25′, W. 8° 05′	.....	.....	30.06	763.5	68	20.0	.....	W	.....	.....	5	.....	6	.....	.....	5	W	D. clouds	.....
S. S. Gordon Castle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. V. Freeden.
German Brig "W. von Freeden"	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Greig.
Theophane	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Jas. Buchan.
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level.
‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.21	665.7	29.93	760.2	64.8	18.2	93	NE	.....	.....	1	9cs	.....	.....	.....	0	0	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.07	763.8	30.12	765.0	31.3	—0.4	70	N	.....	.....	7	.....	10	.....	.....	.....	.....	.....	.....
Fanöe	30.33	770.3	30.35	770.8	31.8	—0.1	81	N	.....	.....	4	.....	1	.....	.....	.....	.....	.....	.....
Godthaab (Greenland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stykkisholm (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thorshavn (Faröe)	29.89	759.2	29.93	760.1	47.5	8.6	91	S	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....
Vestervig	30.25	768.3	30.36	771.1	29.3	—1.5	70	N	.....	.....	4	.....	1	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.89	759.1	30.44	773.1	40.1	4.5	44	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Collignon, Director.
Amiens, Normal School	30.25	768.4	30.37	771.3	37.6	3.2	63	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	Vaillant, Director.
Arras, Engin'r School	30.17	766.2	30.44	773.1	36.3	2.4	57	NNW	.....	.....	2	.....	s	.....	.....	0	0	.....	Klein, Commandant.
Avignon, Normal School	30.02	762.4	30.10	764.4	41.0	5	85	NNW	.....	.....	6	.....	0	.....	.....	0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.81	757.1	30.40	772.1	32.4	0.2	93	E	.....	.....	1	.....	5kn	.....	NE	0	0	Cloudy	C. Saillard, Director
Beauvais, Normal School	30.17	766.3	30.46	773.6	34.7	1.5	60	ENE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Frère Eugene Marie
Besançon, Normal School	29.38	746.2	30.42	770.2	29.1	—1.6	.....	E	.....	.....	2	.....	2	.....	SW	0	0	Slightly cl'dy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.30	745.7	30.23	767.9	32.4	0.2	79	N	.....	.....	3	5c	.....	NE	NE	0	0	Cloudy	Marlot, Diretor.
Bourges, Normal School	29.77	756.2	30.35	771.0	34.2	1.2	73	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. Gence, Director.
Brest, Naval Observatory	30.14	765.5	30.38	771.7	50.0	10.0	58	ESE	.....	.....	1	.....	1	.....	.....	0	0	.....	Ch. de Rermaree, Dir.
Caen, Normal School	30.45	773.4	.....	.....	42.8	6	70	S	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. Bietrin, Director.
Carcassonne, N. School	29.73	755.2	30.10	766.0	44.8	7.1	55	W	.....	.....	2	.....	0	.....	.....	0	0	Clear	September, Director.
Châlons-sur-Marne, N. Sch	30.10	764.5	30.44	773.1	49.8	9.9	78	N	.....	.....	1	.....	0	.....	.....	.....	.....	Clear	Jadot, Director.
Chartres, Normal School	29.84	757.9	30.44	773.2	38.1	3.4	83	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Vergier, Director.
Clermont-Fd, Puy de D. Obs	28.86	733.0	30.40	769.5	30.9	—0.6	73	N	.....	.....	3	.....	5	.....	NE	0	0	..	Alluard, Director.
Commercy, Normal School	29.46	748.3	30.38	771.6	30.4	—0.9	96	NE	.....	.....	1	.....	5k	NE	NE	0	0	Cloudy	Dr. Coullet, Director.
Commune de Gréasque*	28.85	732.9	30.00	761.9	41.0	5	87	NW	.....	.....	4	.....	1	.....	NW	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.37	746.0	30.17	766.4	36.3	2.4	96	NW	.....	.....	3	5ck	.....	E	.....	0.04	1.	Cloudy	Ablard, Director.
La Roche-sur-Yon, N. Sch	30.18	766.6	30.41	772.5	35.6	2.0	71	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Mouillot, Director.
Le Mans, Normal School	30.12	765.0	30.44	773.2	36.5	2.5	55	E	.....	.....	2	.....	0	.....	.....	0	0	Clear	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.35	745.6	30.31	769.8	30.4	— 0.9	55	NNE	.....	.....	3	.....	5	E	E	0	0	Foggy	A. Baudry, Director
Lorient, Naval Observatory	30.29	769.4	30.40	772.2	43.9	6.6	97	E	.....	.....	3	.....	0	.....	.....	0	0	Clear	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.63	752.5	30.28	769.1	33.1	0.6	83	NNW	.....	.....	2	.....	5	.....	N	0.028	0.7	Cloudy	Ch. André, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	29.72	755.0	30.00	762.0	43.5	6.4	56	NW	.....	.....	3	.....	2	.....	NW	0	0	.....	E. Stephan, Director.
Mirecourt, Normal School	29.28	743.7	30.37	771.3	28.4	—2	83	N	.....	.....	1	.....	kn	N	N	0	0	.....	Barbier, Director.
Mont-Louis	24.82	630.4	30.13	765.4	42.4	5.8	81	W	16.5	7.6	.....	.....	0	.....	.....	0	0	.....	M. Cave.
Nice	29.93	760.3	29.97	761.1	51.1	10.6	46	NE	.....	.....	2	.....	10	N	NE	.....	.....	Light rain	M. Boissière, Director.
Nismes, Normal School	29.91	759.8	30.12	765 1	42.8	6	49	N	.....	.....	3	.....	0	.....	.....	0	0	Clear	M. Boyer, Director.
Paris, Montsouris Obs'y	30.15	765.8	.....	.....	34.3	1.3	51	NE	.....	.....	2	.....	1	.....	NE	Inap.	Inap.	.....	Marié Davy, Director.
Perpignan	30.03	762.7	30.13	765.3	46.2	7 9	43	NE	22.4	10.0	.....	.....	0	.....	.....	0	0	.....	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.50	571.5	.....	.....	38.5	3.6	.....	N	.....	.....	1	.....	1	.....	W	0	0	Clear	Gen'l de Nansouty.
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Privas, Normal School	29.18	740.9	30.25	768.3	39 2	4	77	NE	.....	.....	4	c	.....	NE	NE	0	0	.....	M. Tallieu.
Puy de Dome (Summit) Obs	25.15	638.9	.....	.....	16.6	— 8.6	100	NE	.....	.....	2	.....	.....	.....	.....	0.039	1 0	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	30.32	770.1	30.35	770.9	37.4	3.0	76	ENE	.....	.....	3	.....	5	ENE	ENE	0	0	¼ covered	Lt E. Decante, Director
Rouen, Normal School	30.35	771.0	30.44	773.2	37.6	3.1	52	E	.....	.....	3	.....	0	.....	.....	0.020	0.5	Clear	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.37	771.3	30.40	772.1	44.8	7 1	42	SE	.....	.....	2	.....	0	.....	.....	0	0	Clear	Lt. Hercouet, Director.
Saint Maur (near Paris)	30.28	769.0	30.44	773.2	36.7	2.6	56	NNE	.....	.....	2	.....	.....	.....	ENE	0	0	.....	E. Renou, Director.
Tarbes, Normal School	29.11	739.4	30.19	766.9	41.0	5	100	W	.....	.....	3	.....	1	NW	W	0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.52	749.8	30.25	768.4	39.7	4.3	67	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. Juller Mercadier.
Tours	30.19	766.7	30.38	771.7	37 8	3 2	47	NE	.....	.....	2	.....	1	.....	E	0	0	Almost clear	Cousin-Marquet.
Versailles, Observatory	29.93	760.1	30.42	772 6	34.2	1.2	.....	NNE	.....	.....	2	.....	0	.....	.....	0	0	Very clear	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.55	750.5	30.30	769.6	33.8	1	81	NW	.....	.....	3	.....	2	.....	N	0.04	1.	Slightly cl'dy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29 90	759.4	29.93	760.1	77.0	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.98	25.	.....	L'Abbé Marchési
Zi-Ka-Wei (near Shanghai	30.20	767.0	30.23	767.7	46.6	8.1	91	NNE	6.9	0.4	.....	.....	8	.....	..	0	0	Fair	Marc Dechevrens.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 342 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,360 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.313 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centrigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.35	745.5	30.20	767.0	29.1	— 1.6	92	W			4		10ks			0.122	3.1	Snowing	Prof. Dr. Hoh.
Berlin	29.85	758.2	30.03	762.8	32 9	0.5	93	NW			5		10			0.106	2.7		Prof. Dr. Arndt.
Breslau	29.40	746.8	29.93	760.2	32.0	0.0	100	W			5		10			0.022	0.56	Snowing	Royal University Obs'y.
Carlsruhe	29.90	759.4	30. 6	771.1	30.0	— 1.1	88	SW			0		10			0.039	1.0	Snowing	Albert Senz.
Cassel	29.69	754.0	30.30	769.5	30.6	— 0.8	79	N			4		10	WNW		0.071	1.80	Snowing	Dr. H. Möhl.
Emden			30.32	770.0	34.9	1.6	70	N			2		10			0	0		Prof. Dr. Prestel.
Frankfort on the Main	29.96	761.0	30.34	770.7	33.8	1.0	65	N			2		9			Inap.	Inap.		Physical Society.
Friedrichshafen	28.82	732.0	30.36	771.1	24.8	— 4.0	82	SE			2		3	ESE		0.102	2.6		Chief Telegrapher Wilhelm.
Hamburg	30.19	766.7	30.26	768.6	30.2	— 0.6	92	NNW			4		9kn			0.016	0.4	Cloudy	Captain F. Hegemann.
Kiel	30.25	767.7	30.24	768.1	37.9	3.3	74	NNW			3		8			0.171	4.34	Snowing	Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.56	750.7	29.84	752.9	33.1	0.6	88	NE			3		9			0.169	4.3	Snowing	Prof. E. Luther.
Köslin			29 86	758.5	32.0	0.0		N			4		4			0.484	12.3		H. Müller.
Leipsic Observatory	29.75	755.6	30.19	766.9	31.6	— 0.2	81	NW			3		10			0.189	4.8	Snowing	Prof. Dr. Bruhns, Privy Counsellor
Magdeburg	30.00	761 9	30.23	767.7	35.1	1.7	80	NNW			4		9ks	NNW		0.008	0.2		Dr. Assmann.
Memel	29.65	753.0	29.69	754.2	32.7	0.4	85	N			1		10k						Reinbrecht & Ishermann
Munich (München)	28.37	720.7	30.25	768.4	24.1	— 4.4	77	SW			4		5	SW		0.004	0.1		Dr. C. Lang.
Neufahrwasser	29.68	753.8	29.72	754.8	37.2	2.9	91	NW			5		10						A. Lothes.
Neustadt (Palatinate)	29.79	756.6	30.32	770.1	28.9	— 1.7	100	W			2		10					Raining	Reallehrer Dicknether.
Posen	29.63	752.6	29.93	760.3	32.0	0.0	96	WNW			7		10			0.370	9.4	Snowing	Prof. Dr. Magener.
Strassburg (in Alsace)	29.82	757.3	30.41	772.3	30.0	— 1.1	80	N			1		6	NE		0.121	3.05	Snowing	Imp. University Observatory.
Stuttgart	29.33	744.9	30.33	770.3	29.3	— 1 5	47	W			1		10			0.016	0.4		Prof. Dr. Schoder.
Weissenburg (Bavaria)	28.71	729.3	30.29	769.3	25.5	— 3.6	87	WNW	9	4		7ck			WNW	0.043	1.1	Foggy	Reallehrer J. Hopfner.
Wustrow	30.08	763.9	30.10	764.5	34.5	1.4	80	N			5		10ks			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.56	750.7	29.95	760.8	53 2	11.8		NE			1.0		10					Covered	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.96	761.0	30.01	762.3	78.5	25.8	48	SW	12	5.4			0			0	0	Blue sky	
Deesa	29.51	749.6	29.98	761.6	83.8	28.8	17	S	7	3.1			0			0	0	Blue sky	
Bombay	29.87	758.7	29.91	759.7	79.0	26.1	72	WNW	6	2.7			0			0	0	Blue sky	
Poona (Yerrowda)	28.04	712.2	29.89	759.2	80.0	26.7	36	W	6	2.7			1			0	0	D. clouds	
Belgaum	27.36	695.0	29.91	759.7	74.7	23.7	63	ENE	2	0.9			1		E	0	0	D. clouds	
Lahore	29.30	744.1	30.07	763.7	66.6	19.2	46	Calm	0.2	0.1			0			0	0	Blue sky	
Roorkee	29.06	738.0	29.99	761.7	64.8	18.2	49	Calm	0.8	0 4						0	0		
Agra	29.41	747.0	29.99	761.7	71.2	21.8	43	NW	2.9	1.3						0	0		
Nagpur	28.90	733.0	29.96	760.9	73.6	23.1	35	Calm	3.2	1.4						0	0	Blue sky	
Jubbulpore	28.57	725.6	29.96	760.9	71.8	22.1	28	Calm	2.3	1.0						0	0	Blue sky	
Lucknow	29.60	751.8	29.99	761.7	70.9	21.6	59	Calm	0.2	0.1						0	0	Blue sky	
Allahabad	29.66	753.5	29.99	761.7	65.4	18.6	72	Calm	1.1	0.5			0			0	0	Blue sky	
Patna	29 79	756.8	29.98	761.5	75.1	23.9	55	Calm	0.6	0.3			2			0	0		
Hazaribagh	27.91	708.9	29.97	761.2	67.8	19.9	56	NW	2.8	1.2			4			0	0		
Cuttack	29.87	758.7	29.95	760.7	75.0	23.9	76	NE	1	0.4			5			0	0	D. clouds	
Calcutta (Alipore)	29.90	759.5	29.92	760.1	76.8	24.9	77	Calm	0	0			10			0	0	Overcast	
Goalpara	29.63	750.1	29.93	760.1	74.8	23.8	61	ENE	5.1	2.3			0			0	0	Blue sky	
Chittagong	29.83	757.7	29.92	760.0	77.5	25.3	75	Calm	1.2	0.5			0			0	0	Misty	
Sibsagar	29.63	752.5	29.97	761.2	71.3	21.8	83	ENE	1.3	0.6			0			0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,361 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	Lo'er 0—10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER.
Udine	29.62	752.4	30.05	763.2	41.5	5.3	46	Calm	0	0	.....	.....	9	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.46	748.7	30.01	762.2	45.1	7.3	26	SW	.....	.....	2	.....	6	WNW	.....	0.075	1.9	.....	Prof. Schiaparelli.
Padua	29.94	760.5	30.06	763.4	40.3	4.6	62	ENE	11.2	5.0	.....	.....	10	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.95	738.7	30.01	762 3	43.3	6.3	22	ESE	4.3	1.9	.....	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.78	756.3	29.97	761.3	48.0	8.9	26	N	7.4	3.3	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.95	712.5	30.01	762.3	38.7	3.7	18	N	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.90	759.5	29.95	760.8	40.8	4.9	81	NW	12.5	5.6	.....	.....	10	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.69	754.0	29.95	760.7	39.2	4.0	83	N	.....	.....	6	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.84	757.9	29.93	760.1	43.6	9.2	82	NE	9.6	4.4	.....	.....	4	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.71	754.6	29.89	759.2	48.2	9.0	62	Calm	0	0	.....	.....	9	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. C. De Giorgi.
Cosenza	29.64	737.5	29.93	760.3	48.6	9.2	72	NE	1.8	0.8	.....	.....	10	.....	.....	0.102	2.6	.....	Prof. D. Conti.
Cagliari	29.73	755.2	29.93	760.2	57.6	14.2	38	NW	.....	.....	2	.....	3	NW	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.67	753.7	29.93	760.3	59.0	15.0	43	W	9.4	4.2	.....	.....	7	W	.....	0	0	.....	Prof. G. Ciacciatore.
Syracuse	29.90	759.5	29.98	761.4	61.2	16.2	70	SW	2.5	1.1	.....	.....	4	WSW	.....	0	0	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.95	745.6	29.89	759.3	47.7	8.7	57	WSW	3.1	1.4	.....	.....	10	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.20	767.1	30.22	767.6	41.8	5.4	86	NNE	7.7	8.4	.....	.....	1s	.....	.....	0	0	Clear.	K. Sasaki.
Nagasaki, I. M. Obs'y	29.99	761.7	30.20	767 1	45.2	7.3	86	ENE	0.4	0.2	.....	.....	0	.....	.....	0	0	Clear	S. Takehayashi.
Tokei, (Yeddo) Observatory.	30.11	764.8	30.19	766.8	37.4	3.0	82	SW	4.4	2.0	.....	0	0	.....	.....	0	0	Clear	The Staff.
Wakayama	30.18	766.0	30.23	767.8	41.8	5.4	81	ESE	0.3	0 1	.....	.....	0	.....	.....	0	0	Clear	

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	25.07	636.7	30.21	767.4	46.4	8.0	61	Calm	.....	.....	0	.....	0	.....	.....	0	0	Fine	Prof. L. Perez.
Leon	24.44	620.7	30.15	765.8	57.0	13.9	84	N	.....	.....	1	0	0	.....	.....	0.10	2.4	Blue sky	Prof. M. Leal.
Mazatlan	29.73	755.1	29.99	761.7	69.1	20.6	87	Calm	.....	.....	0	1s	0	.....	.....	0	0	Foggy	I. Guerrero, C. E.
Mexico, Central Observatory	23.08	586.1	30.12	765.1	51.8	11.0	79	Calm	0	0	.....	3s	0	.....	.....	0	0	Fine	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	59.7	10.4	74	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.55	598.1	30.47	773.8	46.0	7 8	82	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.20	614.6	30.19	766.7	55.8	13.2	53	W	.....	.....	1	3	0	W	.....	0	0	Clear	G. Barroeta, M. D.
Tlacotalpam	29.88	758.9	29.89	759.2	75.6	24 2	91	S	.....	.....	1	1	0	NW	.....	0	0	Clear	Prof. M. M. Chazaro.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell
Zacatecas	22.54	572.4	30.19	766.7	51.6	10 9	60	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	J. C. Castrillon.

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column; the instrumental correction —0.88 mm., or —0.035 inch, has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at *Utrecht*.

Flushing	30.43	772.9	30.43	772.9	39.6	4.2	.....	W	.....	.....	3	.....	.....	.....	.....	0.031	0 8	.....	
Groningen	30.32	770.2	30.38	771.6	36.1	2.3	.....	NE	.....	.....	.....	.....	.....	.....	.....	0.016	0.4	.....	
Helder	30.37	771.5	30.37	771.5	37.4	3.0	.....	WSW	.....	.....	1	.....	.....	.....	.....	0.020	0.5	.....	
Hellevoetsluis	30.40	772.2	30.40	772.2	38 1	3.4	63	WSW	.....	.....	2	.....	.....	.....	.....	0.039	1.0	.....	
Utrecht	30.37	771.3	30.41	772 5	39.0	3.9	65	NW	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	H. v. d. Bruk.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.34	770.7	30.40	772.1	30.6	— 0.8	70	Calm	0	0	.....	.....	1	.....	.....	0	0	.....	
Brönö	30.31	769.8	30.35	770.8	33.8	1.0	81	Calm	0	0	.....	.....	10	.....	.....	0	0	.....	
Christiana	30.22	767.6	30.38	771.6	25.2	— 3.8	58	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	
Tromsö	29.95	760.8	30.00	761.9	39.7	4.3	80	SSW	34	15	.....	.....	10	.....	.....	0.671	1.8	Raining.	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	29.39	746.5	29.58	751.3	66.6	19.2	92	SW	11.2	5.0	.....	.....	10	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.01	736.8	30.04	762.9	60.1	15.6	94	Calm	0	0	.....	.....	10	.....	.....	0.709	18.0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	30.04	763.0	30.13	765.2	71.8	22.1	73	SW	2.5	1.1	.....	.....	2	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.61	752.1	29.97	761.2	62.4	16.9	96	NW	12.5	5.6	.....	.....	10	.....	.....	0.909	23.1	Light rain	The Staff.
Ponta Delgada (Azores)	29.66	753.4	29.73	755.2	70.2	21.2	86	S	30.4	13.6	.....	.....	3	.....	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	A. M. de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa, Porto Praya, Cape Verd I'ds.	2	NE	D. clouds....	A. A. A. Loureiro.
Sá da Bandeira	.....	.....	.....	F. Teixeira da Silva, Com'd't.
Sado, Capt. J. A de Brito Capello, St. Paul de Loando	.....	.....	Gloomy.....	H. Mecudonco, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	1	NE	Blue sky	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	
.....	.....	.....	.....	

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between upper and lower clouds, and no humidity is given; duration of rain-fall in hours. The Sá da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	30.31	769.9	30.33	770.4	— 8.7	—22.6	85	Calm	0	0	.....	.....	8ks	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Astrakhan	30.24	768.0	30.15	765.9	38.8	3.8	83	SE	11	5	.....	10cp	.....	.....	.....	.....	.....	.....	Capt. Wisganow.
Barnaul	30.04	763.1	30.61	777.6	— 0.9	—18.3	99	NE	2	1	.....	.....	2	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Dorpat	29.44	747.7	29.69	754.1	27.9	— 2.3	98	N	16	7	.....	.....	10n	.....	.....	.....	.....	Heavy snow	Prof. Dr. Weihrauch.
Ekaterinburg	29.39	746.6	30.43	772.8	22.6	— 5.2	50	Calm	0	0	.....	.....	9	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	30.03	762.8	30.32	770.1	25.5	— 3.6	71	ESE	2	1	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.11	739.4	29.77	756.1	34.2	1.6	71	WSW	11	5	.....	.....	10ksn	.....	.....	.....	.....	.....	Physical Cabinet.
Krotkowo*	29.82	757.3	30.32	770.2	22.5	— 5.3	87	S	4	2	.....	.....	10	.....	.....	.....	.....	.....	Caud. Fatjanow.
Lugan	29.71	754.5	29.91	759.8	41.5	5.3	76	W	2	1	.....	.....	10	.....	.....	Blank	Blank	.....	Meteorological Obs.
Moscow	29.13	740.0	29.70	754.3	36.7	2.6	93	SE	27	12	.....	.....	10s	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	27.45	697.3	29.86	758.5	19.6	— 6.9	75	NW	4	2	.....	.....	10	.....	.....	Blank	Blank	.....	Meteorological Obs.
Nikolaiev	29.91	759.7	29.98	761.5	42.3	5.7	73	Calm	0	0	.....	.....	2cs	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	29.84	757.9	30.08	763.9	46.8	8.2	73	NNW	4	2	.....	.....	1ks	.....	.....	.....	.....	.....	.....
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	29.98	761.4	30.12	765.0	36.7	2.6	84	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	29.81	757.2	29.83	757.6	29.7	— 1.3	90	E	27	12	.....	.....	10n	.....	.....	.....	.....	Snowing	Central Physical Obs.
Tashkend	28.47	723.1	30.05	763.2	53.1	11.7	80	.....	.....	.....	.....	.....	10	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.62	726.9	30.03	762.8	57.0	13.9	55	Calm	0	0	.....	.....	6s	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	29.24	742.7	29.68	753.8	33.3	0.7	96	W	13	6	.....	.....	10n	.....	.....	.....	.....	Snowing	Astronomical Obs.
Wilna	29.17	740.8	29.60	751.8	31.6	— 0.2	78	Calm	0	0	.....	.....	7	.....	.....	.....	.....	.....	Astronomical Obs.
Yenisiesk	30.31	769.9	30.64	778.2	0.0	—17.8	72	NW	4	2	.....	.....	10	.....	.....	.....	.....	.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	30.09	762.0	30.11	764.7	49.6	9.8	64	NE	3.5	1.58	.....	.....	10	.....	.....	0	0	Hazy	Antonio Rave, Director
Bilbao, Met. Obs'y	30.14	765.6	30.20	767.1	51.8	11.0	61	SE	1.6	0.72	.....	0	0	.....	.....	0	0	Clear	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.12	688.8	.....	.....	53.2	11.8	24	NE	2.1	0.96	.....	1	0	SW	.....	0	0	Almost clear	Domingo Martin y Perez.
Madrid, Royal Observatory.	27.81	706.3	30.04	763.0	55.4	13.0	85	SE	2.2	1.00	.....	0	9	.....	.....	0.051	1.3	Almost cov'd	The Staff.
Murcia, Met. Obs'y	29.87	758.7	30.02	762.5	66.2	19.0	75	SW	0.6	0.25	.....	2	3	ENE	.....	0	0	Clouds	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.10	739.1	29.98	761.6	62.1	16.7	68	NE	4.9	2.2	.....	.....	7	.....	.....	0	0	Cloudy	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	30.00	762.0	30.07	763.7	71.7	22.1	88	E	1.6	0.7	.....	0	1s	.....	.....	0	0	Hazy	Benito Vines, S. J.
Manilla, Phillippine Islands	29.86	758.4	29.91	759.7	81.1	27.3	.....	NNE	0	0	.....	.....	1s	.....	E	0.669	17.0	Fair	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.00	762.0	30.10	764.5	63.0	17.2	95	WSW	12.7	5.7	.....	0	10	.....	W	0.125	3.2	Raining	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.85	758.2	29.94	760.5	75.2	24.0	97	E	0	0	.....	7kn	5kn	E	E	1.801	45.75	Overcast	Enrique Gadea, Chief Eng'r

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.28	769.1	30.32	770.1	1.8	—16.8	.....	Calm	.....	.....	0	.....	6	.....	.....	0	0	.....	
Umea	30.30	769.6	30.35	770.9	4.3	—15.4	81	NW	.....	.....	2	.....	1	.....	.....	0	0	.....	
Hernosand	30.30	769.7	30.35	771.0	15.8	— 9.0	69	N	.....	.....	2	.....	0	.....	.....	0	0	.....	
Stockholm	29.86	758.5	30.04	763.0	33.1	0.6	57	NNE	.....	.....	7	.....	8	.....	.....	0	0	.....	
Wisby	29.77	756.1	29.83	757.6	33.8	1.0	81	NE	.....	.....	7	.....	10	.....	.....	0.051	1.3	Snow & rain	
Sub-Series.																			
Upsala	30.01	762.3	30.10	764.5	31.5	— 0.3	65	N	25.3	11.3	.....	.....	10	.....	.....	0.018	0.44	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director o the Observatory at Geneva.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	28.75	730.3	30.24	768.1	31.5	— 0.1	75	NNE	.....	.....	7	.....	2	.....	.....	0.012	0.3	Clear	The Observatory.
Zurich	28.61	726.8	30.35	771.0	25.9	— 3.4	67	E	.....	.....	2	.....	2	.....	.....	0	0	Clear	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +3.9 mm.; Thermometer, —6.9 Cent.; Relative Humidity, —2 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Constantinople	.....	.....	29.97	761.1	47.3	8.5	85	N	8	3.5	.....	.....	10	.....	N	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.97	761.1	49.3	9.6	.....	NW	.....	.....	2	.....	2	.....	.....	.....	6	Slightly cl'dy	A. Bertrand.
Sub-series.																			
Beirut, (Syria) Lee Obs'y	29.97	761.2	30.09	764.2	72.0	22.2	65	W	.....	.....	2	.....	1k	.....	.....	0	0	D. clouds	Prof. C. V. A. van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bathurst, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B.	29.55	750.6	29.61	752.1	52.6	11.4	90	SW	9	4.0	.....	10s	.....	.....	.....	0.03	0.8	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	29.65	753.1	29.70	754.4	48.7	9.3	90	SW	10	4.5	.....	10n	.....	.....	.....	0.01	0.3	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.29	744.0	29.48	748.8	56.8	13.7	95	SW	.....	.....	1	10n	.....	.....	.....	0.36	9.1	Cloudy	James Smith, M. A.
Dalhousie, N. B.	29.36	745.7	29.52	749.8	40.4	4.7	.....	W	.....	.....	1	10ks	.....	.....	.....	0.37	9.4	Gloomy	H. A. Johnson.
Father Point, Quebec	29.42	747.3	29.44	747.8	42.7	5.9	87	W	25	11.2	.....	2k	8n	W	.....	0	0	Cloudy	J. McWilliams.
Fredericton, N. B.	29.61	752.1	29.67	753.6	54.6	12.6	84	SW	9	4.0	.....	10s	.....	SW	0.05	1.3	Overcast	Prof. Harrison.	
Fort Garry, Manitoba	28.75	730.2	29.62	752.3	17.3	— 8.2	95	N	22	9.8	.....	.....	10n	.....	.....	.....	.....	Light snow	James Stewart.
Granton, Ontario	28.43	722.1	29.52	749.8	48	8.9	.....	NW	.....	.....	1	.....	10n	.....	.....	0.80	20.3	Cloudy	James Grant.
Halifax, N. S.	29.71	754.6	29.84	757.9	51.3	10.7	98	SW	15	6.7	.....	.....	8n	.....	.....	0.02	0.5	Cloudy	A. Allison, M. A.
Hamilton, Ontario	29.18	741.1	29.54	750.3	52.7	11.5	91	SE	.....	.....	1	.....	10cs	.....	SE	1.36	34.5	Cloudy	Geo. Dickson, M. A.
Heart's Content, N. F.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.21	741.9	29.53	750.0	59.1	15.1	96	S	13	5.8	.....	.....	10ks	.....	.....	0.85	21.6	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S.	29.72	754.9	29.76	755.9	48.6	9.2	95	S	11	4.9	.....	.....	10n	.....	.....	0.07	1.8	Showery	C. H. Rigby.
Montreal, Quebec	29.33	745.0	29.52	749.8	54.7	12.7	97	S	11	4.9	.....	.....	10n	.....	.....	1.29	32.8	Heavy rain	C. H. McLeod, C. E.
Moose Factory, Ontario	29.55	750.6	29.58	751.3	28.8	— 1.8	93	Calm	.....	.....	0	.....	10	.....	.....	0	0	Cloudy	J. R. Nason.
Norwood	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. R. Mosley.
Peterboro, Ontario	28.77	730.7	29.51	749.5	50.7	10.4	93	NE	.....	.....	1	.....	10n	.....	.....	1.35	34.3	Overcast	J. F. Jeffers, B. A.
Port Dover, Ontario	28.84	732.5	29.52	749.8	52.1	11.2	100	N	5	2.2	.....	.....	10n	.....	.....	0.99	25.1	Heavy rain	H. Morgan.
Port Hastings, N. S.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	28.91	734.3	29.54	750.3	49.1	9.5	96	NW	3	1.3	.....	.....	10n	.....	W	1.48	37.6	Cloudy	M. Payne.
Quebec, Quebec	29.21	741.9	29.53	750.0	55	12.8	97	NW	.....	.....	3	.....	10n	.....	.....	1.08	27.4	Light rain	Capt. Ashe, R. N.
Rockliffe, Ontario	29.08	738.6	29.53	750.0	44.6	7.0	88	W	4	1.8	.....	Haze	8s	.....	NW	0.33	8.4	Cloudy	W. H. McIntyre.
St. Andrews, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Gove.
St. John, N. B.	29.56	750.8	29.73	755.1	49	9.4	96	SE	6	2.7	.....	.....	Fog	.....	.....	0.38	9.7	Dense fog	G. Murdock, C. E.
Saugeen, Ontario	28.84	732.5	29.55	750.6	44.6	7.0	91	N	2	0.9	.....	.....	9ks	.....	.....	0.19	4.8	Overcast	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.24	717.3	29.50	749.3	47.4	8.6	99	SE	4	1.8	.....	.....	10s	.....	.....	1.031	26.19	Cloudy	C. J. MacGregor, M. A.
Sydney, C. B.	29.74	755.4	29.78	756.4	48.6	9.2	95	SW	17	7.6	.....	.....	10n	.....	.....	0	0	Overcast	T. C. Hill, C. E.
Toronto, Ontario	29.14	740.1	29.51	749.5	48.1	8.9	91	NW	9	4.0	.....	0	10ks	.....	W	1.28	32.5	Light rain	Magnetic Observatory.
Windsor, N. S.	29.68	753.9	29.78	756.4	54.0	12.2	97	W	15	6.7	.....	.....	10n;k	.....	.....	0.01	1.0	Overcast	Prof. John E. Oram.
Woodstock, Ontario	28.50	723.9	29.54	750.3	49.2	9.6	95	NW	2	0.9	.....	.....	10n	.....	.....	0.60	15.2	Raining	Prof. J. Montgomery.
Yarmouth, N. S.	29.75	755.6	29.82	757.4	52.6	11.4	93	SW	.....	.....	4	4k	Fog	.....	.....	0	0	Overcast	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.77	756.1	30.03	762.7	38.0	3.3	45	W	.....	.....	.....	.....	10	.....	.....	0	0	Cloudy	John Delany.
St. Pierre, N. F.	.....	.....	29.80	757.0	43.9	6.6	.....	SW	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	l'Hopital Maritime.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10, except Yarmouth and St. Johns on scale 0 to 20. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.41	747.0	29.63	752.6	61	16.1	91	S	10	4.5	.....	.....	10s	.....	SW	0.13	3.3	Cloudy	
Alpena, Michigan	28.94	735.4	29.58	751.3	38	3.3	91	NW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	28.76	730.5	29.86	758.4	68	20.0	90	SW	20	8.9	.....	.....	10s	.....	SW	0	0	Cloudy	
Atlantic City, New Jersey	29.82	757.4	29.83	757.7	60	15.6	88	SE	22	9.8	.....	8c	0	W	.....	0.18	4.6	Fair	
Augusta, Georgia	29.83	757.7	30.02	762.5	68	20.0	84	SW	5	2.2	.....	.....	10s	.....	W	0.02	0.5	Cloudy	
Baltimore, Maryland	29.74	755.4	29.79	756.7	65	18.3	73	SW	11	4.9	.....	.....	10s	.....	W	0	0	Cloudy.	
Barnegat, New Jersey	29.79	756.7	29.81	757.2	59	15.0	94	SW	20	8.9	.....	5c	0	Calm	.....	0	0	Fair	
Bismarck, Dakota	27.84	707.1	29.69	754.1	26	— 3.3	88	NW	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Boerne, Texas	28.44	722.4	29.75	755.6	55	12.8	81	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Boise City, Idaho	27.03	686.6	29.99	761.7	38	3.3	72	SE	4	1.8	.....	.....	10s	.....	W	0	0	Cloudy	
Boston, Massachusetts	29.59	751.6	29.74	755.4	61	16.1	94	SW	8	3.6	.....	5c;ck	5s	SW	SW	0.02	0.5	Cloudy	
Brackettville, Texas	28.72	729.5	29.76	755.9	59	15.0	48	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	28.47	723.1	29.48	748.8	32	0.0	89	W	15	6.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Brownsville, Texas	29.80	756.9	29.84	757.9	79	26.1	79	S	2	0.9	.....	8k	0	S	.....	0	0	Fair	
Buffalo, New York	28.79	731.3	29.45	748.0	59	15.0	82	S	13	5.8	.....	.....	10s	.....	SW	0.44	11.2	Threatening	
Burkes, Arizona	.....	.....	.....	.....	43	6.1	75	NE	.....	.....	1	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.30	744.2	29.58	751.3	56	13.3	94	S	11	4.9	.....	.....	10n	.....	SW	0.16	4.1	Light rain	
Cairo, Illinois	29.41	747.0	29.79	756.7	59	15.0	65	NW	9	4.0	.....	0	0	.....	.....	0.65	16.5	Clear	
Campo, California	27.43	696.7	30.00	762.0	30	— 1.1	78	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.06	763.5	30.07	763.8	70	21.1	90	S	15	6.7	.....	Haze	Haze	.....	.....	0.05	1.2	Hazy	
Cape Henry, Virginia	29.92	760.0	29.94	760.5	67	19.4	84	SW	17	7.6	.....	2c	2ks	SW	Calm	0.04	1.0	Fair	
Cape Lookout, N. Carolina	30.03	762.7	30.05	763.3	69	20.6	90	SW	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Cape May, New Jersey	29.81	757.2	29.84	757.9	62	16.7	83	S	28	12.5	.....	5c	Haze	W	.....	0	0	Fair	
Castroville, Texas	29.09	738.9	29.79	756.7	59	15.0	88	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Cedar Keys, Florida	30.07	763.8	.....	.....	.....	.....	.....	S	.....	.....	2	0	0	.....	.....	0	0	Clear	
Charleston, South Carolina	30.01	762.2	30.06	763.5	70	21.1	80	SW	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Charlotte, North Carolina	29.08	738.6	29.87	758.7	66	18.9	84	S	10	4.5	.....	.....	10s	.....	S	0	0	Cloudy	
Chattanooga, Tennessee	29.02	737.1	29.78	756.4	70	21.1	80	S	14	6.3	.....	2cs	8ks	Calm	SW	0.11	2.8	Cloudy	
Cheyenne, Wyoming	23.88	606.5	29.82	757.4	26	— 3.3	63	W	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	28.92	734.6	29.60	751.8	47	8.3	70	W	2	0.9	.....	0	Haze	.....	.....	0	0	Clear	
Cincinnati, Ohio	28.85	735.3	29.56	750.8	65	18.3	81	SW	10	4.5	.....	.....	10ks	.....	SW	1.51	38.4	Threatening	
Cleveland, Ohio	28.84	732.5	29.54	750.3	52	11.1	100	N	1	0.4	.....	.....	10n	.....	Calm	1.03	26.2	Light rain	
Coleman City, Texas	28.05	712.5	29.70	754.4	50	10.0	65	NW	4	1.8	.....	0	0	.....	.....	0.08	2.0	Clear	
Columbus, Ohio	28.74	730.0	29.53	750.0	61	16.1	82	SW	8	3.6	.....	.....	10n	.....	SW	0.49	12.4	Light rain	
Concho, Texas	28.04	712.2	29.73	755.1	45	7.2	60	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.34	745.2	29.79	756.7	63	17.2	89	SW	4	1.8	.....	0	0	.....	.....	0.92	23.4	Clear	
Davenport, Iowa	28.94	735.1	29.56	750.8	45	7.2	84	SW	5	2.2	.....	0	0	.....	.....	0.01	0.3	Clear	
Deadwood, Dakota	25.08	637.0	.....	.....	30	— 1.1	78	SW	4	1.8	.....	0	0	.....	.....	0.05	1.3	Clear	
Decatur, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Denison, Texas	28.98	736.1	29.76	755.9	50	10.0	86	SW	4	1.8	.....	0	0	.....	.....	0.51	13.0	Clear	
Denver, Colorado	24.66	626.4	29.88	758.9	34	1.1	52	W	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	28.74	730.0	29.61	752.1	41	5.0	65	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Detroit, Michigan	28.96	734.0	29.55	750.6	48	8.9	93	NW	2	0.9	.....	.....	10s	.....	Calm	1.03	26.2	Cloudy	
Dodge City, Kansas	27.34	694.4	29.71	754.6	30	— 1.1	57	NW	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.90	759.4	29.59	751.6	43	6.1	75	N	1	0.4	.....	8k	Fog	SW	Calm	0	0	Cloudy	
Duluth, Minnesota	28.75	730.2	29.42	747.3	35	1.7	90	N	2	0.9	.....	.....	10s	.....	N	0.03	0.8	Cloudy	
Eagle Pass, Texas	29.15	740.4	29.88	758.9	56	13.3	87	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	29.63	752.6	29.69	754.1	52	11.1	93	SW	15	6.7	.....	.....	10s;fg	.....	SW	0.11	2.8	Cloudy	
Edinburg, Texas	.....	.....	.....	.....	77	25.0	91	E	.....	.....	1	.....	10s	.....	S	0	0	Cloudy	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	28.78	731.0	29.46	748.3	60	15.6	82	SW	17	7.6	.....	.....	10ks	.....	SW	0.92	23.4	Threatening	
Escanaba, Michigan	28.88	733.5	29.53	750.0	35	1.7	90	W	2	0.9	.....	.....	Fog	.....	W	0.06	1.5	Foggy	
Florence, Arizona	28.49	723.6	30.09	764.3	40	4.4	82	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.61	702.0	29.54	750.3	20	— 6.7	85	NW	4	1.8	.....	10cs	0	Calm	.....	0.02	0.5	Cloudy	
Fort Custer, Montana	26.55	674.4	.....	.....	33	0.6	51	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.14	638.5	30.10	764.5	40	4.4	48	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.29	744.0	29.84	757.9	44	6.7	92	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Grant, Arizona	25.20	640.1	30.00	762.0	39	3.9	25	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	28.56	725.4	29.81	757.2	54	12.2	43	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.09	688.1	.....	.....	26	— 3.3	88	SW	3	1.3	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Fort McKavett, Texas	27.60	701.0	29.58	751.3	48	8.9	43	W	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.64	727.4	29.76	755.9	43	6.1	83	N	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	27.84	707.1	.....	.....	24	— 4.4	87	SW	14	6.3	.....	.....	10s	.....	SW	0	0	Cloudy	
Fort Verde, Arizona	.....	.....	.....	.....	32	0.0	89	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.06	712.7	29.57	751.1	61	16.1	61	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Galveston, Texas	29.83	757.7	29.87	758.7	74	23.3	95	S	10	4.5	.....	0	1ks	.....	Calm	0.12	3.0	Clear	
Graham, Texas	28.72	729.5	29.76	755.9	53	11.7	54	N	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	28.94	735.1	29.58	751.3	44	6.7	76	W	4	1.8	.....	0	0	.....	.....	0.02	0.5	Clear	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	28.88	733.5	29.80	756.9	42	5.6	91	NW	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Indianapolis, Indiana	28.82	732.0	29.57	751.1	56	13.3	81	W	4	1.8	.....	.....	10s	.....	W	1.22	31.0	Cloudy	
Indianola, Texas	29.86	758.4	29.88	758.9	73	22.8	95	SW	18	8.0	.....	0	8s	.....	SW	0	0	Fair	
Jacksboro, Texas	28.75	730.2	29.86	758.4	60	15.6	65	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.08	764.0	30.10	764.5	70	21.1	85	SE	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Keokuk, Iowa	28.97	735.8	29.58	751.3	46	7.8	84	SW	12	5.4	.....	0	2s	.....	Calm	0	0	Clear	
Key West, Florida	30.05	763.3	30.08	764.0	75	23.9	86	E	8	3.6	.....	5k	0	SE	.....	0	0	Fair	
Kittyhawk, North Carolina	30.00	762.0	30.03	762.7	66	18.9	89	SW	24	10.7	.....	2c	Haze	SW	Calm	0	0	Fair	
Knoxville, Tennessee	28.80	731.5	29.75	755.6	71	21.7	68	SW	22	9.8	.....	.....	10ks	.....	SW	0.05	1.3	Cloudy	
La Crosse, Wisconsin	28.77	730.7	29.49	749.0	41	5.0	74	S	1	0.4	.....	10k	0	Calm	.....	0	0	Cloudy	
La Mesilla, New Mexico	26.05	661.7	30.2	767.1	40	4.4	56	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.57	751.1	29.91	759.7	72	22.2	67	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	28.91	734.3	29.75	755.6	42	5.6	66	NW	8	3.6	.....	5cs	1s	W	.....	0	0	Fair	
Little Rock, Arkansas	29.47	748.5	29.82	757.4	60	15.6	94	SW	3	1.3	.....	.....	10s	.....	SW	0.64	16.3	Cloudy	
Los Angeles, California	29.66	753.4	30.0	762.0	46.0	7.8	84	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.11	739.4	29.64	752.8	64	17.8	78	SW	12	5.4	.....	2k	8n	SW	SW	1.68	42.7	Light rain	
Lynchburg, Virginia	29.18	741.1	29.83	757.7	67	19.4	79	S	6	2.7	.....	.....	10s	.....	SW	0	0	Threatening	
Madison, Wisconsin	28.54	724.9	29.50	749.3	43	6.1	83	S	5	2.2	.....	8cs	0	W	.....	0	0	Fair	
Marquette, Michigan	28.82	732.0	29.52	749.8	40	4.4	82	SE	12	5.4	.....	5cs	5s	SW	Calm	0.08	2.0	Cloudy	
Mason, Texas	28.26	717.8	30.02	762.5	52	11.1	54	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	29.46	748.3	29.79	756.7	64	17.8	94	W	2	0.9	.....	0	5s	.....	NW	1.75	44.5	Fair	
Milwaukee, Wisconsin	28.84	732.5	29.55	750.6	43	6.1	83	S	7	3.1	.....	0	1s	.....	Calm	0	0	Clear	
Mobile, Alabama	29.92	760.0	29.96	761.0	75	23.9	90	SW	12	5.4	.....	.....	10s	.....	SW	Inap.	Inap.	Threatening	
Montgomery, Alabama	29.72	754.9	29.95	760.7	70	21.1	95	S	10	4.5	.....	2k	2ks	W	W	0.08	2.0	Fair	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Morgantown, West Virginia	28.67	728.2	29.61	752.1	63	17.2	78	SW	7	3.1	.....	.....	10ks	.....	SW	0.73	18.5	Cloudy.....	
Mt. Washington, N. H.....	23.51	597.9	29.90	759.4	40	4.4	100	NW	48	21.5	.....	.....	Fog	.....	NW	0.46	11.7	Foggy	
Nashville, Tennessee.....	29.22	742.2	29.73	755.1	67	19.4	84	SW	3	1.3	.....	.....	10n	.....	SW	1.20	30.5	Light rain..	
New Haven, Connecticut.....	29.65	753.1	29.76	755.9	58	14.4	94	SW	9	4.0	.....	5cs	Haze	SW	.....	0.05	1.3	Fair.....	
New London, Connecticut...	29.74	755.4	29.78	756.4	58	14.4	88	SW	8	3.6	.....	9k	1s	SW	Calm	0	0	Cloudy.....	
New Orleans, Louisiana.....	29.89	759.2	29.95	760.7	75	23.9	83	S	8	3.6	.....	8ks	Haze	SW	Calm	0.03	0.8	Fair.....	
Newport, Rhode Island.....	29.76	755.9	29.81	757.2	56.5	13.6	94	SW	10	4.5	.....	5c	0	SW	.....	0.09	2.3	Fair.....	
New York, New York.....	29.70	754.4	29.88	758.9	60	15.6	88	SW	8	3.6	.....	5cs	2s	Calm	Calm	0.05	1.3	Fair.....	
Norfolk, Virginia.....	29.89	759.2	29.95	760.7	66	18.9	84	S	18	8.0	.....	1cs	0	SW	.....	0	.	Fair	
North Platte, Nebraska.....	26.92	683.8	29.60	751.8	21	— 6.1	71	NW	11	4.9	.....	0	0	.....	.....	0	0	Clear.	
Olympia, Washington Ter...	29.72	754.9	29.76	755.9	41.5	5.3	91	S	7	3.1	.....	.....	10n	.....	Calm	0.46	11.7	Light rain...	
Omaha, Nebraska.....	28.57	725.7	29.67	753.6	38	3.3	63	W	15	6.7	.....	0	0	.....	.....	0	0	Clear.....	
Oswego, New York.....	29.26	743.2	29.57	751.1	59	15.0	91	S	8	3.6	.....	.....	10n	.....	SW	0.43	10.9	Light rain...	
Pembina, Dakota.....	28.63	727.2	29.49	749.0	21	— 6.1	100	NW	22	9.8	.....	.....	10n	.....	Calm	0.01	0.3	Light snow..	
Pensacola, Florida.....	30.04	763.0	30.07	763.8	73	22.8	90	S	8	3.6	.....	.....	10ks	.....	S	0.15	3.8	Cloudy.....	
Philadelphia, Pennsylvania	29.72	754.9	29.77	756.1	63	17.2	94	SW	17	7.6	.....	2ck	2s	Calm	Calm	0.01	0.3	Fair.....	
Phœnix, Arizona.....	28.84	732.5	30.69	779.5	44	6.7	84	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado.....	17.43	442.7	29.64	752.8	0	—17.8	100	SW	18	8.0	.....	.....	Fog	.....	.....	0	0	Foggy	
Pilot Point, Texas.....	29.09	738.9	29.89	759.2	52	11.1	60	NW	4	1.8	.....	2k	0	N	.....	Inap	Inap.	Fair.....	
Pioche, Nevada.....	.....	.....	.....	.....	30	— 1.1	78	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Pittsburg, Pennsylvania.....	28.82	732.0	29.59	751.6	60	15.6	88	S	11	4.9	.....	.....	10n	.....	S	0.50	12.7	Light rain...	
Port Huron, Michigan.....	28.88	733.5	29.52	749.8	48	8.9	93	NW	7	3.1	.....	.....	10ks	.....	NW	0.67	17.0	Cloudy.	
Portland, Maine.....	29.64	752.8	29.69	754.1	55	12.8	93	S	8	3.6	.....	.....	Fog	.....	.....	0.54	13.7	Foggy	
Portland, Oregon.....	29.80	756.9	29.87	758.7	44.7	7.1	84	SW	7	3.1	.....	0	8n	.....	SW	0.44	11.2	Light rain ...	
Portsmouth, N. Hampshire..	.....	.....	.....	.....	69	20.6	90	S	15	6.7	.....	0	0	.....	.....	0	0	Clear.	
Prescott, Arizona.....	24.71	627.6	30.07	763.8	30	— 1.1	89	S	.....	.....	1	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida.....	30.08	764.0	30.10	764.5	70	21.1	90	E	5	2.2	.....	0	0	.....	.....	0	0	Clear.	
Red Bluff, California.....	29.72	754.9	30.09	764.3	49	9.4	93	S	2	0.9	.....	0	5s	.....	S	0.06	1.5	Fair.....	
Rio Grande City, Texas.....	29.66	753.4	29.87	758.7	69	20.6	95	SE	5	2.2	.....	0	5s	.....	SE	0	0	Fair.....	
Rochester, New York.....	28.92	734.6	29.51	749.5	60	15.6	82	SW	5	2.2	.....	.....	10s	.....	Calm	0.18	4.6	Cloudy	
Roseburg, Oregon.....	29.40	746.7	29.98	761.5	45.5	7.5	84	SW	6	2.7	.....	.....	10n	.....	SW	0.14	3.6	Light rain...	
Sacramento, California.....	30.01	762.2	30.09	764.3	46.5	8.1	84	S	4	1.8	.....	0	5s	.....	Calm	0.01	0.3	Fair.....	
St. Louis, Missouri.....	29.15	740.4	29.72	754.9	48	8.9	85	SW	7	3.1	.....	0	0	.....	.....	0.08	2.0	Clear.....	
St. Paul, Minnesota.....	28.62	726.9	29.44	747.8	38	3.3	62	SW	10	4.5	.....	.....	10ks	.....	SW	0.01	0.3	Cloudy.....	
Salt Lake City, Utah.....	25.57	649.5	29.90	759.4	35	1.7	53	Calm	0	0	.....	0	8ks	.....	W	Inap	Inap.	Cloudy.....	
San Antonio, Texas.....	29.18	741.1	29.76	755.9	63	17.2	89	N	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
San Diego, California.....	29.94	760.5	30.02	762.5	47	8.3	92	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Sandusky, Ohio.....	28.92	734.6	29.57	751.1	51	10.6	86	N	9	4.0	.....	.....	10s	.....	N	1.32	33.5	Threatening	
Sandy Hook, New Jersey.....	29.74	755.4	29.77	756.1	62	16.7	83	SW	16	7.2	.....	2c	0	W	.....	0.11	2.8	Fair.....	
San Francisco, California....	30.05	763.3	30.12	765.0	51	10.6	72	W	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Santa Fé, New Mexico.....	23.20	589.3	29.74	755.4	25	— 3.9	75	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Savannah, Georgia.....	29.98	761.5	30.07	763.8	69	20.6	90	S	9	4.0	.....	0	Fog	.....	Calm	0	0	Clear.....	
Shreveport, Louisiana.....	29.56	750.8	29.77	756.1	70	21.1	90	SW	3	1.3	.....	0	2s	.....	Calm	0.99	25.1	Fair.....	
Silver City, New Mexico.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina..	30.07	763.8	30.10	764.5	69	20.6	90	S	13	5.8	.....	1k	0	Calm	.....	0	0	Clear.....	
Socorro, New Mexico.....	25.38	644.6	29.44	747.8	39	3.9	55	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Springfield, Illinois.....	29.01	736.8	29.67	753.6	45	7.2	84	SW	8	3.6	.....	0	Fog	.....	Calm	0.09	2.3	Foggy.....	
Springfield, Massachusetts..	29.60	751.8	29.72	754.9	60	15.6	94	S	13	5.8	.....	.....	10s	.....	S	0.01	0.3	Threatening	
Stockton, Texas.....	26.90	683.2	29.80	756.4	50	10.0	14	NE	12	5.4	.....	0	0	.....	.....	0	.	Clear.....	
Thatcher's Island, Mass.....	29.65	753.1	29.70	754.4	52	11.1	86	S	15	6.7	.....	10ck	Fog	SW	.....	0.02	0.5	Cloudy.....	
Toledo, Ohio.....	28.91	734.3	29.57	751.1	52	11.1	86	W	4	1.8	.....	.....	10s	.....	W	1.90	48.3	Cloudy.....	
Tucson, Arizona.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon.....	29.52	749.8	30.02	762.5	37.0	2.8	90	SE	2	0.9	.....	.....	10s	.....	.....	0	0	Cloudy.....	
Uvalde, Texas.....	28.98	736.1	29.79	756.7	60	15.6	77	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Vicksburg, Mississippi.....	29.60	751.8	29.84	757.9	73	22.8	95	SW	6	2.7	.....	.....	10s	.....	SW	1.85	47.0	Cloudy	
Virginia City, Montana.....	23.98	609.1	29.46	748.3	26	— 3.3	63	SW	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Visalia, California.....	29.68	753.9	30.05	763.3	53	11.7	86	Calm	0	0	.....	0	8ks	.....	Calm	0	0	Fair.....	
Washington, D. C.....	29.69	754.1	29.80	756.9	66	18.9	74	SW	20	8.9	.....	9ck,cs	0	SW	.....	0	0	Cloudy.....	
Wickenburg, Arizona.....	.....	.....	.....	.....	35	1.7	80	NW	.....	.....	1	0	0	.....	.....	0	0	Clear.....	
Wilmington, North Carolina	29.96	761.0	30.03	762.7	69	20.6	85	S	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Winnemucca, Nevada.....	25.55	649.0	29.91	759.7	38	3.3	63	SW	7	3.1	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Wood's Holl, Massachusetts	29.75	755.6	29.79	756.7	58	14.4	87	SW	16	7.2	.....	5cs	0	SW	.....	0	0	Fair.....	
Yankton, Dakota.....	28.40	721.3	29.70	754.4	35	1.7	52	W	16	7.2	.....	0	1s	.....	Calm	0	0	Clear.....	
Yuma, Arizona.....	29.84	757.9	30.01	762.2	47	8.3	62	E	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
SUB-SERIES.																			
Fayetteville, Arkansas.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.....	29.99	761.7	30.04	763.0	75	23.9	81	SE	2.4	1.1	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I.....	30.11	764.8	30.12	765.0	76	24.4	83	Calm	0	0	.....	8k	2s	Calm	.....	0	0	Fair...	James Gall.
Medellin, Colombia, S. A.*..	25.23	640.8	.....	.....	64.8	18.2	85	Calm	.....	.....	0	.....	10n	.....	.....	0.19	4.8	.....	Thomas Herran.
Navassa, W. I.....	29.85	758.2	29.93	760.2	80	26.7	.....	N	16	7.2	.....	5k	2cs	NE	N	0	0	Fair.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.96	761.0	29.96	761.0	84	28.9	71	E	.....	.....	2	3c	5k	E	.....	0	0	Fair.....	C. J. Hering.
Santiago de Cuba, W. I.....	29.96	761.0	29.99	761.7	76	24.4	81	NNE	8.4	3.8	.....	0	2s	.....	NE	Blank	Blank	.....	Robert Mason.
St. Thomas, W. I.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.....	30.28	769.1	30.34	770.6	6.0	—14.4	88	N	10	4.5	.....	4k	3s	N	N	0.23	5.8	Cloudy.....	J. Fortescue & W. Wood
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NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Medellin, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 m., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm. *The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.14‡	765.5‡	.....	.....	75	23.9	95	S	9	4.0	.....	.....	Mist	.....	S	0.30	7.6	.....	.....	Fair.....	
Navy Yard, Portsmouth, N.H	29.53‡	750.0‡	.....	.....	58	14.4	88	SW	3	1.3	....	.....	5?	.....	.....	0	0	.....	.....	Overcast?..	
Naval Hospital, Yokohama, Japan.....	30.14‡	765.5‡	.....	.....	43	6.1	68	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Adams, Mare I'd., Navy Yard, Cal.	30.13‡	765.3‡	.....	.....	53	11.7	93	SW	.....	....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Alaska, Iquique, Peru .....*.	29.95‡	760.7‡	.....	.....	67	19.4	79	Calm	.....	....	0	.....	0	.....	.....	.....	.....	.....	.....	Blue sky....	
Alliance. N. 20° 19′, W. 33° 21′.....	30.07‡	763.8‡	.....	.....	78	25.6	78	E	.....	.....	2	.....	3	.....	E	.....	.....	Long	ESE	D. clouds....	
Colorado, New York, . Y.....	29.72‡	754.9‡	.....	.....	63	17.2	83	SSE	.....	.....	2	.....	2	.....	.....	0.07	1.8	.....	.....	Fair.....	
Constitution, Navy Yard, Norfolk, Va.	29.98‡	761.5‡	.....	.....	66	18.9	100	S	15	6.7	.....	.....	5	.....	S	.....	.....	.....	.....	Pleasant....	
Enterprise, Alexandria, Egypt.....	30.14‡	765.5‡	.....	.....	72	22.2	62	WSW	.....	.....	3	.....	1	.....	W	.....	.....	Smooth	.....	Clear.....	
Franklin, Off Navy Yard, Norfolk, Va.	29.96‡	761.0‡	.....	.....	67	19.4	84	SSW	16	7.2	.....	.....	8	.....	SSW	0	0	.....	.....	Fair.....	
Hartford, N. 4° 45′, W. 72° 50′.....	29.86‡	758.4‡	.....	.....	59	15.0	100	SW	.....	.....	5	.....	5	.....	SW	0	0	Mod'ate	SW	Hazy.....	
Independence, Mare I'd, Navy Yard, Cal.	30.10‡	764.5‡	.....	.....	58	14.4	88	W	0.7	0.3	.....	.....	5	.....	W	0	0	.....	.....	Cloudy?.....	
Kearsage, Norfolk, Va	30.35‡?	770.9‡?	.....	.....	67	19.4	89	SSW	....	.....	3	.....	5	.....	S	0	0	.....	.....	Clear?.....	
Lackawana, N. 27° 42′ E. 178° 44′...†.	30.19‡	766.8‡	.....	.....	77	25.0	86	ENE	.....	.....	2	.....	5	.....	ENE	.....	.....	Smooth	ENE	Fair	
Marion, Off Norfolk, Va.	29.94‡	760.5‡	.....	.....	67	19.4	89	SSW	.....	.....	4	.....	2	.....	SW	.....	.....	Smooth	.....	Clear.....	
Michigan, Erie, Pa.....	29.43‡	47.5‡	.....	.....	61	16.1	83	W	.....	.....	6	.....	10	.....	wsw	.....	.....	.....	.....	Cloudy.....	
Monocacy, Shanghai, China..	30.26‡	68.6‡	.....	.....	52	11.1	86	ENE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Fair?.....	
New Hampshire, Port Royal, S. C.....	30.04‡	763.0‡	.....	.....	73	22.8	81	S	14	6.3	.....	.....	1	.....	Calm	0	0	.....	.....	Clear	
Onward, Callao, Peru ....†.	29.97‡	761.2‡	.....	.....	63	17.2	89	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Long	W	Misty.....	
Palos. Tientsin, China...	30.40‡?	772.4‡?	.....	.....	38	3.3	??	WSW	....	....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Passaic, Washington, D. C.....	29.81‡	57.3‡	.....	.....	67	19.4	84	W	.....	.....	5	.....	8	.....	E	0	0	.....	.....	Cloudy	
Pensacola, Callao, Peru.....	29.97‡	771 2‡	.....	.....	64	17 8	94	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Smooth	.....	Misty.....	
Portsmouth, Navy Yard, Washington, D.C	29.81‡	757.2‡	.....	.....	65	18.3	100	S	....	.....	2	.....	5	.....	SW	0	0	.....	.....	Fair	
Powhatan, New York, N. Y.....	29.82‡	757.4‡	.....	.....	61	16 1	82	SSW	.....	....	3	.....	8	.....	Calm	0.04	1.0	.....	.....	Cloudy.....	
Quinnebaug, Leghorn, Italy	29.90‡	759.4‡	.....	.....	53	11.7	43	ESE	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Ranger, N. 38° 55′, E. 155° 45′.....	29.88‡	758.9‡	.....	.....	49	9.4	78	NW	.....	....	3	.....	2	.....	NW	.....	.....	Long	NNW	Clear.....	
Richmond, Shanghai, China.....	30.23‡	767.8‡	.....	.....	54	12.2	74	NE	.....	.....	0-1	.....	0	.....	.....	0	0	Smooth	.....	Pleasant....	
Rio Bravo, Brownsville, Texas... †.	29 95‡	760.7‡	.....	.....	75	23.9	100	S	4	1.8	.....	.....	5	.....	S	0	0	.....	.....	Fair.....	
Santee, Annapolis, Md	29.83‡	757.7‡	.....	.....	66	18.9	94	SW	...	....	3	.....	8	.....	SW	0	0	....	.....	Cloudy.....	
Shenandoah, N. 2° 15′, W. 28° —′... ...	29.89‡	759.2‡	.....	.....	81	27.2	87	SE	.....	.....	... ..	4	5	.....	SE	.....	.....	Mod'ate	.....	Fair.....	
St. Louis, League Island, Pa.....	29.81‡	757.2‡	.....	.....	60	15.6	88	SW	12	5.4	.....	.....	5	.....	SSW	0	0	.....	.....	Fair.....	
Trenton, Villafranca, France	29.94‡	760.5‡	....	.....	51	10 6	40	NW	.....	.....	2	.....	10	.....	NW	0	0	Smooth	.....	Cloudy.....	
Tuscarora, N. 15° 55′, W. 97° 20′.....	29.87‡	758.7‡	.....	.....	77	25.0	86	NNW	.....	.....	2	.....	5	.....	Calm	0	0	Long	S	Fair.....	
Vandalia. Key West, Fla.....	30.08‡	764.0‡	.....	.....	78	25.6	86	E	....	.....	2	.....	5	.....	E	.....	.....	.....	.....	Fair.....	
Wabash, Boston, Mass.....	29 77‡	756.1‡	.....	.....	62	16.7	88	SW	5	2.2	....	.....	10	.....	.....	0.04	1.0	.....	.....	Overcast....	
Wachusett, N. 6° —′, W 31° —′.....	30.00‡	762.0‡	.....	.....	78	25.6	95	ESE	.....	.....	3	.....	10	.....	ESE	.....	.....	Smooth	ESE	Squally.....	
Wyoming, Malaga, Spain.....	30.08‡	764 0‡	.....	.....	66	18.9	79	S	.....	.....	1-2	.....	5	.....	S	.....	.....	Smooth	S	Fair.....	
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NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er 0—10.	Lo'er 0—10.	Upper. From—	Lower. From—		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.									
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S. S. Samaria																			Capt. T. Roberts.
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitebury.
S. S. Costa Rica																			W. House & R. Lawless.
S. S. Dakota, Capt. H. G. Morse																			Capt. Connolly.
S. S. Georgia																			F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin																			Capt. A. Fuller.
S. S. Wilmington																			
S. S. Zealandia, S. 29° 23′, W. 178° 40′		29.77‡	756.1‡				W			6			SE		Mod'ate	SE	Clear		R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The orginals give the barometer as read off; wind-force by the scale 0 to to 12; for the Brittanic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer N. 34° 43′, E. 140° 18′		30.06‡	763.5‡	55	12.8	74	NNE			5		2		NNE		Heavy	N	D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson N. 44° 57′, W. 145° 30′		30.26‡	768.6‡	49	9.4		Var.			3		8		SE	0	Mod'ate Rough	NW	Overcast	J. A. Thompson, C. O. J. G. Cameron.
S. S. Oceanic, Capt. J. Metcalf																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES Furnished by the co-operation of A. Schumacher & Co., Agents

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undutsch.
S. S. Leipzig, Capt. F. Pfeiffer, N. 46° 54′, W. 46° 20′		30.04‡	763.0‡	41.0	5.0	91	NW			3		8		NW	0	Mod'ate	NW	Cloudy	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 53° 28′, E. 4° 45′		30.39‡	771.9‡				NE			4		8		NE		4	NE	Hailing	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		Character.	Direction from—		
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 45° 35′, W. 50° 23′		30.16‡	766.1‡	40	4.4	91	WNW			6		8		NW	Mod'ate	Mod'ate	NW	Cloudy	Capt. R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from, sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents.																			
Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

Note.—The originals give the barometer as read off; do not distinguish between upper and lower clouds; sea-swell in general terms, as published. ‡Corrections for temperature, instrumental error and elevation applied at this office.

ALLAN LINE MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES—Miscellaneous.																			
Furnished by the co-operation of the Observers named.																			
Schooner Addie Fuller, Charleston, S. C		30.0‡	764.8‡	71	21.7	85	SSW					0			0			Clear	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George" of Halifax, Arroyo, Porto Rico, W. I.†		29.86‡	758.4‡	78	25.6		ENE			5		10		ENE	Blank	Rough	ESE	Cloudy	N. B. Foss.
Schooner Harry and Fred																			Capt. George Gardner.
Haytian																			
§ Iron Cross																			Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assgd.) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

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BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 16, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.11	764.7	67.1	19.5	82	NE			1		0			0	0	Clear	Kesxuche.
Nemours			30.17	766.4	69.4	20.8	76	NNW			3		5			0	0	Cloudy	Touriliere.
Algiers			30.21	767.3	57.9	14.4	58	NE			3		2			0.764	19.4	Fair	Foufrede.
La Calle			30.13	765.2	56.3	13.5	62	NNE			6		8			0.850	21.6	Very cloudy	Jacques.
Tunis																0.205	5.2		Gau.
Sfax			30.14	765.5															Herbin.
Saida																			Watrin.
Tebessa			30.15	765.7	42.8	6.0	91	NW			2		10			0.035	0.9	Covered	Brugniaux.
Geriville					65.1	18.4	35	NNE			1		0			0	0	Clear	Bertrand.
Laghouat			30.19	766.7	64.0	17.8	49	NW			6		10			0	0	Covered	Chanvaux.
Biskra			30.11	764.9	70.2	21.2	67	SSE			4		5			0	0	Cloudy	

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.51	749.6	30.09	764.2	35.4	1.9	74	SW			2		5			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.16	740.7	29.97	761.1	29.8	— 1.2	90	WSW	6.5	2.9			10			0	0		Prof. Dr. Karlinski, Dir.
Eperies	29.01	736.9	29.93	760.3	30.9	— 0.6	88	S			2		10s		N	0.039	0.10		Julius Mikolik.
Gratz	28.74	729.9	30.04	763.0	33.8	1.0	61	E			2		10			0	0		Andreas Rospini.
Hermannstadt	28.60	723.9	29.98	761.6	34.3	1.3	78	NW			2		8			0.341	8.65		Prof. A. Gottschling.
Kremsmünster	28.66	728.0	30.09	764.2	25.9	— 3.4	95	WNW			4		10			0.028	0.7		Prof. C. Wagner.
Lemberg	28.91	734.2	29.92	760.2	28.9	— 1.7	69	S			2		3			0	0		Dr. T. Stanecki.
Pola	29.93	760.3	30.05	763.2	42.1	5.6	32	NE			2		8			0	0		I.R. Hydrographic Office.
Szathmar	29.56	750.9	30.05	763.3	32.0	0.0	96	S			1		10			0	0		Pet. Panesics.
Szegedin	29.80	756.8	30.09	764.2	35.8	2.1	62	NW			1		10			0	0		Karl Stancel.
Trieste	29.98	761.4	30.08	764.0	43.3	6.3	28	N			1		10			0	0		P. Busin.
Vienna	29.25	743.0	30.00	762.0	27.7	— 2.4	92	W			3		10			0.102	2.6		I.R. Central Met. Ob'sy.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2:20, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	Lw'r 0—10.	Direction. Upper. From—	Lower From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER.
Aberdeen	30.03	762.7	30.13	765.3	47.3	8.5	.....	SW	7	3.1	.....	.....	5	.....	.....	0	0	Misty	W. Boswell.
Ardrossan	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Wm.McNeil &G.Carrick
Armagh, (Observatory)	30.05	763.3	30.29	769.4	47.0	8.3	.....	SSW	13	5.8	.....	.....	.....	.....	.....	.....	.....	.....	S. Call.
Bidston (Liverpool Obs)	.....	.....	30.36	771.1	46.8	8.2	.....	WSW	15	6.7	.....	.....	10	.....	.....	.....	.....	Overcast	John Hartnup.
Bolton (Sharples)	29.80	756.9	30.33	770.4	40.2	4.6	.....	S	6	2.7	.....	.....	10	.....	.....	.....	.....	Raining	Thomas Mackereth.
Bradford, Yorkshire	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J McLandsborough.
Bridgetown, Barbadoes	29.88	758.9	29.91	759.7	81	27.2	.....	NE	.....	.....	2	.....	8	.....	.....	0	0	Overcast.	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	30.26	768.6	30.36	771.1	36.0	2.2	.....	SW	.....	.....	1	.....	10	.....	.....	Blank	Blank	Overcast	H. Todd.
Cardington	.....	.....	30.37	771.4	35.0	1.7	.....	W	.....	.....	0–1	.....	10	.....	.....	.....	.....	Overcast	John McLaren.
Chatham (School M. E.)	30.28	769.1	30.41	772.4	37.2	2.9	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Overcast	J. Carmell, Sapper, R.E.
Donaghadee	30.25	768.3	30.30	769.6	45	7.2	.....	SW	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds	J. Mac Gowan.
Dover	30.35	770.9	30.38	771.6	38	3.3	.....	WNW	.....	.....	3	.....	9	.....	.....	.....	.....	Misty	J. Costello.
Falmouth (Observatory)	30.24	768.1	30.48	774.2	47.0	8.3	.....	SSW	.....	.....	3	.....	1	.....	.....	.....	.....	D clouds	The Staff.
Fort Napier, Natal	27.44	697.0	29.66	753.4	96.4	35.8	.....	W	.....	.....	5	.....	0	.....	.....	.....	.....	Blue sky	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Galway (Queen's College)	.....	.....	30.23	767.8	49.5	9.7	.....	WSW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	Prof. A. H. Curtis.
Gibraltar, Mediterranean	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Sergt.Wm. Allen, A. H.
Glasgow, (Observatory)	29.92	762.5	30.22	767.6	47.2	8.4	.....	SW	.....	.....	5	.....	10	.....	.....	.....	.....	Gloomy	D. G. Maclean. [C.
Great Yarmouth	30.30	769.6	30.30	769.6	34	1.1	.....	W	.....	.....	2	.....	5	.....	.....	.....	.....	Misty	G. T. Watson.
Greenwich (Royal Obs'y)	30.22	767.6	30.40	772.1	34.1	1.2	.....	WSW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	The Staff, for G.B.Airy.
Guernsey	30.24	768.1	30.47	773.9	42	5.6	.....	WSW	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds	Dr. S.E.Hoskins, F.R.S.
Helston	30.57	776.5	30.70	779 8	48	8.9	.....	S	.....	.....	2	1c	.....	.....	.....	0	0	Fine	M. P. Moyle.
Holyhead	30.29	769.4	30.34	770.6	50	10.0	.....	WSW	.....	.....	4	.....	6	.....	.....	.....	.....	D. clouds	John Tilston.
Jersey	30.22	767.6	30.53	775.4	40.0	4.4	.....	SW	.....	.....	3	.....	8	.....	.....	.....	.....	Gloomy	J. Fisher.
Kew (Observatory)	30.38	771.6	30.41	772.4	32.2	0.1	.....	N	4	1.8	.....	.....	10	.....	.....	.....	.....	Misty	The Met'g'l Office.
Leicester (Museum)	30.11	764.8	30.38	771.6	37.0	2.8	.....	SW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	29.50	756.9	29.88	758.9	56	13.3	.....	NW	.....	.....	2	.....	8n	.....	.....	Blank	Blank	Overcast	A. King.
Nairn	29.96	761.0	30.05	763.3	51	10.6	.....	SW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	W. D. Penny.
Nassau, Bahamas	.....	.....	30.06	763.5	79.2	26.2	.....	NE	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham (Observatory)	30.17	766.3	30.37	771.4	40.7	4.8	.....	WNW	.....	.....	1	2c	.....	Calm	.....	0	0	Blue sky	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.83	757.7	30.37	771.4	44.5	6.9	.....	SW	.....	.....	2	.....	10	.....	.....	.....	.....	Misty	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)	.....	.....	30.41	772.4	35	1.7	.....	WSW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	H. E. Bellamy.
Plymouth	30.38	771.6	30.45	773.4	43.0	6.1	.....	W	.....	.....	1	.....	10	.....	.....	.....	.....	Foggy	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	30.30	769.6	30.40	772.1	51	10.6	.....	SW	.....	.....	5	.....	10	.....	.....	.....	.....	Overcast	Wm. Konnedy.
St. Ann's Head	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John C. Walker.
Sandwick Manse, Orkneys	.....	.....	30.00	762 0	49.2	9.6	.....	SSW	16	7.2	.....	.....	10	.....	.....	.....	.....	Overcast	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	29.83	757.7	29.89	759.2	56.0	13.3	.....	ESE	.....	.....	1	.....	2	.....	.....	Blank	Blank	Blue sky	Serg't W. H. Lyne.
Sheffield	30.07	763.8	30.37	771.4	46.8	8.2	.....	SW	.....	.....	1	.....	10	.....	.....	0	0	Overcast	W. F. Cooper.
Silloth Rectory	30.24	768.1	30.28	769.1	49.4	9.7	84	NW	.....	.....	5	.....	8	.....	.....	0.010	0.25	D. clouds	Francis Redford, A. M.
Stonyhurst (Observatory)	.....	.....	30.31	769.9	41.1	5.1	.....	SW	6	2.7	.....	.....	10	.....	.....	.....	.....	Overcast	Rev. S. J. Perry.
Stratfield, Turgiss	30.19	766.8	30.42	772.7	35.0	1.7	.....	W	.....	.....	0–1	.....	10	.....	.....	.....	.....	Foggy	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. Newcombe.
Valencia Observatory)	30.28	769.1	30.30	769.6	52.8	11.6	.....	S	24	10.7	.....	.....	7	.....	.....	.....	.....	D. clouds	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	30.00	762.0	30.04	763.0	65.8	18.8	72	S	6.6	3.0	.....	0	0	.....	.....	.....	.....	Clear	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.42	645.7	.....	.....	81	27.2	.....	NW	.....	.....	.....	5n	4k;n	.....	.....	.....	.....	.....	Robert Burnet.
Hobart Town, Tasmania	.....	.....	29.64	752.8	54.0	12.2	76	NW	.....	.....	1	.....	10n	.....	.....	0.12	3.0	Raining	Francis Abbott, F.R.A.S.
Leith, (Restalrig Perk)	.....	.....	30.22	767.6	48.0	8.9	.....	W	.....	.....	3	.....	9k	.....	.....	0	0	Cloudy	Andrew Gibb.
Mauritius (Observatory)	29.81	757.2	30.00	761.9	77.0	25.0	56	NE	12.5	5.6	.....	0	4	.....	SSE	0	0	Fine	C. Meldrum.
Melbourne (Observatory)	29.59	751.6	29.68	753.9	63.0	17.2	67	NE	10	4.5	.....	.....	10	.....	.....	0.01	0.3	Dull	R. L. J. Ellery.
Monach Lt-house, Hebrides	.....	.....	29.99	761.7	51	10.6	.....	SSW	.....	.....	7	.....	10	.....	.....	0	0	.....	J. Youngclause.
North Unst, Shetland Is	.....	.....	29.89	759.2	.....	.....	.....	SW	.....	.....	4	.....	10	.....	.....	Blank	Blank	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Colesberg Bridge, unknown.

BRITISH MARINE SERIES. VESSELS.																Sea or swell Height scale 0—9	Sea or swell Direction compass		
H. M. S. Alert, Kathleen Bay, Patagonia	.....	.....	29.19‡	741.4‡	44.5	6.9	.....	NNW	.....	.....	3–6	.....	8	.....	.....	.....	.....	Showery	Capt.J.P. Maclear, R.N.
H. M. Sloop Gannet, S. 11° 47′, W. 77° 13′	.....	.....	29.99‡	761.7‡	66	18.9	.....	S	.....	.....	2	.....	9	.....	.....	.....	.....	Overcast	Commander E. Bourke, R. N.
H. M. S. Magpie, Shaweishan I'd., China	.....	.....	30.25‡	768.3‡	59	15.0	.....	NNE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky	Capt. R. H. Napier, R.N.
Brig Alliance, N. 29° 40′, W. 59° 00′	.....	.....	30.23‡	767 8‡	73.3	22.9	.....	SSE	.....	.....	2	.....	10	.....	.....	.....	.....	Misty	Capt. W. Scott.
S. S. Ethiopia, N. 41° 05′, W. 67° 00′	.....	.....	29.75	755.6	53	11.7	.....	W	.....	.....	4	.....	6	.....	.....	4	SSW	D. clouds	Capt. Campbell.
S. S. German, S. 14° 05′, E. 1° 05′	.....	.....	29.98‡	761.6‡	74	23.3	.....	SE	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	Capt. O. D. Coxwell.
Barque Mertole, N. 51° 10′, W. 8° 05′	.....	.....	30.39‡	771.4‡	51.8	11.0	.....	SW	.....	.....	5	.....	10	.....	.....	.....	.....	Overcast	Capt. Turner.
S. S. Peruvian, N. 48° 40′, W. 68° 20′	.....	.....	29.67	753.6	37	2.8	.....	NW	.....	.....	3	.....	2	.....	.....	2	WSW	Blue sky	Capt. W. H. Smith.
Barque Queen of Cambria, N. 15° 00′, E. 73° 15′	.....	.....	29 90‡	759.4‡	82.5	28.1	.....	NW	.....	.....	3	.....	0	.....	.....	.....	.....	Blue sky	Capt. M. Parry.
S. S. Strathleven, Sydney, N. S. W.	.....	.....	29.80‡	756.9‡	68.5	20.3	.....	S	.....	.....	3	.....	4	.....	.....	.....	.....	D. clouds	Capt. C. W. Pearson.
S. S. Sunbeam, N. 37° 30′, W. 11° 15′	.....	.....	30.13	765.3	66	18.9	.....	NNW	.....	.....	3	.....	9	.....	.....	2	NNW	Overcast	.....
S. S. Gordon Castle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
German Brig "W. von Freeden"	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. V. Freeden.
Theophane	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Greig.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. L'w'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
San José	26.21	665.7	29.93	760.2	67.1	19.5	86	NE			1	2cs;d		E		0	0		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.81	757.1	29.85	758.3	33.8	1.0	80	NNE			6		10						
Farõe	30.01	762.3	30.03	762.8	30.0	3.9	73	NNW			4		7						
Godthaab (Greenland)																			
Stykkisholm (Iceland)																			
Thorshavn (Farõe)	29.43	747.5	29.47	748.4	50.7	10.4	92	S			7		10						
Vestervig	29.93	760.3	30.04	763.1	37.0	2.8	54	N			2		8						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.95	760.6	30.50	774.6	38.3	3.5	41	S			1		5ns	E		0	0	Cloudy	Collignon, Director.
Amiens, Normal School	30.24	768.0	30.35	770.9	40.3	4.6	69	WNW			1		1		Calm	0	0	Clear	Vaillant, Director.
Arras, Engin'r School	30.13	765.4	30.40	772.2	36.1	1.7	72	NW			1		c			0.031	0.8		Klein, Commandant.
Avignon, Normal School	30.16	766.0	30.24	768.0	38.3	3.5	40	N			6		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.87	758.8	30.47	773.9	33.3	0.7	59	N			1		10					Snow-flakes	C. Saillard, Director
Beauvais, Normal School	30.18	766.6	30.47	773.8	36.5	2.5	57	W			1		5		NW	0	0	Cloudy	Frère Eugene Marie
Besançon, Normal School	29.49	749.1	30.44	773.2	33.1	0.6	79	N			1		10		NE	0	0	Covered	A. Carré, Director.
Bourg-en-Bresse, N. School	29.55	750.6	30.50	774.8	33.1	0.6	92	N			1		0			0	0	Clear	Marlot, Diretor.
Bourges, Normal School	29.91	759.7	30.50	774.6	34.6	1.4	76	NNE			1		2ksn		NNE	0	0	Slightly cl'dy	M. Gence, Director.
Brest, Naval Observatory	30.26	768.5	30.50	774.7	47.5	8.6	57	SE			1		0			0	0		Ch. de Rermaree, Dir.
Caen, Normal School	30.50	774.8			39.9	4.4	45	W					2		NNW	0	0	Slightly cl'dy	M. Bletrin, Director.
Carcassonne, N. School	29.92	759.9	30.35	770.9	41.4	5.2	46	W			3		0			0	0	Clear	September, Director.
Châlons-sur-Marne, N. Sch'l	30.11	764.9	30.45	773.4	38.8	3.8	59	WNW			1		2					Slightly cl'dy	Jadot, Director.
Chartres, Normal School	29.87	758.7	30.47	773.8	39.9	4.4	81	SW			2		9		NE	0	0		Vergier, Director.
Clermont-Fd, Puy de D. Obs	29.04	737.5	30.48	774.2	32.7	0.4	73	N			1		2		ENE	0	0		Alluard, Director.
Commercy, Normal School	29.50	749.2	30.41	772.5	32.2	0.1	96	NW			1		10kn	NW	NW	0	0	Covered	Dr. Coullet, Director.
Commune de Gréasque*	29.05	737.9	30.19	766.9	41.2	5.1	43	NW			2		0			0	0		L. Kina, Director.
Grenoble, Normal School	29.58	751.4	30.40	772.1	32.0	0.0		NW			1		0			0.04	1.	Clear	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.28	769.2	30.51	775.0	37.0	2.8	53	ENE			1		2		NE	0	0	Slightly cl'dy	Moulliot, Director.
Le Mans, Normal School	30.19	766.7	30.52	775.1	32.7	0.4	89	WSW			2		0			0	0	Clear	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.56	750.8	30.52	775.3	33.4	—0.2	96	N			1		2	N	N	0	0	Slightlycl'dy	A. Baudry, Director
Lorient, Naval Observatory	30.43	773.0	30.54	775.8	38.5	3.6	60	ESE			2				ESE	0	0		Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.78	756.4	30.43	773.0	35.2	1.8	67	N			2		1		NNE	0	0	Clear	Ch. André, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.88	759.0	30.16	766.0	46.9	7.7	82	WNW			3		0			0	0	Clear	E. Stephan, Director.
Mirecourt, Normal School	29.30	744.1	30.39	772.0	33.4	0.8	88	S			1		kn	S	S	0	0		Barbier, Director.
Mont-Louis	24.99	634.8	30.31	769.8	34.2	1.2	17	E	26.2	11.7			2		N	0	0		M. Cave.
Nice	30.10	764.6	30.13	765.4	53.1	11.7	44	W			4		1	NW	W	0	0	Clear	M. Boissière, Director.
Nismes, Normal School	30.04	762.9	30.25	768.8	42.8	6	56	N			4		2		NE	0	0	Slightly cl'dy	M. Boyer, Director.
Paris, Montsouris Obs'y	30.18	766.6			38.3	3.5	55	WNW			2		10c		NNE	0	0		Marié Davy, Director.
Perpignan	30.17	766.4	30.28	769.0	49.8	9.9	13	NE	22.4	10.0			0			0	0		Dr. Fines.
Pic du Midi (Plantade) H. P.	22.65	573.5			26.3	—3.7		NE			2		1		W	0	0	Clear	Gen'l de Nansouty.
Pic du Midi (Summit) H. P.																			M. Baylac.
Privas, Normal School																			M. Tallieu.
Puy de Dome (Summit) Obs	25.27	743.5	30.39	772.1	31.7	1.5		NE			1	c		NE	NE	0	0		Alluard, Director.
Rochefort, Naval Obs'y	25.29	642.3			14.0	—10.0	97	NE			2		2			0	0	Misty	Alluard, Director.
Rouen, Normal School	30.46	773.6	30.49	774.4	39.2	4.0	57	NE			3		2	NE	NE	0	0	¼ covered	Lt E. Decante, Director
Saint Malo (Port) Obs'y	30.37	771.3	30.45	773.5	38.3	3.5	46	WSW			3		5		NW	0	0	Cloudy	Frere Lucard, Director.
Saint Maur (near Paris)	30.47	773.9	30.50	774.7	41.2	5.1	61	S			2		1		S	0	0	Clear	Lt. Hercouet, Director.
Tarbes, Normal School	30.20	769.6	30.47	773.8	38.7	3.7	64	W			3			NNE	NW	0	0		E. Renou, Director.
Toulouse, Observatory	29.23	42.5	30.32	770.0	41.0	5	77	SW			1		5	SE	SSW	0	0	Cloudy	T. Huguet, Director.
Tours	29.70	754.3	30.43	772.9	37.0	2.8	52	NNW			1		0			0	0	Clear	M. Julier Mercadier.
Versailles, Observatory	30.30	769.5	30.49	774.5	36.9	2.7	50	E			1		1		E	0	0	1-10 covered	Cousin-Marquet.
Villefranche-sur-Saone, N.S	29.97	761.1	30.46	775.0	36.0	2.2		NW			1					0	0		Dr. A. Beriguy, Director
SUB-SERIES.	30.06	763.5	30.41	772.5	37.4	3	66	NW			1		2			0	0	Slightly cl'dy	Nicot, Director.
Fort de France, Martinique	29.90	759.5	29.93	760.2	75.2	24										1.10	28.		L'Abbé Marchési
Zi-Ka-Wei (near Shanghai)	30.22	767.5	30.24	768.2	49.8	9.6	91	E	5.8	2.6			0			0	0	Clear	Marc Dechevrens.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centrigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.22	742.3	30.07	763.8	32.5	0.3	90	W			4		10ks	W		0.067	1.7	Snowing	Prof. Dr. Hoh.
Berlin	29.64	752.8	29.82	757.4	32.7	0.4	98	NW			2		10			0.532	13.5		Prof. Dr. Arndt.
Breslau	29.29	744.0	29.82	757.4	29.1	— 1.6	95	WSW			4		10			0.290	7.38	Snowing	Royal University Obs'y
Carlsruhe	29.87	758.7	30.33	770.3	30.6	— 0.8	96	SW			4		10	SW		0.217	5.5	Snowing	Albert Senz.
Cassel	29.81	749.6	29.77	756.1	36.0	2.2	65	NNW			6		10	W		0	0		Dr. H. Möhl.
Emden			30.12	765.0	41.9	5.5	75	NW			2		9			0	0		Prof. Dr. Prestel.
Frankfort on the Main	29.88	758.9	30.26	768.5	37.2	2.9	62	NW			2		10			0.004	0.1		Physical Society.
Friedrichshafen	28.87	733.4	30.41	772.3	27.7	— 2.4	87	WNW			8		10	WNW		0.150	3.8	Snowing	Chief Telegrapher Wilhelm.
Hamburg	29.95	760.7	30.02	762.6	38.7	3.7	72	NW			6		2k	NW		0	0	Clear	Captain F. Hegemann.
Kiel	29.96	760.9	29.97	761.3	38.1	3.4	65	NW			5		2			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.67	753.5	29.75	755.7	33.1	0.6	84	NE			2		9			0.161	4.1	Snowing	Prof. E. Luther.
Köslin			29.67	753.6	37.9	3.3		N			2		4			0.378	9.6		H. Müller.
Leipsic Observatory	29.56	750.7	30.00	761.9	30.9	— 0.6	85	WNW			2		10			0.126	3.2	Snow & sleet	Prof. Dr. Brahms, Privy Counselor
Magdeburg	29.76	755.8	29.98	761.6	36.9	2.7	83	N			5		5ks			0.039	1.0		Dr. Assmann.
Memel	29.78	756.5	29.83	757.7	33.4	0.8	87	ESE			3		10n					Snowing	Reinbrecht & Issermann
Munich (München)	28.31	719.2	30.19	766.7	25.3	— 3.7	80	W			6		10			0.122	3.1		Dr. C. Lang.
Neufahrwasser	29.63	752.6	29.65	753.0	36.5	2.5	84	NNE			1		10			0.295	7.5		A. Lothes.
Neustadt (Palatinate)	29.74	755.3	30.27	768.8	34.9	1.6	80	W			1		10			0.425	10.8	Raining	Reallehrer Dicknether
Posen	29.40	746.8	29.70	754.4	32.2	0.1	98	W			5		10			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	29.84	757.8	30.42	772.7	31.3	— 0.4	96	SSW			2		10			0.011	0.27	Snowing	Imp. University Observatory.
Stuttgart	29.28	743.7	30.27	768.9	32.0	0.0	75	W					10			0.094	2.4		Prof. Dr. Schoder.
Weissenburg (Bavaria)	28.61	726.7	30.18	766.5	28.8	— 2.9	92	W	18	8			10			0.142	3.6	Snowing	Reallehrer J. Hopfner
Wustrow	29.84	757.8	29.86	758.4	35.6	2.0	80	N			6		10k			0.134	3.4		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.44	747.8	29.83	757.7	62.1	16.7		SW			3.0		10					Covered	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.92	760.0	29.97	761.3	77.0	25.0	51	N	11	4.9			0			0	0	Blue sky	
Deesa	29.52	749.7	30.00	761.9	77.3	25.2	30	ESE	7.0	3.1			0			0	0	Blue sky	
Bombay	29.86	758.5	29.90	759.4	77.1	25.1	78	NW	12	5.4			0			0	0	Blue sky	
Poona (Yerrowda)	28.03	712.0	29.89	759.2	78.5	25.8	37	E	4	1.8			1	SE		0	0	D. clouds	
Belgaum	27.36	694.9	29.91	759.8	73.2	22.9	71	WNW	5	2.2			4	E	SW	0	0	D. clouds	
Lahore	29.23	742.5	30.00	762.0	66.6	19.2	46	Calm	0.3	0.1			0			0	0	Blue sky	
Roorkee	29.06	738.2	29.99	761.8	64.8	18.2	44	Calm	0.8	0.4						0	0		
Agra	29.40	746.8	29.98	761.5	70.7	21.5	42	N	2.5	1.1						0	0		
Nagpur	28.88	733.5	29.94	760.4	74.2	23.4	36	Calm	2.8	1.2						0	0	Blue sky	
Jubbulpore	28.57	725.6	29.96	761.0	71.0	21.7	29	ENE	1.7	0.8						0	0	Blue sky	
Lucknow	29.60	751.9	29.99	761.8	71.2	21.8	53	Calm	0.2	0.1						0	0	Blue sky	
Allahabad	29.66	753.3	29.98	761.6	66.0	18.9	78	Calm	0.4	0.2			1			0	0	D. clouds	
Patna	29.79	756.7	29.98	761.4	77.7	25.4	38	Calm	0.3	0.1			2	W	W	0	0		
Hazaribagh	27.91	708.9	29.96	761.1	69.3	20.7	54	W	2.6	1.2			5			0	0		
Cuttack	29.85	758.2	29.93	760.3	78.2	25.7	67	NE	1	0.4			6			0	0	D. clouds	
Calcutta (Alipore)	29.92	759.9	29.94	760.5	74.7	23.7	73	Calm	0	0			0			0	0	Blue sky	
Goalpara	29.54	750.2	29.93	760.3	74.8	23.8	63	ENE	4.6	2.1			0			0	0	Blue sky	
Chittagong	29.81	757.3	30.91	759.6	77.9	25.5	70	Calm	1.3	0.6			0			0	0		
Sibsagar	29.63	752.7	29.98	761.4	72.0	22.2	82	ENE	1.8	0.8			0			0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.67	753.6	30.10	764.4	37.0	2.8	89	Calm	0	0	.....	.....	9	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.52	749.8	30.06	763.4	35.1	1.7	71	WSW	.....	.....	2	.....	3	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.97	761.2	30.08	764.1	40.6	4.8	46	S	4.0	1 8	.....	.....	10	SW	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.15	740.4	30.08	764.0	42.4	5.8	27	ESE	2.5	1.1	.....	.....	4	NNE	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.90	759.4	30.09	764.3	49.3	9.6	10	NW	4.9	2.2	.....	.....	2	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.11	714.0	30.07	763.8	43.8	6.8	15	ESE	.....	.....	2	.....	1	NE	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.00	762.0	30.05	763.3	42.4	5.8	63	NW	18.6	8.3	.....	.....	2	.....	.....	0.390	9.9	.....	Prof. Luigi Guidi.
Florence	29.82	757.5	30.09	764.3	43.7	6 5	37	NE	.....	.....	2	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	30.02	762.6	30.11	764.8	46.2	7.9	16	WNW	4.3	1.9	.....	.....	2	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.79	756.6	29.97	761.2	47.1	8.4	35	N	18.6	8.3	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. C. De Giorgi.
Cosenza	28.94	735.1	29.83	758.0	52.2	11.2	73	NW	6.9	3.1	.....	.....	8	.....	.....	0.138	3.5	.....	Prof. D. Conti.
Cagliari	29.83	757.7	30.03	762.7	52.6	11.4	22	NW	.....	.....	4	.....	2	E	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.67	753.7	29.93	760.2	60.9	10.5	60	W	1.8	0.8	.....	.....	9	W	.....	0.098	2.5	.....	Prof. G. Ciacciatore.
Syracuse	29.85	758.3	29.93	760.2	56.1	13.4	65	SW	6.3	2.8	.....	.....	10	E	.....	0	0	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.38	746.2	29.92	759.9	45.3	7.4	55	SW	3.8	1.7	.....	.....	8	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.20	767.1	30.22	767.6	47.5	8.6	90	NNE	8.3	3.7	.....	0	0	.....	.....	0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	30.04	763.0	30.24	768.1	52.0	11.1	93	WNW	0.1	0.04	.....	.....	0	.....	.....	0	0	Clear	S. Takehayashi.
Tokei, (Yeddo) Observatory	30.14	765.5	30.21	767.3	41.9	5 5	81	NW	5.4	2.4	.....	0	0	.....	.....	0	0	Clear	The Staff.
Wakayama	30.18	766.6	30.23	767.8	47.1	8.4	84	ESE	2.3	1.0	.....	.....	9s	.....	.....	0	0	Cloudy	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	25.04	635.9	30.16	766.0	47.8	8.8	60	SW	.....	.....	1	.....	1	.....	.....	0	0	Fine	Prof. L. Perez.
Leon	24.41	620.1	30.10	764.5	58.6	14 8	85	N	.....	.....	3	0	0	.....	.....	0	0	Clear	Prof. M. Leal.
Mazatlan	29.73	755.1	29.99	761.7	66.7	19.3	91	SE	.....	.....	1	8cs	0	.....	.....	0	0	Cloudy	I. Guerrero, C. E.
Mexico, Central Observatory	23.06	585.8	30.08	762.8	56.1	13.4	53	Calm	0	0	.....	9k	0	.....	.....	0	0	Cloudy	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	49.1	9 5	64	W	.....	.....	1	1cs	0	SW	.....	0	0	Clear	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.58	597.6	30.41	772.4	47.5	8.6	55	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.18	614.2	30.20	767.0	53.8	12.1	52	E	.....	.....	1	1	0	W	.....	0	0	Clear	G. Barroeta, M. D.
Tlacotalpam	29.87	758.8	29.89	759.1	77.5	25.3	93	Calm	.....	.....	0	0	0	.....	.....	0	0	Foggy	Prof. M. M. Chazaro.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell
Zacatecas	22.54	572.4	30.17	766.4	52.9	11.6	63	Calm	.....	.....	0	1s	0	Calm	.....	0	0	Clear	J. C. Castrillon.

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,934.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column; the instrumental correction —0.88 mm., or —0.035 inch, has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.35	771.0	30.35	771.0	41.4	5.2	.....	W	.....	.....	4	.....	.....	.....	.....	0.059	1.5	.....	
Groningen	30.14	765.5	30.19	766 9	41.0	5 0	.....	NW	.....	.....	.....	.....	.....	.....	.....	0	0	.....	
Helder	30.22	767.8	30.22	767.8	42.4	5.8	.....	W	.....	.....	4	.....	.....	.....	.....	0.264	6.7	.....	
Hellevoetsluis	30.32	770.0	30.32	770.0	41.0	5.0	69	W	.....	.....	4	.....	.....	.....	.....	0.039	1.0	.....	
Utrecht	30.21	768.2	30.20	769.4	41.7	5.4	70	W	.....	.....	3	.....	5	.....	.....	0.091	2.3	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum't'al error and temperature. Inches.	Barometer. Corrected for instrum't'al error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.05	763.3	30.11	764.7	32.0	0.0	89	Calm	0	0	.....	.....	10	.....	.....	0.512	13.0	Rain & snow	
Brönö	29.93	760.1	29.97	761.1	36.0	2.2	75	SSW	9	4	.....	.....	10	.....	.....	0.315	8 0	.....	
Christiana	29.93	760.2	30.08	764.1	31.8	— 0.1	63	ESE	0	0	.....	.....	3	.....	.....	0	0	Light fog.....	
Tromsö	29.73	755.1	29.77	756.2	40.4	4.8	74	SW	11	5	.....	.....	10	.....	.....	0.110	2.8	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	29.47	748.6	29.66	753.4	65.7	18.7	77	SW	8.1	3.6	.....	.....	3	.....	.....	1.299	33.0	.....	Dr. J. A. Sampaio.
Campo Major	29.13	739.9	30.17	766.2	55.8	13.2	95	ENE	4.3	1.9	.....	.....	10	.....	.....	0.067	1.7	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	29.98	761.5	30.07	763.7	71.6	22.0	71	SE	1.8	0.8	.....	.....	1	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.77	756.2	30.13	765.3	62.1	16.7	69	NE	13.7	6.1	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	29.69	754.1	29.76	755.9	68.7	20.4	68	S	15.4	6.9	.....	.....	4	.....	.....	0.579	14.7	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.																Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.. ..	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa, Porto Praya, Cape Verd I'ds.	.....	.....	.....	.....	81.0	27.2	.....	Calm	.....	.....	0	.....	8	.....	.....	0	.....	D. clouds.....	A. A. A. Loureiro.
Sà da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Com'd't.
Sado, Capt. J. A de Brito Capello, St. Paul de Loando	.....	.....	29.84	757 8	81.0	27.2	.....	W	.....	.....	5	.....	3	.....	W	.....	.....	D. clouds, 2 hr's rain-fall.]	H. Mocudoneo, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	.....	.....	30.13	765.2	78.8	23.2	.....	E	.....	.....	3	.....	0	.....	.....	1	SE	Blue sky.....	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between upper and lower clouds, and no humidity is given; duration of rain-fall in hours. The Sà da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	30.28	769.1	30.30	769.6	13.3	—10.4	97	S	2	1	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Astrakhan	30.37	771.5	30.29	769.4	39.2	4.0	87	SE	7	3	.....	10cp	.....	.....	.....	.....	.....	.....	Capt. Wisganow.
Barnaul	29.67	753.7	30.24	765.0	— 2.7	—19.3	.....	S	0	0	.....	.....	3	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	29.91	759.6	30.16	766.1	34.5	1.4	93	E	9	4	.....	.....	6k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	29.18	741.2	30.19	766.9	30.0	— 1.1	65	W	18	8	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	30.13	765.4	30.48	772.8	19.8	— 6.8	100	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.43	747.6	30.10	764.6	36.5	2.5	58	SE	7	3	.....	.....	4cks	.....	.....	.....	.....	.....	Physical Cabinet.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	29.87	758.6	30.08	763.9	41.0	5.0	94	E	2	1	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs
Moscow	29.74	755.3	30.31	769.9	36.0	2.2	85	S	4	2	.....	.....	8ks	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	27.70	703.6	30.17	766.3	11.5	—11.4	71	NW	7	3	.....	.....	10	.....	.....	Blank	Blank	Light clouds	Meteorological Obs.
Nikolaiev	30.04	763.1	30.11	764.9	37.0	2.8	93	SE	9	4	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	29.87	758.8	30.11	764.9	42.1	5.6	76	NNE	11	5	.....	.....	10kn	.....	.....	.....	.....	.....	.....
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	30.14	765.6	30.28	769.2	43.7	6.5	43	NW	7	3	.....	.....	3cs	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	30.22	767.5	30.23	767.9	31.8	— 0.1	92	ESE	7	3	.....	.....	8k	.....	.....	.....	.....	.....	Central Physical Obs.
Tashkend	28.52	724.4	30.12	765.1	48.9	9.4	82	.....	.....	.....	.....	.....	3	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.72	729.5	30.13	765.4	58.3	14.6	57	E	4	2	.....	.....	4s	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	29.38	746.3	29.82	757.5	30.4	— 0.9	88	S	16	7	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.63	750.0	29.97	761.1	33.6	0.9	77	SSE	7	3	.....	.....	10	.....	.....	.....	.....	Heavy clouds...	Astronomical Obs.
Yenisiesk	29.92	760.0	30.24	768.1	3.9	—15.6	79	SW	4	2	.....	.....	8	.....	.....	.....	.....	.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	30.12	765.0	30.23	767.7	52.7	11.5	46	NE	2.7	1.22	.....	.....	0	.....	.....	0	0	Clear.....	Antonio Rave, Director
Bilbao, Met. Obs'y	30.35	771.0	30.41	772.5	46.9	8.3	50	NW	1.8	0.79	.....	0	0	.....	.....	0	0	Clear.....	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.27	692.6	.....	.....	41.0	5.0	32	NE	6.2	2.78	.....	0	0	.....	.....	0	0	Clear.....	Domingo Martin y Perez.
Madrid, Royal Observatory.	27.93	709.3	30.18	766.6	53.8	12.1	39	NE	4.5	2.00	.....	0	0	.....	.....	0.008	0.2	Clear.....	The Staff.
Murcia, Met. Obs'y	29.96	760.9	30.11	764.8	55.8	13.2	68	ENE	6.7	3.00	.....	5	5	SW	.....	0.117	2.96	Covered.....	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.25	742.9	30.14	765.6	55.6	14.8	38	ENE	13.0	5.8	.....	.....	0	.....	.....	0	0	Clear.....	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	29.99	761.7	30.05	763.4	71.2	21.8	88	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	Benito Vines, S. J.
Manilla, Phillippine Islands	29.90	759.5	29.95	760.8	80.4	26.9	87	NE	0	0	.....	.....	1s	.....	E	0.36	0.9	Fine.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.97	761.3	30.07	763.8	65.7	18.7	87	WSW	2.8	1.3	.....	0	10	.....	W	0.115	2.9	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.88	759.0	29.97	761.3	76.3	24.6	94	SE	0	0	.....	.....	10n	.....	SE	2.087	53.00	Raining	Enrique Gadea, Chief Eng'r

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-16.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.20	767.1	30.28	769.1	11.1	—11.6	.....	E	.....	.....	2	.....	10	.....	.....	0	0	Foggy	
Umea	30.15	765.7	30.20	767.0	20.8	— 6.2	100	NNW	.....	.....	2	.....	10	.....	.....	0	0	.....	
Hernosand	30.19	766.9	30.24	768.2	21.0	— 6.1	93	NNE	.....	.....	2	.....	10	.....	.....	0	0	.....	
Stockholm	29.84	757.9	30.02	762.4	33.8	1.0	92	ESE	.....	.....	4	.....	9	.....	.....	0.024	0.6	.....	
Wisby	29.78	756.3	29.84	757.8	34.5	1.4	82	E	.....	.....	6	.....	10	.....	.....	0.421	10.7	Snow & rain.	
Sub-Series.																			
Upsala	29.93	760.3	30.02	762.5	34.5	1.4	91	ENE	7.6	3.4	.....	.....	10	.....	SE	0	0	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-16.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	28.92	734.6	30.41	772.5	30.9	— 0.6	67	NNE	.....	.....	3	.....	3	.....	.....	0	0	Clear...	The Observatory.
Zurich	28.71	729.1	30.43	773.0	28.0	— 2.2	65	W	.....	.....	1	.....	8	.....	.....	0.157	4.0	Foggy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +8.2 mm.; Thermometer, —7.3 Cent.; Relative Humidity, —10 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-16.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Constantinople	.....	.....	29.98	761.5	54.5	12.5	63	E	9	4.0	.....	.....	1	.....	NE	0.575	14.6	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.82	757.5	51.4	10.8	.....	W	.....	.....	2	.....	5	.....	.....	0.20	5.	Cloudy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.94	760.5	30.06	763.4	69.1	20.6	60	N	.....	.....	1	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-16.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bathurst, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B.	29.53	750.0	29.60	751.8	36.8	2.7	85	W	5	2.2	.....	0	0	.....	.....	0.17	4.3	Clear	G. A. Blair.
Charlottetown, P. E. Island	29.50	749.3	29.54	750.3	41.4	5.2	86	W	12	5.4	.....	.....	8s	.....	N	0.01	0.3	Clearing	H. J. Cundall, C. E.
Cornwall, Ontario	29.45	748.0	29.64	752.8	39.9	4.4	95	NW	.....	.....	1	0	8s	.....	.....	0.83	21.1	Fair	James Smith, M. A.
Dalhousie, N. B.	29.38	746.2	29.55	750.6	36	2.2	.....	.....	.....	.....	.....	0	0	.....	.....	1.05	26.7	Clear	H. A. Johnson.
Father Point, Quebec	29.62	752.3	29.64	752.8	34.2	1.2	90	W	10	4.5	.....	2k	0	W	.....	0.48	12.2	Clear	J. McWilliams.
Fredericton, N. B.	29.59	751.6	29.66	753.4	39.7	4.3	76	NW	8	3.6	.....	0	1s	.....	.....	0	0	Clear	Prof. Harrison.
Fort Garry, Manitoba	29.27	743.4	30.17	766.3	11.5	—11.4	90	W	5	2.2	.....	2c	2s	W	.....	0.05	1.3	Fair	James Stewart.
Granton, Ontario	28.74	730.0	29.87	758.7	38	3.3	.....	SW	.....	.....	2	1cs	0	.....	.....	0	0	Clear	James Grant.
Halifax, N. S.	29.45	748.0	29.58	751.3	48.9	9.4	85	NW	10	4.5	.....	0	2ks	.....	.....	0.113	2.87	Fair	A. Allison, M. A.
Hamilton, Ontario	29.52	749.8	29.90	759.4	42.7	5.9	95	NW	.....	.....	2	0	0	.....	.....	0.15	3.8	Clear	Geo. Dickson, M. A.
Heart's Content, N. F.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.43	747.5	29.77	756.1	44.7	7.1	84	W	9	4.0	.....	0	0	.....	.....	0.42	10.7	Clear	S. Woods, M. A.
Little Glace Bay, N. S.	29.44	747.8	29.48?	748.8?	48.7	6.5	74	W	8	3.6	.....	4k	0	W	.....	0	0	Fair	C. H. Rigby.
Montreal, Quebec	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. H. McLeod, C. E.
Moose Factory, Ontario	29.70	754.4	29.74	755.4	24.8	— 4.0	95	N	.....	.....	3	.....	10n	.....	.....	Inap.	Inap.	Snowing	J. R. Nason.
Norwood	29.03	737.3	29.74	755.4	38.2	3.4	93	W	.....	.....	1	1k	0	Calm	.....	0	0	Fair	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. R. Mosley.
Peterboro, Ontario	29.96	735.6	29.72	754.9	40.7	4.8	91	NW	.....	.....	1	0	0	.....	.....	0	0	Fine	J. F. Jeffers, B. A.
Port Dover, Ontario	29.18	741.1	29.58	753.9	41.9	5.5	83	W	12	5.4	.....	0	0	.....	.....	0.25	6.3	Clear	H. Morgan.
Port Hastings, N. S.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.24	742.7	29.90	759.4	41.2	5.1	81	W	14	6.3	.....	0	2ks	.....	W	0	0	Clear	M. Payne.
Quebec, Quebec	29.40	746.7	29.78	756.1	36.5	2.5	85	W	.....	.....	1	0	0	.....	.....	1.30	33.0	Clear	Capt. Ashe, R. N.
Rockliffe, Ontario	29.21	741.9	29.68	753.9	34.0	1.1	95	SE	2	0.9	.....	.....	10s	.....	SE	0.07	1.8	Light rain	W. H. McIntyre.
St. Andrews, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Gove.
St. John, N. B.	29.50	749.3	29.66	753.4	40	4.4	91	NW	12	5.4	.....	4k	0	.....	.....	0.01	0.3	Fair	G. Murdock, C. E.
Saugeen, Ontario	29.06	738.1	29.78	756.4	43.1	6.2	79	SW	33	14.8	.....	8k	0	SW	.....	0.13	3 3	Cloudy	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.54	724.9	29.84	757.9	39.1	3.9	89	W	15	6.7	.....	0	8ks	.....	.....	0.038	0.96	Cloudy	C. J. MacGregor, M. A.
Sydney, C. B.	29.39	746.5	29.43	747.5	50.4	10.2	82	W	14	6.3	.....	7c	3ks	W	.....	0.09	2.3	Cloudy	T. C. Hill, C. E.
Toronto, Ontario	29.45	748.0	29.84	757.9	39.2	4.0	91	W	5	2.2	.....	2ck	2ks	NW	NW	Inap.	Inap.	Fair	Magnetic Observatory.
Windsor, N. S.	29.40	749.0	29.59	751.6	47.6	8.6	81	W	9	4.0	.....	6k	0	.....	.....	0	0	Fair	Prof. John E. Oram.
Woodstock, Ontario	28.79	731.3	29.87	758.7	40.2	4.6	79	SW	21	9.4	.....	0	1ks	.....	W	0	0	Clear	Prof. J. Montgomery.
Yarmouth, N. S.	29.61	752.1	29.68	753.9	47.9	8.8	83	W	.....	.....	2	0	2s	.....	.....	0	0	Fair	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.16	740.7	29.41	747.0	55.0	12.8	93	W	.....	.....	.....	10k	10s	.....	.....	0.10	2.5	Cloudy	John Delany.
St. Pierre, N. F.	.....	.....	29.28	743.8	48.2	9	.....	SW	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	l'Hopital Maritime.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10, except Yarmouth and St. Johns on scale 0 to 20. At St. Andrews the velocity wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,016 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.60	751.8	29.83	757.7	51	10.6	53	W	8	3.6	.....	0	0	.....	.....	0.06	1.5	Clear	
Alpena, Michigan	29.13	739.9	29.78	756.4	38	3.3	91	W	12	5.4	.....	0	8s	.....	W	0.10	2.5	Fair	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	28.89	733.8	30.01	762.2	62	16.7	88	NW	9	4.0	.....	10k	0	W	.....	0.43	10.9	Cloudy	
Atlantic City, New Jersey	29.94	760.5	29.95	760.7	51	10.6	86	W	5	2.2	.....	2k	0	NW	.....	0	0	Clear	
Augusta, Georgia	29.87	758.7	30.06	763.5	69	20.6	90	NW	2	0.9	.....	5ck	2s	SE	Calm	0.41	10.4	Fair	
Baltimore, Maryland	29.94	760.5	29.99	761.7	57	13.9	58	NW	6	2.7	.....	0	0	.....	.....	0.17	4.3	Clear	
Barnegat, New Jersey	29.89	759.2	29.92	760.0	53	11.7	80	NW	6	2.7	.....	0	2s	.....	S	0	0	Clear	
Bismarck, Dakota	28.21	716.5	30.06	763.5	20	— 6.7	83	NE	6	2.7	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Boerne, Texas	28.50	723.9	29.80	756.9	61	16.1	88	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Boise City, Idaho	27.38	695.4	30.34	770.6	33	0.6	89	W	1	0.4	.....	0	0	.....	.....	0.17	4.3	Clear	
Boston, Massachusetts	29.63	752.6	29.78	756.4	52	11.1	73	W	6	2.7	.....	0	0	.....	.....	0.02	0.5	Clear	
Brackettville, Texas	28.75	730.2	29.78	756.4	68	20.0	100	E	7	3.1	.....	.....	10n	.....	Calm	Inap.	Inap.	Light rain	
Breckenridge, Minnesota	29.06	738.1	30.13	765.3	16	— 8.9	100	N	8	3.6	.....	0	5s	.....	Calm	Inap.	Inap.	Fair	
Brownsville, Texas	29.86	758.4	29.91	759.7	79	26.1	82	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Buffalo, New York	29.14	740.1	29.84	757.9	46	7.8	62	W	21	9.4	.....	5k	0	W	.....	0.59	15.0	Fair	
Burkes, Arizona	.....	.....	.....	.....	46	7.8	77	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.41	747.8	29.73	755.1	45	7.2	76	SE	1	0.4	.....	.....	10ks	.....	W	0.38	9.7	Cloudy	
Cairo, Illinois	29.80	756.9	30.20	767.1	47	8.3	85	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Campo, California	27.42	696.5	29.99	761.7	32	0.0	89	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.00	762.0	30.06	762.0	68	20.0	90	NW	9	4.0	.....	1cs	8s	SW	NW	0	0	Cloudy	
Cape Henry, Virginia	30.06	763.5	30.08	764.0	61	16.1	88	W	8	3.6	.....	1cs	Haze	Calm	Calm	0.08	2.0	Clear	
Cape Lookout, N. Carolina	29.99	761.7	30.01	762.2	69	20.6	90	W	15	6.7	.....	8cs	0	W	.....	0	0	Cloudy	
Cape May, New Jersey	29.93	760.2	29.96	761.0	58	14.4	88	W	11	4.9	.....	0	Haze	.....	.....	0.02	0.5	Clear	
Castroville, Texas	29.14	740.1	29.83	757.7	67	19.4	60	Calm	0	0	.....	.....	10s	.....	S	0	0	Cloudy	
Cedar Keys, Florida	30.07	763.8	30.09	764.3	73	22.8	95	S	.....	.....	1	0	0	.....	.....	0	0	Clear	
Charleston, South Carolina	29.97	761.2	30.03	762.7	70	21.1	75	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Charlotte, North Carolina	29.16	741.1	29.98	761.5	58	14.4	100	N	4	1.8	.....	5ck	Fog	W	Calm	0	0	Foggy	
Chattanooga, Tennessee	29.31	744.5	30.11	764.8	54	12.2	61	NE	4	1.8	.....	0	0	.....	.....	0.38	9.7	Clear	
Cheyenne, Wyoming	23.92	607.6	29.86	758.4	30	— 1.1	78	SW	2	0.9	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Chicago, Illinois	29.35	745.5	30.06	763.5	36	2.2	71	W	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Cincinnati, Ohio	29.50	749.3	30.16	766.1	49	9.4	57	Calm	0	0	.....	0	0	.....	.....	0.06	1.5	Clear	
Cleveland, Ohio	29.26	743.2	30.00	762.0	41	5.0	65	SW	14	6.3	.....	0	Haze	.....	Calm	0.25	6.3	Clear	
Coleman City, Texas	28.12	714.2	29.78	756.4	52	11.1	66	S	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Columbus, Ohio	29.23	742.4	30.07	763.8	48	8.9	70	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Concho, Texas	28.00	711.2	29.85	758.1	58	14.4	32	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.47	748.5	29.94	760.5	52	11.1	66	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Davenport, Iowa	29.44	747.8	30.10	764.5	36	2.2	80	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Deadwood, Dakota	25.32	643.1	.....	.....	18	— 7.8	68	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Denison, Texas	29.17	740.9	29.97	761.2	49	9.4	64	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Denver, Colorado	24.70	627.4	29.92	760.0	32	0.0	89	W	4	1.8	.....	.....	10n	.....	Calm	0.05	1.3	Light snow	
Des Moines, Iowa	29.16	740.7	30.07	763.8	34	1.1	79	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Detroit, Michigan	29.27	743.4	29.94	760.5	39	3.9	73	SW	9	4.0	.....	0	2s	.....	Calm	0.13	3.3	Clear	
Dodge City, Kansas	27.29	693.2	29.68	752.6	32	0.0	59	SE	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.38	746.2	30.11	764.8	32	0.0	79	SW	1	0.4	.....	8c;k	Fog	SW	Calm	0	0	Cloudy	
Duluth, Minnesota	29.39	746.5	30.10	764.5	30	— 1.1	78	NW	4	1.8	.....	0	2s	.....	Calm	0	0	Fair	
Eagle Pass, Texas	29.16	740.7	29.87	758.7	68	20.0	90	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	29.60	751.8	29.67	753.6	44	6.7	76	NW	7	3.1	.....	0	0	.....	.....	0.08	2.0	Clear	
Edinburg, Texas	.....	.....	.....	.....	76	24.4	95	Calm	.....	.....	0	.....	10s	.....	S	0	0	Cloudy	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.19	741.4	29.90	759.4	47	8.3	62	W	24	10.7	.....	5k	2s	W	W	0	0	Fair	
Escanaba, Michigan	29.21	741.9	29.88	758.9	34	1.1	79	W	6	2.7	.....	.....	10s	.....	NW	0.04	1.0	Cloudy	
Florence, Arizona	28.43	722.1	30.03	762.7	46	7.8	84	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	28.01	711.4	29.94	760.5	25	— 3.9	87	E	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Custer, Montana	26.87	682.5	.....	.....	31	— 0.6	61	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.11	637.8	30.07	763.8	40	4.4	48	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.47	748.5	30.02	762.5	43	6.1	59	E	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Fort Grant, Arizona	25.16	639.0	29.96	761.0	48	8.9	37	N	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	28.65	727.7	29.94	760.5	45	7.2	68	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.46	697.5	.....	.....	23	— 5.0	72	Calm	0	0	.....	0	2s	.....	Calm	0	0	Fair	
Fort McKavett, Texas	27.66	702.6	29.57	751.1	55	12.8	81	S	1	0.4	.....	.....	10s	.....	S	0	0	Cloudy	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.72	729.5	29.83	757.7	45	7.2	55	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	28.19	716.0	.....	.....	22	— 5.6	86	E	6	2.7	.....	.....	10s	.....	E	0	0	Cloudy	
Fort Verde, Arizona	.....	.....	.....	.....	35	1.7	90	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.11	714.0	29.64	752.8	60	15.6	65	S	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Galveston, Texas	29.95	760.7	29.99	761.7	72	22.2	100	S	4	1.8	.....	.....	Fog	.....	Calm	0	0	Foggy	
Graham, Texas	28.83	732.3	29.88	758.9	50	10.0	65	S	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.31	744.5	29.97	761.2	41	5.0	82	W	18	8.0	.....	.....	10s	.....	W	0	0	Cloudy	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	28.96	735.6	29.91	759.7	46	7.8	62	SE	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Indianapolis, Indiana	29.30	744.2	30.10	764.5	43	6.1	76	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Indianola, Texas	29.93	760.2	29.96	761.0	72	22.2	95	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Jacksboro, Texas	28.75	730.2	29.85	758.2	60	15.6	77	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.07	763.8	30.09	764.3	70	21.1	85	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Keokuk, Iowa	29.41	747.0	30.05	763.3	38	3.3	81	SW	2	0.9	.....	0	2s	.....	Calm	0	0	Clear	
Key West, Florida	30.03	762.7	30.07	763.8	76	24.4	86	E	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Kittyhawk, North Carolina	30.00	762.0	30.03	762.7	65	18.3	94	W	11	4.9	.....	2k	Haze	W	Calm	0	0	Fair	
Knoxville, Tennessee	29.15	740.4	30.16	766.1	50	10.0	65	N	4	1.8	.....	0	Haze	.....	.....	0.18	4.6	Foggy	
La Crosse, Wisconsin	29.29	744.0	30.06	763.5	33	0.6	70	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
La Mesilla, New Mexico	26.01	660.6	30.16	766.1	35	1.7	61	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.59	751.6	29.92	760 0	71	21.7	66	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.19	741.4	30.05	763.3	41	5.0	82	Calm	0	0	.....	.....	10s	.....	.....	0	0	Cloudy	
Little Rock, Arkansas	29.77	756.1	30.13	765.3	51	10.6	59	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Los Angeles, California	29.95	758.1	29.99	761.7	52.5	11.4	90	E	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Louisville, Kentucky	29.59	751.6	30.16	766.1	47	8.3	62	W	2	0.9	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Lynchburg, Virginia	29.36	745.7	30.04	763.0	56	13.3	68	NW	4	1.8	.....	0	0	.....	.....	0.50	12.7	Clear	
Madison, Wisconsin	29.00	736.6	30.02	762.5	32	0.0	79	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Marquette, Michigan	29.13	739.9	29.83	757.7	40	4.4	82	W	12	5.4	.....	.....	10ks	.....	NW	0	0	Cloudy	
Mason, Texas	28.80	718.8	30.06	763.5	52	11.1	73	Calm	0	0	.....	0	1s	.....	S	0	0	Clear	
Memphis, Tennessee	29.78	756.4	30.12	765.0	50	10.0	58	NE	4	1.8	.....	0	Sm'e	.....	Calm	0	0	Clear	
Milwaukee, Wisconsin	29.26	743.2	30.02	762.5	32	0.0	79	W	12	5.4	.....	0	1s	.....	Calm	0	0	Clear	
Mobile, Alabama	30.01	762.2	30.05	763.3	72	22.2	95	N	1	0.4	.....	.....	10s	.....	N	Inap.	Inap.	Cloudy	
Montgomery, Alabama	29.84	757.9	30.07	763.8	69	20.6	95	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Morgantown, West Virginia	29.06	738.1	30.06	763.5	47	8.3	62	SW	7	3.1	.....	0	0	.....	.....	0.12	3.0	Clear.....	
Mt. Washington, N. H.	25.44	695.4	29.80	756.9	22	— 5.6	85	NW	36	16.1	.....	0	5ks	.....	NW	0.37	9.4	Fair.....	
Nashville, Tennessee	29.62	752.3	30.16	766.1	51	10.6	72	Calm	0	0	.....	0	0	.....	.....	0.04	1.0	Clear.....	
New Haven, Connecticut	29.73	755.1	29.84	757.9	51	10.6	84	W	9	4.0	.....	0	0	.....	.....	0.02	0.5	Clear.....	
New London, Connecticut	29.77	756.1	29.82	757.4	52	11.1	73	W	2	0.9	.....	0	0	.....	.....	Inap.	Inap.	Clear.....	
New Orleans, Louisiana	29.99	761.7	30.05	763.3	74	23.3	86	Calm	0	0	.....	.....	10s	.....	W	0	0	Cloudy.....	
Newport, Rhode Island	29.78	756.4	29.83	757.7	50.5	10.3	83	SW	6	2.7	.....	0	0	.....	.....	0.02	0.5	Clear.....	
New York, New York	29.72	754.9	29.89	759.2	53	11.7	73	NW	10	4.5	.....	0	Haze	.....	.....	0.01	0.3	Clear.....	
Norfolk, Virginia	29.94	760.5	30.00	762.0	61	16.1	94	N	3	1.3	.....	0	0	.....	.....	0.10	2.5	Clear.....	
North Platte, Nebraska	27.05	687.1	29.64	752.8	41	5.0	49	W	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Olympia, Washington Ter.	30.33	770.4	30.38	771.6	35.5	1.9	100	S	2	0.9	.....	2cs	0	Calm	.....	0 03	0.8	Fair.....	
Omaha, Nebraska	28.85	732.8	29.97	761.2	37	2.8	81	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy..	
Oswego, New York	29.50	749.3	29.82	757.4	48	8.9	85	W	10	4.5	.....	0	8ks	.....	NW	0.28	7.1	Fair.....	
Pembina, Dakota	29.24	742.7	30.15	765.8	2	—16.7	100	NW	3	1.3	.....	0	0	.....	.....	0.12	3.0	Clear.....	
Pensacola, Florida	30.05	763.3	30.08	764.0	72	22.2	95	W	2	0.9	.....	0	8ks	.....	W	0.04	1.0	Cloudy.	
Philadelphia, Pennsylvania	29.90	759.4	29.95	760.7	53	11.7	73	NW	4	1.8	.....	0	Fog	.....	Calm	0.05	1.3	Clear.....	
Phœnix, Arizona	28.75	730.2	30.07	776.5	49	9.4	71	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.47	443.7	29.68	753.9	11	—11.7	100	N	8	3.6	.....	.....	10n	.....	NE	0.06	1.5	Snowing.....	
Pilot Point, Texas	29.20	741.7	30.01	762.2	58	14.4	41	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Pioche, Nevada	.....	.....	.....	.....	28	— 2.2	66	N	14	6.3	.....	0	0	.....	.....	0	0	Clear..	
Pittsburg, Pennsylvania	29.20	741.7	30.02	762.5	44	6.7	68	SW	11	4.9	.....	0	0	.....	.....	0.15	3.8	Clear.....	
Port Huron, Michigan	29.22	742.2	29.90	759.4	38	3.3	81	SW	9	4.0	.....	0	0	.....	.....	0.06	1.5	Clear.....	
Portland, Maine	29.65	753.1	29.70	754.4	48	8.9	78	SW	8	3.6	.....	0	0	.....	.....	0.02	0.5	Clear	
Portland, Oregon	30.36	771.1	30.43	772.9	43.0	6.1	87	S	3	1.3	.....	4k	5ks	Calm	Calm	0.01	0.3	Cloudy.....	
Portsmouth, N. Hampshire	.....	.....	.....	.....	70	21.1	90	W	9	4.0	.....	8c;k	0	SW	.....	0	0	Cloudy.....	
Prescott, Arizona	24.67	626.6	30.08	762.7	34	1.1	79	S	.....	.....	1	0	0	.....	.....	0	0	Clear.....	
Punta Rassa, Florida	30.06	763.5	30.08	764.0	72	22.2	85	N	5	2.2	.....	1ck	0	Calm	.....	0.31	7.9	Clear.....	
Red Bluff, California	29.94	760.5	30.31	769.9	44	6.7	60	N	5	2.2	.....	0	0	.....	.....	0.01	0.3	Clear	
Rio Grande City, Texas	29.70	754.4	29.91	759.7	75	23.9	90	E	4	1.8	.....	.....	10s	.....	SE	0	0	Cloudy.....	
Rochester, New York	29.20	741.7	29.82	757.4	45	7.2	76	W	10	4.5	.....	0	5s	.....	W	0.40	10.2	Fair..	
Roseburg, Oregon	29.86	758.4	30.46	773.7	38	3.3	95	Calm	0	0	.....	.....	10s	.....	Calm	0.34	8.6	Cloudy	
Sacramento, California	30.09	764.3	30.17	766.3	44	6.7	68	NW	16	7.2	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.55	750.6	30.14	765.5	43	6.1	67	S	5	2.2	.....	2ck	0	W	.....	0	0	Fair	
St. Paul, Minnesota	29.18	741.1	30.04	763.0	29	— 1.7	67	SW	7	3.1	.....	0	0	.....	.....	Inap.	Inap.	Clear.....	
Salt Lake City, Utah	25.65	651.5	29.98	761.5	32	0.0	89	W	12	5.4	.....	.....	10n	.....	Calm	0.07	1.8	**Heavy snow**	
San Antonio, Texas	29.24	742.7	29.80	756.9	70	21.1	57	Calm	0	0	.....	5cs	0	SE	.....	0	0	Fair	
San Diego, California	29.94	760.5	30.02	762.5	54	12.2	93	E	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.	
Sandusky, Ohio	29.34	745.2	30.02	762.5	42	5.6	74	SW	12	5.4	.....	0	0	.....	.....	0	0	Clear.....	
Sandy Hook, New Jersey	29.87	758.7	29.90	759.4	55	12.8	74	W	14	6.3	.....	0	0	.....	.....	Inap.	Inap.	Clear.....	
San Francisco, California	30.10	764.5	30.17	766.3	51	10.6	83	N	15	6.7	.....	0	0	.....	.....	0	0	Clear.....	
Santa Fé, New Mexico	23.15	588.0	29.09	754.1	26	— 3.3	63	Calm	0	0	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy.....	
Savannah, Georgia	29.97	761.2	30.06	763.5	71	21.7	90	SW	6	2.7	.....	8ck	Sm'e	SW	Calm	0.01	0.3	Fair.....	
Shreveport, Louisiana	29.79	756.7	30.01	762.2	59	15.0	76	Calm	0	0	.....	0	5s	.....	Calm	0	0	Fair...	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.01	762.2	30.05	763.3	66	20.0	95	W	5	2.2	.....	8k	0	W	.....	0	0	Cloudy.....	
Socorro, New Mexico	25.27	641.8	30.33	770.4	41	5.0	49	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Springfield, Illinois	29.46	748.3	30.16	766.1	38	3.3	72	SW	1	0.4	.....	0	1s	.....	W	0	0	Clear	
Springfield, Massachusetts	29.68	753.9	29.81	757.2	47	8.3	77	S	3	1.3	.....	0	0	.....	.....	0.01	0.3	Clear.....	
Stockton, Texas	26.92	683.8	29.92	760.0	49	9.4	81	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Thatcher's Island, Mass	29.78	756.1	29.78	756.4	52	11.1	86	SW	11	4.9	.....	0	0	.....	.....	0	0	Clear.....	
Toledo, Ohio	29.30	744.2	30.00	762.0	42	5.6	66	SW	8	3.6	.....	0	0	.....	.....	0.03	0.8	Clear.....	
Tucson, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon	30.04	763.0	30.57	776.5	30.0	— 1.1	89	E	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Uvalde, Texas	28.98	736.1	29.77	756.1	72	22.2	80	E	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Vicksburg, Mississippi	29.80	756.9	30.06	763.5	64	17.2	72	E	4	1.8	.....	0	0	.....	.....	0.02	0.5	Clear.....	
Virginia City, Montana	24.22	615.2	29.71	754.6	16	— 8.9	66	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Visalia, California	29.68	753.9	30.07	763.8	40.5	4.7	95	S	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Washington, D. C.	29.89	759.2	30.00	762.0	56	13.3	57	NW	5	3.6	.....	0	0	.....	.....	0.04	1.0	Clear.....	
Wickenburg, Arizona	.....	.....	.....	.....	37	2.8	90	NW	.....	.....	1	0	0	.....	.....	0	0	Clear.....	
Wilmington, North Carolina	29.94	760.5	30.01	762.2	70	21.1	85	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Winnemucca, Nevada	25.86	656.8	30.22	767.6	23	— 5.6	86	SW	4	1.8	.....	0	0	.....	.....	0.06	1.5	Clear.....	
Wood's Holl, Massachusetts	29.77	756.1	29.81	757.2	38	0.6	66	W	6	2.7	.....	0	5ks	.....	SW	0.04	1.0	Fair.....	
Yankton, Dakota	28.66	728.0	30.03	762 7	22	— 5.6	66	NE	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	
Yuma, Arizona	29.77	756.1	29.93	760.2	50	10.0	72	S	4	1.8	.....	0	0	.....	.....	0	0	Clear..	
SUB-SERIES.																			
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	29.95	761.5	30.03	762.7	74	23.3	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.11	764.8	30.12	765.0	78	25.6	83	NW	3	1.3	.....	8c	2s	Calm	.....	0	0	Fair.	James Gall.
Medellin, Colombia, S. A.*	25.22	640.6	.....	.....	64.5	18.1	92	Calm	.....	.....	0	.....	10n	.....	.....	0.31	7.9	....	Thomas Herran.
Navassa, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.95	760.7	29.96	761.0	81	27.2	78	E	.....	.....	2	5k	5ks	E	.....	0	0	Cloudy.....	C. J. Hering.
Santiago de Cuba, W. I.	29.90	759.4	29.92	760.0	78	25.6	78	N	2.4	1.1	.....	2cs	2s	.....	NE	0	0	....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	30.34	770.6	30.39	771.9	1.0	—17.2	86	N	14	6.3	.....	2c	3s	NW	NW	0	0	Fair.	J. Fortescue & W. Wood.
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NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Medellin, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,110.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m., Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,888.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,160 (?) ft., or 946 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,450 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.67 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm. *The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.14‡	765.6‡	.....	.....	75	23 9	95	SW	1	0.4	.....	.....	8	.....	SW	0	0	.....	.....	Fair	
Navy Yard, Portsmouth, N.H	29.89‡	759.2‡	.....	.....	50	10.0	100	SW	3	1.3	.....	.....	5	.....	.....	0	0	.....	.....	Pleasant	
Naval Hospital, Yokohama, Japan	30.20‡	767.1‡	.....	.....	45.5	7.5	76	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	.....	Clear	
Adams, Mare I'd., Navy Yard, Cal.	30.17‡	766.3‡	.....	.....	55	12.8	87	SW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Alaska, Iquique, Peru .....*	29.98‡	761.5‡	.....	.....	67	19.4	79	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Blue sky	
Alliance, N. 20° 02′, W. 34° 09′	30.04‡	763.0‡	.....	.....	76	24.4	68	NNE	.....	.....	2	.....	1	.....	NNE	.....	.....	Smooth	N	Blue sky	
Colorado, New York, N. Y.	29.86‡	758.4‡	.....	.....	55	12.8	68	SSW	5	2.2	.....	.....	.....	.....	.....	0	0	.....	.....	Hazy	
Constitution, Navy Yard, Norfolk, Va.	30.02‡	762.5‡	.....	.....	61	16.1	94	W	3	1.3	.....	.....	1	.....	W	.....	.....	.....	.....	Clear	
Enterprise, Alexandria, Egypt	30.10‡	764.5‡	.....	.....	72	22.2	67	NNW	.....	.....	2	.....	2	.....	NNW	.....	.....	Smooth	.....	Clear	
Franklin, Off Navy Yard, Norfolk, Va.	29.99‡	761.7‡	.....	.....	61	16.1	94	W	6	2.7	.....	.....	2	.....	.....	0.07	1.8	.....	.....	Clear	
Hartford, Vineyard Haven, Mass.	30.04‡	763.0‡	.....	.....	56	13.3	81	W	.....	.....	3	.....	2	.....	W	0	0	Smooth	.....	Clear	
Independence, Mare I'd, Navy Yard, Cal.	30.16‡	766.1‡	.....	.....	58	14.4	64	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Kearsage, N. 35° —′, W. 75° 30′	29.99‡	761.7‡	.....	.....	69	20.6	85	W	.....	.....	3	.....	8	.....	NW	.....	.....	Long	SW	Cloudy	
Lackawana, N. 29° 25′, E. 178° 12′...†	30.31‡	769.9‡	.....	.....	75	23.9	86	ENE	.....	.....	3	.....	2	.....	ENE	.....	.....	Smooth	ENE	Clear	
Marion, Off Norfolk, Va.	30.02‡	762.5‡	.....	.....	65	18.3	78	W	.....	.....	1	.....	2	.....	W	.....	.....	Smooth	.....	Clear	
Michigan, Erie, Pa.	29.87‡	758.7‡	.....	.....	47	8.3	70	W	.....	.....	7	.....	2	.....	W	.....	.....	.....	.....	Fair	
Monocacy, Shanghai, China	30.22‡	767.6‡	.....	.....	53	11.7	93	E	.....	.....	1	.....	2	.....	E	.....	.....	.....	.....	Clear	
New Hampshire, Port Royal, S. C.	30.06‡	763.5‡	.....	.....	70	21.1	95	SW	12	5.4	.....	.....	8	.....	SW	0.04	1.0	.....	.....	Cloudy	
Onward, Callao, Peru .....†	29.97‡	761.2‡	.....	.....	65	18.3	84	S	.....	.....	2	.....	10	.....	.....	.....	.....	Long	W	Misty	
Palos, Tientsin, China	30.15‡	766.6‡	.....	.....	39	3.9	??	NW	.....	.....	0–1	.....	8?	.....	.....	.....	.....	.....	.....	Clear	
Passaic, Washington, D. C.	29.99‡	761.7‡	.....	.....	58	14.4	82	WNW	.....	.....	1	.....	0	.....	.....	0.02	0.5	.....	.....	Clear	
Pensacola, Callao, Peru	29.96‡	761.0‡	.....	.....	64	17.8	89	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Smooth	.....	Hazy	
Powhatan, New York, N. Y.	29.93‡	758.9‡	.....	.....	55	12 8	74	W	.....	.....	2	.....	2	.....	Calm	0	0	.....	.....	Fair	
Quinnebaug, Leghorn, Italy	30.09‡	764.3‡	.....	.....	50	10.0	89	NW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Ranger, N. 38° 40′, E. 157° 45′	30.32‡	770.1‡	.....	.....	52	11.1	79	NW	.....	.....	3	.....	2	.....	NW	.....	.....	Mod'ate	NNW	Clear	
Richmond, Shanghai, China	30.24‡	768.1‡	.....	.....	54	12.2	80	E	.....	.....	2	.....	0	.....	.....	0	0	Smooth	.....	Pleasant	
Rio Bravo, Brownsville, Texas...†	30.03‡	762.7‡	.....	.....	74	23.3	100	SE	2	0.9	.....	.....	2	.....	SE	0	0	.....	.....	Fair	
Santee, Annapolis, Md	29.99‡	761.7‡	.....	.....	57	13.9	75	NW	.....	.....	3	.....	0	.....	.....	0.02	0.5	.....	.....	Clear	
Shenandoah, N. 1.° 41′, W. 29° 14′	29.92‡	760.0‡	.....	.....	81	27.2	78	ESE	.....	.....	3	.....	2	.....	SE	.....	.....	Smooth	.....	Fair	
St. Louis, League Island, Pa.	29.96‡	760.7‡	.....	.....	51	10.6	100	W	7	3.1	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Trenton, N. 45° 45′, E. 2° 48′	30.23‡	767.8‡	.....	.....	54	12.2	89	NE	.....	.....	6	.....	0	.....	.....	0	0	Mod'ate	NE	Clear	
Tuscarora, Chacaqua Bay, Mexico	29.85‡	758.2‡	.....	.....	76	24 4	91	NW	.....	.....	2	.....	2	.....	Calm	0	0	Smooth	.....	Fair	
Vandalia, Key West, Fla.	30.05‡	763.3‡	.....	.....	77	25.0	95	E	.....	.....	2	.....	2	.....	E	.....	.....	.....	.....	Clear	
Wabash, Boston, Mass.	29.70‡	754.4‡	.....	.....	49	9.4	78	SW	9	4.0	.....	.....	0	.....	.....	0.02	0.5	.....	.....	Clear	
Wachusett, N. 5° —′, W 31° —′	30.01‡	762.2‡	.....	.....	79	26.1	95	E	.....	.....	2	.....	10	.....	.....	.....	.....	Mod'ate	ESE	Rainy	
Wyoming, Malaga, Spain	30.01‡	762.2‡	.....	.....	68	20.0	79	E	.....	.....	1	.....	5	.....	E	.....	.....	Smooth	E	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S. S. Samaria																			Capt. T. Roberts.
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitebury.
S. S. Costa Rica																			W. House & R. Lawless.
S. S. Dakota, Capt. H. G. Morse																			Capt. Connolly.
S. S. Georgia																			F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin																			Capt. A. Fuller.
S. S. Wilmington																			R. C. Ghest, 1st Officer.
S. S. Zealandia, S. 33° 17′, W. 178° 25′		29.87‡	758.7‡				SE			5			SE			Mod'ate	E	Cloudy	
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer, Yokohama, Japan	†	30.07‡	763.8‡	52	11.1	93	NE			2		2		NE		Smooth		D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson, N. 43° 58′, W. 141° 20′	†	29.84‡	757.9‡	50	10.0		SE			6		8		SE	Sligh	Rough	SSE	D. clouds	J. A. Thompson, C. O. J. G. Cameron.
S. S. Oceanic, Capt. J. Metcalf																			
S. S. Baltimore																			Capt. H. Andreesen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Pfeiffer, N. 43° 36′, W. 51° 17′		29.62‡	752.3‡	48.0	8.9	100	WSW			2		10			8 h'rs	Smooth	WNW; WSW	Foggy	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, Bremerhaven, Germany		30.20‡	767.1‡				NNW			5		5		NW		5	NE	Cloudy†	Capt. G. Meyer.

NOTE—†Aneroid. *The error of the barometer is not known.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The orginals give the barometer as read off; wind-force by the scale 0 to to 12; for the Brittanic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as prevailed; generally give amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0–10.	0–10.	0–10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 44° 22′, W. 56° 19′		29.55‡	750.6‡	56	13.3	94	WSW			8		8		W	Mod'ate	Mod'ate	WSW	Cloudy	Capt. R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.
RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents.																			
Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES—Miscellaneous.																			
Furnished by the co-operation of the Observers named.																			
Schooner Addie Fuller, N. 33° 57′, W. 77° 00′		30.05‡	763.3‡	72	22.2	80	WSW	5	2.2		5ck?		W		0	Swell	SSW	Clear?	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George" of Halifax																			N. B. Foss.
Schooner Harry and Fred																			Capt. George Gardner.
Haytian.																			
§ Iron Cross																			
Nordenskiold of Sundsvall, Sweden																			Capt. W. Randall.
Sch'r A. A. Rowe, Capt. Beckwith																			Capt. P. Sandelin.
																			L. Dunbar.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; do not distinguish between upper and lower clouds; sea-swell in general terms, as published. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

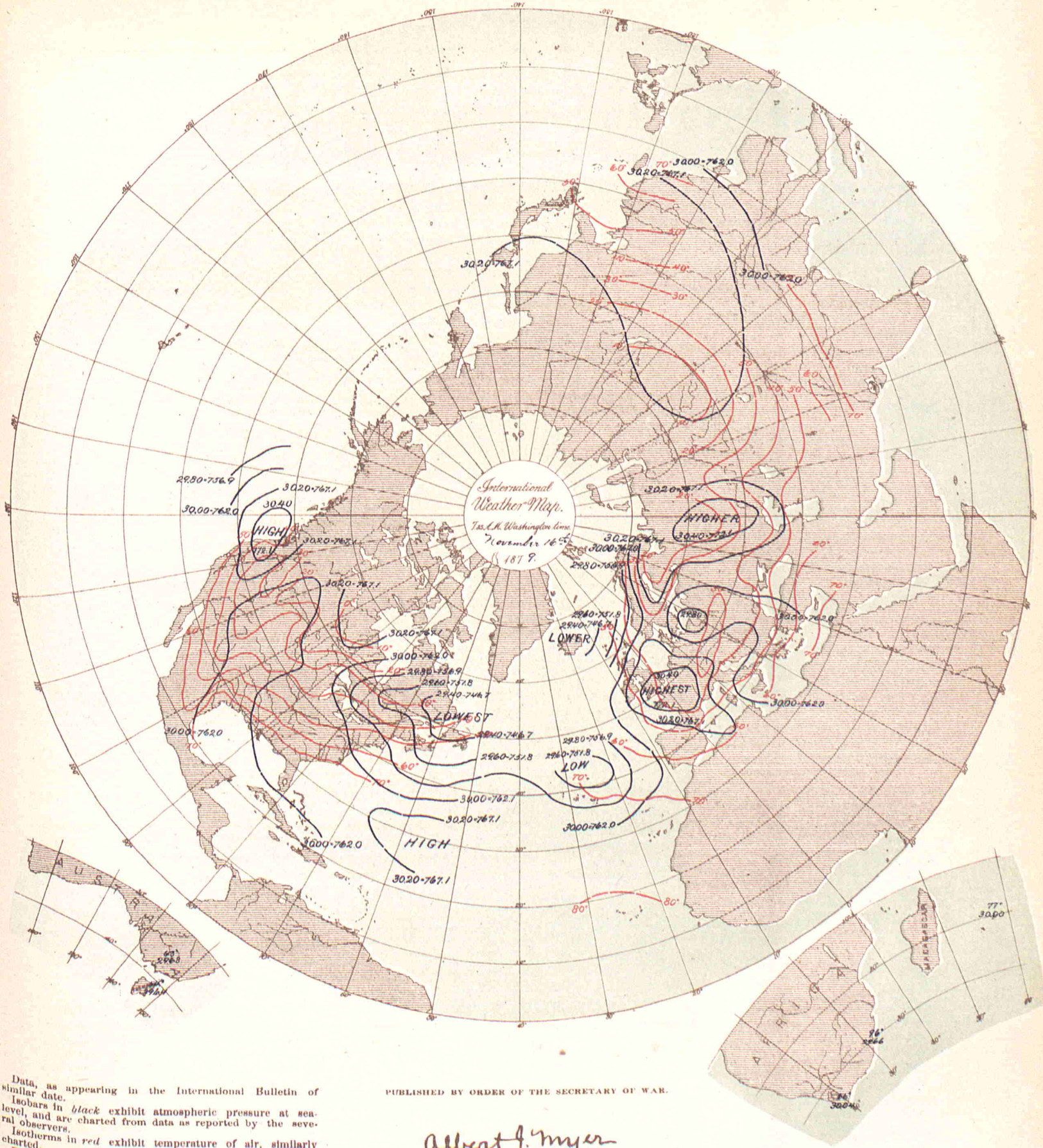
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 17, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.07	766.8	66.6	19.2	80	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Kesxuche.
Nemours	.....	.....	30.26	768.6	64.8	18.2	67	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	Tourillere.
Algiers	.....	.....	30.31	769.8	57.9	14.4	55	WNW	.....	.....	1	.....	0	.....	.....	0.197	5.0	Clear	Foufrede.
La Calle	.....	.....	30.22	767.5	57.7	14.3	65	WNW	.....	.....	5	.....	5	.....	.....	0.173	4.4	Cloudy	Jacques.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.012	0.3	.....	Gau.
Sfax	.....	.....	30.26	768.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Herbin.
Saida	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Watrin.
Tebessa	.....	.....	30.28	769.0	46.9	8.3	78	NW	.....	.....	4	.....	8	.....	.....	0	0	Very cloudy	Brugniuax.
Geriville	.....	.....	.....	.....	55.0	12.8	48	SSW	.....	.....	2	.....	0	.....	.....	0	0	Clear	Bertrand.
Laghouat	.....	.....	30 32	770.2	52.3	11.3	43	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Chanvaux.
Biskra	.....	.....	30.27	768.9	61.2	16.2	81	NW	.....	.....	3	.....	0	.....	.....	0	0	Clear	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.45	748.0	30.02	762.4	30.6	4.2	53	N	.....	.....	1	.....	8	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.30	744.2	30.11	764.8	28.4	— 2.0	92	NE	6.5	2.9	.....	.....	0	.....	.....	0	0	.....	Dr. Wierzbicki.
Eperies	29.02	737.2	29.95	760.6	31.3	— 0.4	81	N	.....	.....	2	.....	10s	.....	S	0	0	.....	Julius Mikolik.
Gratz	28.72	729.5	29.98	761.5	34.7	1.5	54	SW	.....	.....	3	.....	7	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.36	720.3	29.85	758.3	29.3	— 1.5	84	NW	.....	.....	3	.....	10	.....	.....	0.067	1.70	.....	Prof. A. Gottschling.
Kremsmünster	28.73	729.8	30.15	765.7	30.9	— 0.6	92	WNW	.....	.....	2	.....	10	.....	.....	0.118	3.0	.....	Prof. C. Wagner.
Lemberg	28.80	731.4	29.88	757.6	30.4	— 0.9	98	NE	.....	.....	2	.....	10	.....	.....	0.528	13.4	.....	Dr. T. Stanecki.
Pola	29.91	759.8	30.03	762.7	46.4	8.0	50	NNW	.....	.....	1	.....	3	.....	.....	0	0	.....	I.R.Hydrographic Office.
Szathmar	29.41	746.9	29.89	759.3	27.3	— 2.6	92	W	.....	.....	4	.....	10	.....	.....	0.316	8.0	Snowing	Pet. Pancsics, S. J.
Szegedin	29.65	753.2	29.95	760.6	33.6	0.9	84	Calm	.....	.....	0	.....	10	.....	.....	0.067	1.70	.....	Karl Stancel.
Trieste	29.95	760.8	30.06	763.4	44.8	7.1	51	Calm	.....	.....	0	.....	0	.....	.....	0	0	Clear	P. Busin.
Vienna	29.31	744.4	30.05	763.2	33.4	0.8	85	NW	.....	.....	2	.....	10	.....	.....	0.469	11.9	.....	I.R.Central Met. Ob'sy.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

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Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S,, Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society. Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.63	752.6	29.72	754.9	51.6	10.9	.....	SSW	21	9.4	.....	.....	2	.....	.....	Blank	Blank	Blue sky	W. Boswell.
Ardrossan	29.95	760.7	29.97	761.2	53	11.7	.....	SW	.....	.....	6	.....	8	.....	.....	.....	.....	Raining	Wm.McNeil &G.Carrick
Armagh, (Observatory)	29.86	758.4	30.10	764.5	52.0	11.1	.....	SW	17	7.6	.....	.....	10	.....	.....	.....	.....	Squally	S. Call.
Bidston (Liverpool Obs)	.....	.....	30.15	765.8	51.2	10.7	.....	W	20	8.9	.....	.....	10	.....	.....	.....	.....	Overcast	John Hartnup.
Bolton (Sharples)	29.59	751.6	30.11	764.8	49.1	9.5	.....	WSW	36	16.1	.....	.....	10	.....	.....	.....	.....	Squally	Thomas Mackereth.
Bradford, Yorkshire	29.69	754.1	30.09	764.3	50.1	10.1	.....	NW	.....	.....	3	.....	10	.....	.....	0	0	Overcast	J McLandsborough.
Bridgetown, Barbadoes	29.86	758.4	29.89	759.2	78	25.6	.....	NE	.....	.....	3	.....	9	.....	.....	.....	.....	Overcast	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	30.12	765.0	30.22	767.6	48.0	8.9	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	H. Todd.
Cardington	.....	.....	30.19	766.8	48.0	8.9	.....	W	.....	.....	0–1	.....	10	.....	.....	.....	.....	Overcast	John McLaren.
Chatham (School M. E.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Carmell, Sapper, R.E.
Donaghadee	30.04	763.0	30.08	764.0	55	12.8	.....	W	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	J. Mac Gowan.
Dover	30.24	767.8	30.26	768.6	48	8.9	.....	WNW	.....	.....	4	.....	8	.....	.....	.....	.....	Gloomy	J. Costello.
Falmouth (Observatory)	30.16	766.1	30.39	771.9	52.6	11.4	.....	WSW	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds	The Staff.
Fort Napier, Natal	27.61	701.3	29.50	766.9	75.2	24.0	.....	NE	.....	.....	2	.....	8	.....	.....	.....	.....	Overcast	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Galway (Queen's College)	.....	.....	30.14	765.5	53	11.7	.....	SW	.....	.....	5	.....	10	.....	.....	.....	.....	Raining	Prof. A. H. Curtis.
Gibraltar, Mediterranean	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Sergt.Wm. Allen, A. H.
Glasgow, (Observatory)	29.70	754.4	29.90	759.4	53.0	11.7	.....	WSW	.....	.....	7	.....	10	.....	.....	Blank	Blank	Overcast	D. G. Maclean. [C.
Great Yarmouth	30.16	766.1	30.16	766.1	47	8.3	.....	W	.....	.....	3	.....	5	.....	.....	.....	.....	Foggy	G. T. Watson.
Greenwich (Royal Obs'y)	30.10	764.5	30.27	768.8	45.6	7.6	.....	WSW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	The Staff, for G.B.Airy.
Guernsey	30.17	766.3	30.39	771.9	50	10.0	.....	WNW	.....	.....	2	.....	8	.....	.....	.....	.....	D. clouds	Dr. S.E.Hoskins, F.R.S.
Helston	30.00	774.7	30.62	777.7	54	12.2	.....	W	.....	.....	4	2c	.....	.....	.....	0	0	Fine	M. P. Moyle.
Holyhead	30.13	765.3	30.17	766.3	53	11.7	.....	SW	.....	.....	4	.....	10	.....	.....	.....	.....	Misty	John Tilston.
Jersey	30.14	765.6	30.44	773.2	49.2	9.6	.....	W	.....	.....	4	.....	10	.....	.....	.....	.....	Gloomy	J. Fisher.
Kew (Observatory)	30.25	768.3	30.29	769.4	45.7	7.6	.....	WSW	11	4.9	.....	.....	10	.....	.....	.....	.....	Misty	The Met'g'l Office.
Leicester (Museum)	29.95	760.7	30.21	767.3	48.0	8.9	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	29.98	761.5	30.06	763.5	58	14.4	.....	NW	.....	.....	2	.....	6cn	.....	.....	Blank	Blank	D. clouds	A. King.
Nairn	29.62	752.3	29.71	754.6	54	12.2	.....	W	.....	.....	3	.....	8	.....	.....	.....	.....	¾ clouded	W. D. Penny.
Nassau, Bahamas	.....	.....	30.03	762.7	77.5	25.3	.....	NE	.....	.....	2	.....	8	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham (Observatory)	29.98	761.5	30.17	766.3	51.2	10.7	.....	SW	.....	.....	3	.....	10k	.....	WSW	0	0	Overcast	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.65	753.1	30.18	766.6	49.9	9.9	.....	WSW	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)	.....	.....	30.26	768.6	48	8.8	.....	W	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	H. E. Bellamy.
Plymouth	30.29	769.4	30.36	771.1	49.8	9.9	.....	W	.....	.....	2	.....	10	.....	.....	.....	.....	Misty	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	30.24	768.1	30.34	770.6	54	12.2	.....	W	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	Wm. Kennedy.
St. Ann's Head	30.11	764.8	30.25	769.1	52	11.1	.....	WSW	.....	.....	6	.....	10	.....	.....	.....	.....	Overcast	John C. Walker.
Sandwick Manse, Orkneys	.....	.....	29.60	751.8	51.1	10.6	.....	WSW	28	12.5	.....	.....	10	.....	.....	.....	.....	Rain & hail	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	29.81	757.2	29.87	758.7	49.8	9.9	.....	SW	.....	.....	3	.....	9	.....	.....	Blank	Blank	Gloomy	Serg't W. H. Lyne.
Sheffield	29.85	758.2	30.14	765.5	50.9	10.5	.....	SW	.....	.....	1	.....	9	.....	.....	0.02	0.5	Overcast	W. F. Cooper.
Silloth Rectory	30.00	762.0	30.03	762.7	48.9	9.4	95	SW	.....	.....	6	.....	10	.....	.....	0.083	2.11	Raining	Francis Redford, A. M.
Stonyhurst (Observatory)	.....	.....	30.10	764.5	48.2	9.0	.....	SW	17	7.6	.....	.....	10	.....	.....	.....	.....	Raining	Rev. S. J. Perry.
Stratfield, Turgiss	30.08	764.0	30.30	769.6	44.7	7.1	.....	S	.....	.....	3	.....	10	.....	.....	.....	.....	Gloomy	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	30.32	770.1	30.39	771.9	56	13.3	.....	NW	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds	W. Newcombe.
Valencia Observatory)	30.27	768.8	30.29	769.4	53.7	12.1	.....	SW	25	11.2	.....	.....	10	.....	.....	.....	.....	Misty	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	30.00	762.0	30.04	763.0	74.8	23.8	49	SSW	8.2	3.7	.....	1	.....	.....	.....	.....	.....	.....	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
Hobart Town, Tasmania	.....	.....	29.63	752.6	52.0	11.1	86	SW	.....	.....	3	.....	1cs	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S
Leith, (Restalrig Perk)	.....	.....	29.89	759.2	53.9	12.2	...	W	.....	.....	6	.....	4k	.....	.....	0.01	0.3	Hazy	Andrew Gibb.
Mauritius (Observatory)	29.84	757.9	30.03	762.6	77.2	25.1	60	ENE	15.5	6.9	.....	1	10k	.....	.....	0.09	2.3	Cloudy	C. Meldrum.
Melbourne (Observatory)	29.82	757.4	29.91	759.7	54.0	12.2	69	SE	7	3.1	.....	.....	3	.....	ENE	0	0	Fine	R. L. J. Ellery.
Monach Lt-house, Hebrides	.....	.....	29.78	756.4	52	11.1	.....	SW	.....	.....	6	.....	5	.....	.....	0	0	Fine	J. Youngclause.
North Unst, Shetland Is	.....	.....	29.64	752.8	.....	.....	.....	SW	.....	.....	4	.....	10	.....	.....	0.3	8.	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Blank	Blank	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p.m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Colesberg Bridge, unknown.

BRITISH MARINE SERIES.

VESSELS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. Alert, Kathleen Bay, Patagonia	.....	.....	29.24‡	742.7‡	45	7.2	.....	NNW	.....	.....	2	.....	8	.....	.....	.....	.....	Showery	Capt.J.P.Maclear, R.N.
H. M. Sloop Gannet, S. 11° 47′, W. 77° 13′	.....	.....	29.92‡	760.0‡	66	18.9	.....	S	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	Commander E. Bourke, R. N.
H. M. S. Magpie, Shaweishan I'd., China	.....	.....	30.25‡	768.3‡	61	16.1	.....	E	.....	.....	2	.....	8	.....	.....	.....	.....	Misty	Capt. R. H. Napier, R.N.
Brig Alliance, N. 30° 20′, W. 68° 25′	.....	.....	30.18‡	766.6‡	76	24.4	.....	NE	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds	Capt. W. Scott.
S. S. Ethiopia, Sandy Hook Light, N. J.	.....	.....	30.31	769.9	49	9.4	.....	WNW	.....	.....	4	.....	7	.....	.....	2	WNW	D. clouds	Capt. Campbell.
S. S. German, S. 9° 50′, W. 1° 50′	.....	.....	29.97‡	761.2‡	80	26.7	.....	SE	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds	Capt. O. D. Coxwell.
Barque Mertole, N. 50° 10′, W. 8° 30′	.....	.....	30.39‡	771.9‡	54	12.2	.....	WSW	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	Capt. Turner.
S. S. Peruvian, N. 49° 25′, W. 60° 40′	.....	.....	29.82	757.4	37	2.8	.....	NNW	.....	.....	4	.....	4	.....	.....	3	NW	D. clouds	Capt. W. H. Smith.
Barque Queen of Cambria, N. 15° 45′, E. 73° 05′	.....	.....	29.91‡	759.7‡	82.7	28.2	.....	NW	.....	.....	3	.....	2	.....	.....	.....	.....	Blue sky	Capt. M. Parry.
S. S. Strathleven, Sydney, N. S. W.	.....	.....	29.76‡	756.4‡	63	17.2	.....	S	.....	.....	5	.....	5	.....	.....	.....	.....	D. clouds	Capt. C. W. Pearson.
S. S. Sunbeam, N. 38° 35′, W. 15° 25′	.....	.....	30.21	767.3	75	23.9	.....	ENE	.....	.....	4	.....	4	.....	.....	3	W	D. clouds	.....
S. S. Gordon Castle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
German Brig "W. von Freeden"	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. V. Freeden.
Theophane	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Greig.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.

NOTE.—The originals give the wind-directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.21	665 7	29.93	760.2	68.0	20.0	91	NE			2	8c;d		E		0	0		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.05	763.3	30.10	764.5	37.4	3.0	87	SE			2		8						
Faröe	30.00	762.1	30.02	762.6	36.5	2.5	96	S			4		10						Raining
Godthaab (Greenland)																			
Stykkisholm (Iceland)																			
Thorshavn (Faröe)	29.53	750.1	29.57	751.0	43.9	6.6	91	NE			2		10						
Vestervig	29.85	758.3	29.97	761.1	33.3	0.7	100	SSE		8	4		10						Raining

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.90	759.4	30.45	773.4	46.5	7.5	44	NW			1		2n			0	0	Slightly cl'dy	Colligñon, Director.
Amiens, Normal School	30.15	765.7	30.26	768.6	47.5	8 6	94	WNW			1		10		Calm	0	0	Covered	Vaillant, Director.
Arras, Engin'r School	30.08	762.7	30.30	769.5	45 7	7.6	90	NW			4		10		NW	0.039	1 0	Sprinkling	Klein, Commandant.
Avignon, Normal School	30.16	766.0	30.24	768.0	44.1	6.7	53	NNW			6		2		NNW	0	0	Light clouds	Giraud, Director.
Bar-sur-Seine	29.78	756.3	30.36	771.1	39 4	4.1	93	W			1		10			0.205	5.2	Covered	C. Saillard, Director
Beauvais, Normal School	30.09	764.2	30.36	771.2	46.1	7.3	90	WSW			1		10		W	0	0	Covered	Frère Eugene Marie
Besançon, Normal School	29.46	748.9	30.43	773.0	34.0	1.1	95	S			1		5		S	0	0	Cloudy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.51	749.5	30.43	772.8	33.8	1	88	N			3		10					Snowing	Marlot, Director.
Bourges, Normal School	29.85	758.2	30.48	772.9	37.0	2.8	86	W			1		10n		W	0	0	Covered	M. Gence, Director.
Brest, Naval Observatory	30.22	767.6	30.47	773.8	57.2	14.0	73	SW			2		2		SW	0	0		Ch. de Rermaree, Dir.
Caen, Normal School	30.43	772.8			45.3	7.4	74	SW			1		10			0	0	Covered	M. Bletrin, Director.
Carcassonne, N. School	29.97	761.2	30.40	772.2	42.4	5.8	42	WNW			3		5	WNW	WNW	0	0	Cloudy	September, Director.
Châlons-sur-Marne, N. Sch	30.01	762.8	30.34	770.6	44.6	7.0	85	W			1		10					Covered	Jadot, Director.
Chartres, Normal School	29 81	757.2	30.39	772.0	41.2	5.1	73	NW			1		9		SE	0	0		Vergier, Director.
Clermont-Fd, Puy de D. Obs	29.00	736.6	30.45	773.3	31.1	— 0.6	89	NW			1		10					Rain & snow	Alluard, Director.
Commercy, Normal School	29.39	746.5	30.28	769.2	40.1	4.5	97	W			1		10n	W	W	0.028	0.7	Covered	Dr. Coullet, Director.
Commune de Gréasque*	28.98	736.0	30.12	765.0	44.6	7	58	NW			4		8		NW	0	0		L. Kina, Director.
Grenoble, Normal School	29.56	750.9	30.36	771.2	39.6	4.4	74	NW			3		2k	E		0	0	Partly cl'dy	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.30	769.5	30.52	775.2	45.7	7.6	27	WNW			1		0			0	0	Clear	Mouillot, Director.
Le Mans, Normal School	30.15	765.9	30.47	774.0	43.3	6.3	58	NW			2		0			0	0	Clear	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.48	748.8	30.44	773.2	35.4	1.9	93	SSW			1		10					Snowing	A. Baudry, Director
Lorient, Naval Observatory	30.37	771.5	30.48	774.3	49.6	9.8	74	SW			2		0			0	0	Clear	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.73	755.1	30.38	771.7	36.1	2.3	82	N			1		10		N	0.008	0.2	Covered	Ch. André, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.80	757.0	30.08	764.0	46.9	8.3	46	NW			3-4		10		NW	0	0		E. Stephan, Director.
Mirecourt, Normal School	29.22	742.2	30.31	769.9	37.0	2.8	83	S			1		n	S	S	0.16	4.		Barbier, Director.
Mont-Louis	24.98	634.5	30.30	769.5	44.6	7.0	46	WNW	35.3	15.8			8			0	0		M. Cave.
Nice	30.02	762.5	30.06	763.4	55.4	13.0	57	SE			2		1	W	SE	0	0	Clear	M. Boissière, Director.
Nismes, Normal School	30.05	763.2	30.25	768.4	51.8	11	56	N			4		0			0	0	Clear	M. Boyer, Director.
Paris, Montsouris Obs'y	30.10	764.4			43.5	6.4	78	NW			2		10		NNW	Inap.	Inap.	Sprinkling	Marié Davy, Director.
Perpignan	30.13	765.2	30.23	767.8	54.0	12.2	3	NE	33.6	15.0			8	N		0	0		Dr. Fines.
Pic du Midi (Plantade) H. P.	22.73	577.3			38.8	3.8		W			1		1		NNE	0	0	Clear	Gen'l de Nansouty.
Pic du Midi (Summit) H. P.																			M. Baylac.
Privas, Normal School	29.16	740.7	30.28	769.0	41.9	5.5		N			4		n	N	N	0	0		M. Tallieu
Puy de Dome (Summit) Obs	25.30	642.6			25.7	3.5	95	N			4					0.050	1.5	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	30.50	774.8	30.51	775.0	44.6	7.0	57	NE			2		0			0	0	Clear	Lt E. Decante, Director
Rouen, Normal School	30.27	768.8	30.35	771.0	45.5	7.5	69	W			3		10		NW	0	0	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.41	772.5	30.45	773.3	48.9	9 4	61	SW			2		5	SW	SW	0	0	Cloudy	Lt. Hercouet, Director.
Saint Maur (near Paris)	30.21	767.4	30.38	771.6	44.2	6.8	78	WNW			3				NNW	0	0		E. Renou, Director.
Tarbes, Normal School	29.11	739.4	30.19	766.9	37.4	3	100	SW			3		2	E	NW	0	0	Slightly cl'dy	T. Huguet, Director.
Toulouse, Observatory	29.74	755 5	30.48	774.1	39.0	3 9	42	NNW			2		0			0	0	Clear	M. Juhor Mercadier.
Tours	30.25	768.4	30.45	773.4	45.0	7.2	57	NNW			1		1		N	0	0	Almost clear	Cousin-Marquet.
Versailles, Observatory	29.88	758.9	30.37	771.4	42.1	5.6	78	NNW			1		10			0 002	0.06	Covered	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.65	753.0	30.40	772 1	39.2	4	92	NNW			3		1			0.069	1.75	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.86	758.4	29.89	759.1	77.4	25.2										0.59	15.		L'Abbé Marchési
Zi-Ka-Wei (near Shanghai)	30.20	767.0	30.22	767.6	57.2	14.0	89	E	8.9	4.0		10ck		W		0	0	Covered	Marc Dechevrens.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centrigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.30	744.3	30.15	765.8	33.8	1.0	81	Calm	.....	.....	0	.....	3ks	NE	.....	0.146	3.7	.....	Prof. Dr. Hoh.
Berlin	29.95	760.7	30.13	765.3	36.7	2.6	74	N	.....	.....	2	.....	10	.....	.....	0.191	2.3	.....	Prof. Dr. Arndt.
Breslau	29.58	751.4	30.11	764.9	30.4	— 0.9	90	ESE	.....	.....	2	.....	4	.....	.....	0.140	3.56	.....	Royal University Obs'y
Carlsruhe	29.80	756.9	30.25	768.3	36.0	2.2	86	SW	.....	.....	2	.....	10	SW	.....	0.469	11.9	Raining	Albert Senz.
Cassel	29.61	752.1	30.22	767.6	34.9	1.6	70	W	.....	.....	2	.....	10	NW	.....	0	0	.....	Dr. H. Möhl.
Emden	.....	.....	30.10	764.6	37.4	3.0	92	SSW	.....	.....	4	.....	10	.....	.....	0	0	.....	Prof. Dr. Prestel.
Frankfort on the Main	29.57	758.6	30.24	768.2	36.3	2.4	85	S	.....	.....	0	.....	10.	.....	.....	0.012	0.3	.....	Physical Society.
Friedrichshafen	28.81	731.7	30.31	769.9	35.6	2.0	78	W	.....	.....	6	.....	10	W	.....	1.051	26.7	.....	Chief Telegrapher Wilhelm.
Hamburg	30.10	764.5	30.17	766.4	37.2	2.9	85	WSW	.....	.....	2	.....	4k	.....	.....	0	0	Fair	Captain F. Hegemann.
Kiel	30.11	764.7	30.12	765.1	37.8	3.2	81	SW	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.10	764.5	30.19	766.7	30.2	— 1.0	81	E	.....	.....	2	.....	3	.....	.....	0.075	1.9	Snowing	Prof. E. Luther.
Köslin	.....	.....	30.17	766.4	31.5	— 0.3	.....	SE	.....	.....	2	.....	0	.....	.....	0.056	1.4	.....	H. Müller.
Leipsic Observatory	29.77	756.1	30.21	767.3	34.2	1.2	85	NW	.....	.....	2	.....	10	.....	.....	0.075	1.9	.....	Prof. Dr. Bruhns, Privy Counselor
Magdeburg	29.97	761.1	30.19	766.9	39.2	4.0	78	NNE	.....	.....	3	.....	4cs	NNW	.....	0.039	1.0	.....	Dr. Assmann.
Memel	30.10	764.5	30.15	765.7	30.9	— 0.6	75	E	.....	.....	1	1ck	.....	.....	.....	.....	.....	.....	Reinbrecht & Issermann
Munich (München)	28.32	719.5	30.20	767.1	33.1	0.6	74	W	.....	.....	4	.....	9	W	.....	0.087	2.2	.....	Dr. C. Lang.
Neufahrwasser	30.20	767.1	30.22	767.5	31.1	— 0.5	79	SSE	.....	.....	1	.....	0	.....	.....	0.094	2.4	Hazy	A. Lothes.
Neustadt (Palatinate)	29.65	753.8	30.21	767.3	41.4	5.2	84	.....	.....	.....	.....	.....	10	.....	.....	0	0	.....	Reallehrer Dicknether.
Posen	29.84	758.0	30.15	765.7	37.4	3.0	82	E	.....	.....	2	.....	1	.....	.....	0.110	2.8	Snowing	Prof. Dr. Magener.
Strassburg (in Alsace)	29.73	755.2	30.32	770.0	34.6	1.1	95	SSW	.....	.....	3	.....	10	S	.....	0.418	10.49	Raining	Imp. University Observatory.
Stuttgart	29.23	742.5	30.21	767.3	38.8	3.8	70	NW	.....	.....	.....	.....	7	W	.....	0.260	6.6	.....	Prof. Dr. Schoder.
Weissenburg (Bavaria)	28.65	727.6	30.21	767.4	34.0	1.1	81	W	2	1	.....	.....	10	.....	.....	0.067	1.7	Foggy	Reallehrer J. Hopfner.
Wustrow	30.11	764.7	30.13	765.3	39.0	3.9	78	SE	.....	.....	2	.....	5cs	.....	.....	0	0	.....	E. Schütz, Director.
German Naval Series.																			
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Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.55	750.5	29.95	760.6	56.5	13.6	.....	SW	.....	.....	4.0	.....	0	.....	.....	.....	.....	Clear	Dr. J. F. J. Schmidt.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.99	761.7	30.04	763.0	76.4	24.7	59	SW	12	5.4	.....	.....	0	.....	.....	0	0	Blue sky	
Deesa	29.56	750.8	30.04	763.0	78.1	25.6	19	N	7.0	3.1	.....	.....	0	.....	.....	0	0	Blue sky	
Bombay	29.89	759.2	29.93	760.2	77.1	25.1	76	NW	16	7.2	.....	.....	0	.....	.....	0	0	Blue sky	
Poona (Yerrowda)	28.07	712.9	29.92	760.0	79.1	26.2	26	ENE	6	2.7	.....	.....	0	.....	.....	0	0	Blue sky	
Belgaum	27.38	695.4	29.93	760.2	74.0	23.3	47	ENE	2	0.9	.....	.....	9	SW	.....	0	0	D. clouds	
Lahore	29.31	744.4	30.08	763.9	66.8	19.3	46	Calm	0.3	0.1	.....	.....	0	.....	.....	0	0	Blue sky	
Roorkee	29.12	739.6	30.05	763.3	65.8	18.8	40	W	0.8	0.4	.....	.....	.....	.....	.....	0	0	.....	
Agra	29.46	748.4	30.04	763.1	70.2	21.2	46	NW	2.2	1.0	.....	.....	.....	.....	.....	0	0	.....	
Nagpur	28.91	734.3	29.98	761.4	70.7	21.5	44	Calm	3.4	1.5	.....	.....	.....	.....	.....	0	0	Blue sky	
Jubbulpore	28.60	726.4	29.98	761.6	74.8	23.8	27	E	1.5	0.7	.....	.....	3	.....	.....	0	0	D. clouds	
Lucknow	29.64	752.9	30.03	762.7	71.0	21.7	57	Calm	0.1	0.05	.....	.....	.....	.....	.....	0	0	Blue sky	
Allahabad	29.71	754.6	30.03	762.8	66.8	19.3	64	Calm	0.5	0.2	.....	.....	0	.....	.....	0	0	Blue sky	
Patna	29.83	757.6	30.01	762.3	77.3	25.2	88	NW	0.2	0.1	.....	.....	2	NW	NW	0	0	.....	
Hazaribagh	27.95	710 0	30.02	762.5	66.8	19.3	60	NW	3.0	1.3	.....	.....	3	.....	.....	0	0	.....	
Cuttack	29.90	759.4	29.98	761.5	76.3	24.6	72	ENE	4	1.8	.....	.....	1	.....	.....	0	0	Blue sky	
Calcutta (Alipore)	29.95	760.7	29.97	761.2	78.2	22.9	76	N	1.0	0.4	.....	.....	0	.....	.....	0	0	Blue sky	
Goalpara	29.56	750.9	29.96	760.9	76.2	24.6	62	ENE	7.1	3.2	.....	.....	1	SW	.....	0	0	D. clouds	
Chittagong	29.81	757.2	29.90	759.6	79.1	26.2	80	Calm	1.2	0.5	.....	.....	0	.....	.....	0	0	.....	
Sibsagar	29.67	753.5	30.01	762.3	70.6	21.4	87	ENE	1.0	0.4	.....	.....	0	.....	.....	0	0	Blue sky	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.63	752.6	30.06	763.4	40.5	4.7	46	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.52	749.8	30.06	763.4	41.0	5.(	60	E	.....	.....	4	.....	4	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.95	760.8	30.07	763.7	39.9	4.4	43	WNW	0.7	0.3	.....	.....	0	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.13	739.8	30.06	763.5	42.6	5.9	35	ESE	1.8	0 8	.....	.....	2	E	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.82	757.5	30.02	762.5	56.5	13.6	38	SW	2.5	1.1	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.10	713.6	30.06	763.4	41.4	5.2	47	NNW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.99	761.8	30.04	763.1	43.0	6.1	44	NW	9.4	4.2	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.79	756.6	30.05	763.3	45.5	7.5	39	E	.....	.....	2	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.95	760.6	30.01	762.9	47.5	8.6	47	E	16.1	7.2	.....	.....	2	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.84	758.5	30.04	763.1	44.4	6.9	63	E	7.4	3.3	.....	.....	1	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. C. De Giorgi.
Cosenza	29.12	739.7	30.02	762.6	47.7	8.7	74	SE	1.3	0.6	.....	.....	5	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.82	757.3	30.01	762.3	55.8	13.2	38	NW	.....	.....	2	.....	3	NW	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.81	757.1	30.07	763.6	59.2	10.1	62	W	2.5	1.1	.....	.....	4	W	.....	0.083	2.1	.....	Prof. G. Cincciatore
Syracuse	29.98	761.6	30.06	763.5	55.4	13.0	57	W	2.5	1.1	.....	.....	6	W	.....	0	0	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.51	749.6	30.06	763.5	39.6	4.2	65	NW	0	0	.....	.....	9	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 461 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.17	766.3	30.19	766.8	52.5	11.4	78	ENE	6.3	2.8	.....	.....	1s	.....	.....	0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	30.00	762.0	30.21	767.3	51.1	10.6	89	NE	0.8	0.4	.....	.....	1s	.....	.....	0	0	.....	S. Takehayashi.
Tokei, (Yeddo) Observatory.	30.03	762.7	30.10	764.5	51.4	10.8	78	N	4.0	1.8	.....	.....	10s	.....	.....	0	0	Cloudy	The Staff.
Wakayama	30.11	764.8	30.16	766.0	49.7	9.8	84	E	3.3	1.5	.....	.....	7s	.....	.....	0	0	Cloudy	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	25.06	636.2	30.15	765.9	49.1	9.5	61	Calm	.....	.....	0	.....	1	.....	.....	0	0	Clear	Prof. L. Perez.
Leon	24.42	620.3	30.10	764.5	59.4	15.2	85	N	.. ..	.....	1	1c	0	.....	.....	0	0	Clear	Prof. M. Leal.
Mazatlan	29.73	755.0	29.98	761.6	68.0	20.0	89	Calm	.....	.....	0	7c	1s	SW	....	0	0	Cloudy	I. Guerrero, C. E.
Mexico, Central Observatory	23.07	586.0	30.14	765.5	50.4	10.2	78	Calm	0	0	.....	0	0	.....	.....	0	0	Very fine	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	50.9	10.5	73	Calm	.....	.....	0	1c	2k	S	SW	0	0	Clear	M. V. de Leon, M. E.
Puebla (Catholic Institute)	28.52	597.4	30.43	772.9	46.0	7.8	52	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.18	614.1	30.18	766.5	55.0	12 8	72	SE	.....	.....	1	4	0	W	.....	0	0	Hazy	G. Barroeta; M. D.
Tlacotalpam	29.92	759.9	29.93	760.2	76.6	24.8	97	S	.....	.....	1	.....	10	....	S	0.047	1.2	Threatening	Prof. M. M. Chazaro
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell
Zacatecas	22.54	572.5	30.15	765.8	55.9	13.3	62	Calm	.....	.....	0	2ck	0	SW	.....	0	0	Clear	J. C. Castrillon

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,490 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column; the instrumental correction —0.88 mm., or —0.035 inch, has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.28	767.8	30.23	767.8	47.3	8.5	.....	W	.....	.....	3	.....	.....	.....	.....	0.089	1.0	.....	
Groningen	30.08	763.9	30.13	765.3	38.5	3.6	.....	S	.....	.....	.....	.....	.....	.....	.....	0.063	1.6	.....	
Helder	30.12	765.0	30.12	765.0	47.3	8.5	.....	W	.....	.....	1	.....	.....	.....	.....	0.178	4.4	.....	
Hellevoetsluis	30.19	766.8	30.19	766.8	46.0	8.1	94	W	.....	.....	3	.....	.....	.....	.....	0	0	.....	
Utrecht	30.13	765.4	30.18	766.6	46.0	8.1	98	W	.....	.....	2	.....	10	.....	.....	0.287	7 3	Dull	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer, corrected for instrum'tal error and temperature. Inches.	Barometer, corrected for instrum'tal error and temperature. Millimeters.	Barometer, reduced to sea-level. Inches.	Barometer, reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.63	752.6	29.69	754.0	40.3	4.6	90	SSE	23.7	10.6	.....	.....	10	.....	.....	0.504	12.8	Raining.....	
Brönö	29.56	750.9	29.60	751.9	42.8	6.0	82	WSW	9	4	.....	.....	10	.....	.....	0	0	.....	
Christiana	29.74	755.4	29.89	759.3	35.1	1.7	96	SSW	9	4	.....	.....	10	.....	.....	0.197	5 0	Rain & snow	
Tromsö	29.08	738.5	29.12	739.6	38.1	3.4	63	SW	18	8	.....	.....	10	.....	.....	0.213	5.4	Raining.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	29.65	753.0	29.84	757.8	65.6	18.6	84	ESE	9.4	4.2	.....	.....	3	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.30	744.1	29.94	760.4	56.8	13.8	54	ENE	6.3	2.8	.....	.....	2	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	29.92	759.9	30.00	762.1	71.4	21.9	68	E	6.3	2.8	.....	.....	5	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.93	760.2	30.29	769.4	57.7	14.3	70	NNE	21.0	9.4	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	29.81	757.2	29.88	759 0	65.1	18.4	86	SE	30.4	13.6	.....	.....	10	.....	.....	0.130	3.3	Light rain...	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.																Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't
Rio Lima. Capt. S. C. da Silva Costa, Portó Prayá, Cape Verd I'ds.	.....	.....	.....	.....	77.7	25.4	.....	NE	.....	.....	2	.....	10	.....	.....	2	.....	D. clouds....	A. D. de Fonseca Saruento.....
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Louiz Apra, Q. Ma.
Sado, Capt. J. A de Brito Capello, St. Paul de Loando	.....	.....	29.81	757.2	81 3	27.4	.....	W	.....	.....	4	.....	6	.....	W	.....	.....	D. clouds....	H. Mecudonco, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	.....	.....	30.09	764.2	73.6	23.1	.....	E	.....	.....	3	.....	0	.....	.....	1	SE	Blue sky	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between upper and lower clouds, and no humidity is given; duration of rain-fall in hours. The Sá da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	30.14	765.6	30.16	766.1	27.0	— 2.8	96	S	2	1	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Astrakhan	30.49	774.4	30.41	772.3	39.6	4.2	90	ESE	16	7	.....	10:p	.....	.....	.....	.....	.....	.....	Capt. Wisganow.
Barnaul	29.53	750.0	30.07	763.7	15.6	— 9.1	97	SW	0	0	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	30.07	763.6	30.32	770.2	26.5	— 2.9	94	SE	4	2	.....	.....	9k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	29.56	750.7	30.59	777.0	23.5	— 4.7	95	W	4	2	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	30.28	769.2	30.55	776.6	24.6	— 4.1	82	SSE	2	1	.....	.....	9	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.13	739.8	29.79	756.6	31.1	— 0.5	98	ENE	22	10	.....	.....	10n	.....	.....	.....	.....	Snow-drift..	Physical Cabinet.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	29.87	758.7	30.08	763.9	46.6	8.1	98	E	4	2	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Moscow	29.90	759.4	30.48	774.2	30.4	— 0.9	92	NW	4	2	.....	.....	10s	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	27.88	708.1	30.47	773.9	— 5.6	—20.9	62	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	29.65	753.0	29.72	754.8	48.4	9.1	95	S	18	8	.....	.....	10n	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	30.32	770.2	30.57	776.4	37.0	2.8	82	NNE	4	2	.....	.....	1ks	.....	.....	.....	.....	Raining	Kurdakof.
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	30.13	765.2	30.27	768.8	40.3	4.6	71	Calm	0	0	.....	.....	9n	.....	.....	.....	.....	.....	.....
St. Petersburg	30.28	769.1	30.30	769.5	27.3	— 2.6	92	SSW	7	3	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Tashkend	28.84	732.6	30.48	774.1	43.2	6.2	88	.....	.....	.....	.....	.....	10	.....	.....	.....	.....	.....	Central Physical Obs.
Tiflis	28.90	734.1	30.33	770.4	54.7	12.6	82	Calm	0	0	.....	.....	10cs	.....	.....	.....	.....	.....	Teich, A. M.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Physical Observatory.
Warsaw	29.65	753.2	30.10	764.4	29.7	— 1.3	88	NE	7	3	.....	.....	.....	.....	.....	.....	.....	.....	.....
Wilna	29.80	756.9	30.24	768.1	31.5	— 0.3	79	Calm	0	0	.....	.....	1ks	.....	.....	.....	.....	.....	Astronomical Obs.
Yenisiesk	29.89	759.3	30.21	767.4	5.2	-14.9	80	E	2	1	.....	.....	1	.....	.....	.....	.....	Light clouds	Astronomical Obs.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10	.....	.....	.....	.....	Snowing.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	30.13	765.3	30.24	768.0	53.2	11.8	42	ENE	1.5	0.69	.....	1c	.....	.....	.....	0	0	.....	Antonio Rave, Director
Bilbao, Met. Obs'y	30.37	771.5	30.43	773.0	51.8	11.0	48	SW	2.1	0.93	.....	2	0	NE	.....	0	0	Almost clear	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.38	695.5	.....	.....	52.7	11.5	4	NE	3.5	1.58	.....	0	1	.....	.....	0	0	Almost clear	Domingo Martin y Peres.
Madrid, Royal Observatory.	28.07	712.9	30.35	770.9	50.5	10.3	49	SW	3.0	1.33	.....	0	0	.....	.....	0	0	Clear.....	The Staff.
Murcia, Met. Obs'y	30.17	766.4	30.33	770.3	59.0	15.0	63	WSW	3.2	1.44	.....	0	1	.....	.....	0	0	Clear.....	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.42	747.2	30.32	770.1	57.6	14.2	46	NE	0	0	.....	.....	1	.....	.....	0	0	Almost clear	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	29.97	761.1	30.03	762.8	73.1	22.8	85	Calm	0	0	.....	0	1k	.....	NE	0	0	Clear.....	Benito Vines, S. J.
Manilla, Phillippine Islands	29.89	759.3	29.95	760.6	81.1	27.3	75	.....	0.5	0.2	.....	.....	0	.....	.....	0	0	Fine.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.12	764.9	30.22	767.5	62.1	16.7	56	ESE	22.9	10.3	.....	0	8	.....	SE	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.84	757.8	29.93	760.1	76.6	24.8	90	SE	0	0	.....	6kz	3kn	SE	SE	0.197	5.00	Cloudy.....	Enrique Gadea, Chief Eng'r

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.77	756.1	29.81	757.1	33.1	0.6	.....	S	.....	.....	4	.....	10	.....	.....	0.039	1.0	.....	
Umea	29.80	757.0	29.85	758.3	33.4	0.8	96	SW	.....	.....	6	.....	10	.....	.....	0	0	.....	
Hernosand	29.82	757.4	29.87	758.7	32.4	0.2	92	S	.....	.....	4	.....	10	.....	.....	0	0	.....	
Stockholm	29.90	759.5	30.08	764.0	38.8	1.0	89	SSW	.....	.....	2	.....	9	.....	.....	0	0	.....	
Wisby	30.04	762.9	30.10	764.4	34.9	1.6	93	S	.....	.....	4	.....	10	.....	.....	0.068	1.6	.....	
Sub-Series.																			
Upsala	29.95	760.7	30.04	762.9	32.5	0.3	92	SSW	6.3	2.8	.....	.....	10	.....	SW	0	0	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.88	733.6	30.37	771.5	32.9	0.5	89	SSW	.....	.....	1	.....	10	.....	.....	0.083	2.1	Snowing	The Observatory.
Zurich	28.68	727.8	30.35	771.0	30.9	— 0.6	82	W	.....	.....	2	.....	10	.....	.....	0.331	8.4	Covered.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +7.2 mm.; Thermometer, —6.0 Cent.; Relative Humidity, +12 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.58	758.9	49.1	9.5	81	NW	13	6.0	.....	.....	10	.....	N	0.409	10.4	....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	
Valona	.....	.....	29.98	761.6	48.9	6.6	.....	W	.....	.....	2	.....	5	.....	.....	0.31	8.	Cloudy.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.95	760.7	30.07	763.7	69.8	21.0	58	N	.....	.....	2	5c	.....	.....	.....	0	0	D. clouds....	Prof. C. V. A. van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	29.91	759.7	29.98	761.5	31.8	— 0.1	95	SW	3	1.3	.....	8k	2ks	SW	.....	0	0	Cloudy.....	G. A. Blair.
Charlottetown, P. E. Island	29.89	759.2	29.94	760.5	35.7	2.1	83	NW	5	2.2	.....	0	2s	.....	.....	Inap.	Inap.	Fair.....	H. J. Cundall, C. E.
Cornwall, Ontario	30.01	762.2	30.21	767.3	36.1	2.3	91	NW	.....	.....	1	.....	10s	.....	.....	0.14	3.6	Cloudy.....	James Smith, M. A.
Dalhousie, N. B	29.81	757.2	29.98	761.5	35.7	2.1	.....	.....	.....	.....	.....	0	0	.....	.....	0	0	Clear.....	H. A. Johnson.
Father Point, Quebec	29.98	761.5	30.00	762.0	34.6	1.4	85	NW	12	5.4	.....	5k	5n	W	.....	0.02	0.5	Cloudy.....	J. McWilliams.
Fredericton, N. B	29.96	761.0	30.03	762.7	37.1	2.8	81	NW	12	5.4	.....	9ck;cs	0	W	.....	0.06	1.5	Cloudy.....	Prof. Harrison.
Fort Garry, Manitoba	29.68	753.9	30.58	776.7	15.0	— 9.4	92	N	4	1.8	.....	5k	5ks	W	.....	0	0	Cloudy	James Stewart.
Granton, Ontario	29.20	741.7	30.36	771.1	34	1.1	.....	Calm	0	0	.....	1c	0	.....	.....	0	0	Clear.....	James Grant.
Halifax, N. S	29.86	758.4	29.99	761.7	39.0	3.9	91	W	6	2.7	.....	2ck	2ks	.....	.....	0 02	0.5	Fair	A. Allison, M. A.
Hamilton, Ontario	29.98	761.5	30.37	771.4	33.7	0.9	93	NW	.....	.....	1	8ck	0	NW	.....	0	0	Cloudy.....	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.93	760.2	30.28	769.1	35.5	1.9	90	W	6	2.7	.....	2cs	0	W	.....	0	0	Fair.....	S. Woods, M. A.
Little Glace Bay, N. S	29.88	758.9	29.91	759.7	41.7	5.4	87	W	8	2.7	.....	6ck	0	W	.....	0	0	Fair.....	C. H. Rigby.
Montreal, Quebec	30.00	762.0	30.21	767.3	35.1	1.7	88	W	16	7.2	.....	8k	1s	N	.....	Inap.	Inap.	Cloudy.....	C. H. McLeod, C. E.
Moose Factory, Ontario	30.26	768.6	30.29	769.4	22.2	— 5.4	87	W	.....	.....	4	.....	10n	.....	.....	0	0	Cloudy.....	J. R. Nason.
Norwood	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	29.53	750.0	30.26	768.6	33.0	0.6	97	Calm	.....	.....	0	3ck	0	NW	.....	0	0	Fair.....	Rev. R. Mosley.
Peterboro, Ontario	29.52	749.8	30.30	769.6	35.7	2.1	90	N	.....	.....	1	0	7ks	.....	.....	0	0	.....	J. F. Jeffers, B. A.
Port Dover, Ontario	29.63	752.6	30.36	771.1	34.0	1.1	89	NW	3	1.3	.....	10ck	0	SW	.....	0	0	Fair	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.67	753.6	30.35	770.9	33.2	0.7	88	NW	3	1.3	.....	.....	10ks	.....	W	0	0	Cloudy	M. Payne.
Quebec, Quebec	29.80	756.9	30.13	765.3	34	1.1	90	W	.....	.....	3	4c	4s	.....	.....	0	0	Fair.....	Capt. Ashe, R. N.
Rockliffe, Ontario	29.76	755.6	30.23	767.8	33.0	0.6	89	W	3	1.3	.....	.....	10s	.....	NW	0.03	0.8	Cloudy	W. H. McIntyre.
St. Andrews, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Gove.
St. John, N. B	29.86	758.4	30.02	762.5	37	2.8	85	NW	9	4.0	.....	3k	0	.....	.....	0	0	Fine.....	G. Murdock, C. E.
Saugeen, Ontario	29.60	751.8	30.34	770 6	37.0	2 8	92	NW	11	4.9	.....	.....	10ks	.....	.....	0.08	2.0	Overcast ..	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.99	736.3	30.33	770.4	33.8	1.0	91	NW	2	0.9	.....	.....	10s	.....	.....	0	0	Cloudy	C. J. MacGregor, M. A.
Sydney, C. B	29.89	759.2	29.93	760.2	35.0	1.7	87	S	1	0.4	.....	8cs	0	.....	.....	0	0	Fair.....	T. C. Hill, C. E.
Toronto, Ontario	29.96	761.0	30.37	771.4	33.3	0.7	89	SW	6	2.7	.....	5ck	0	W	.....	0.05	1.3	Fair.....	Magnetic Observatory.
Windsor, N. S	29.86	758 4	29.90	761.0	39.0	3.9	91	W	7	3.1	.....	0	0k;ks	.....	.....	0	0	Cloudy.....	Prof. John E. Oram.
Woodstock, Ontario	29.23	742.4	30.35	770.9	33.1	0.6	89	SW	3	1.3	.....	0	9s	.....	.....	0	0	Cloudy.....	Prof. J. Montgomery.
Yarmouth, N. S	29.99	761.7	30.06	763 5	44.8	7.1	74	NW	.....	.....	1	2ck	0	W	.....	0	0	Fair.....	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.60	751.8	29.86	758.4	34.0	1.1	90	NW	.....	.....	.....	10k	10s	.....	.....	0	0	Cloudy.....	John Delany.
St. Pierre, N. F	.....	.....	29.77	756.1	36.7	2.6	.....	W	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	l'Hopital Maritime.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10, except Yarmouth and St. Johns on scale 0 to 20. At St. Andrews the velocity wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	30.07	763.8	30.31	769.9	40	4.4	82	NW	9	4.0	.....	0	0	.....	.....	0.02	0.5	Clear	
Alpena, Michigan	29.72	754.9	30.40	772.1	32	0.0	89	NW	16	7.2	.....	.....	10s	.....	NW	0.10	2.5	Cloudy	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	28.98	736.1	30.14	765.5	54	12.2	79	E	18	8.0	.....	.....	10s	.....	E	0	0	Cloudy	
Atlantic City, New Jersey	30.36	771.1	30.38	771.6	42	5.6	74	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Augusta, Georgia	30.05	763.3	30.25	768.3	63	17.2	42	NE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Baltimore, Maryland	30.34	770.6	30.39	771.9	43	6.1	59	NW	2	0.9	.....	0	Fog	.....	Calm	0	0	Clear	
Barnegat, New Jersey	30.33	770.4	30.35	770.9	43	6.1	67	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Bismarck, Dakota	28.62	726.9	30.48	774.2	27	— 2.8	88	W	4	1.8	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Boerne, Texas	28.51	724.1	29.78	756.4	69	20.6	95	W	6	2.7	.....	.....	10s	.....	W	0	0	Cloudy	
Boise City, Idaho	27.77	705.4	30.73	780.5	27	— 2.8	82	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Boston, Massachusetts	30.08	764.0	30.24	768.1	42	5.6	66	W	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Brackettville, Texas	28.84	732.5	29.86	758.4	72	22.2	90	NE	3	1.3	.....	.....	10s	.....	Calm	0	0	Threatening	
Breckenridge, Minnesota	29.48	748.8	30.58	776.7	16	— 8.9	100	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Brownsville, Texas	29.81	757.2	29.86	758.4	78	25.6	91	S	8	3.6	.....	5k	0	S	.....	0	0	Fair	
Buffalo, New York	29.60	751.8	30.33	770.4	40	4.4	69	W	7	3.1	.....	5ck;cs	0	SW	.....	0	0	Fair	
Burkes, Arizona	.....	.....	.....	.....	44	6.7	52	N	.....	.....	1	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.95	760.7	30.25	768.3	40	4.4	73	SE	5	2.2	.....	2ck	2ks	W	.....	0.03	0.8	Fair	
Cairo, Illinois	29.64	752.8	30.05	763.3	43	6.1	100	NE	30	13 4	.....	.....	10n	.....	NE	0.42	10.7	Heavy rain	
Campo, California	27.56	700.0	30.13	765.3	46	7.6	84	E	26	11.6	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.29	769.4	30.30	769.6	62	16.7	51	NE	21	9.4	.....	0	0	.....	.....	0	0	Clear	
Cape Henry, Virginia	30.35	770.9	30.37	771.4	56	13.3	45	NE	16	7.2	.....	0	Haze	.....	.....	0	0	Clear	
Cape Lookout, N. Carolina	30.25	768.3	30.27	768.8	60	15.6	65	NE	32	14.3	.....	0	0	.....	.....	0	0	Clear	
Cape May, New Jersey	30.34	770.6	30.37	771.4	48	8.9	63	N	13	5.8	.....	0	0	.....	.....	0	0	Clear	
Castroville, Texas	29.14	740.1	29.82	757.4	74	23.3	81	W	2	0.9	.....	.....	10s	.....	Calm	0.18	4.6	Cloudy	
Cedar Keys, Florida	30.10	764.5	30.13	765.3	73	22.8	90	SE	.....	.....	1	0	0	.....	.....	0	0	Clear	
Charleston, South Carolina	30.14	765.5	30.19	766.8	62	16.7	61	NE	7	3.1	.....	0	5ks	.....	NE	0	0	Fair	
Charlotte, North Carolina	29.42	747.3	30.26	768.6	49	9.4	44	N	6	2.7	.....	5ks	5s	W	NW	0	0	Cloudy	
Chattanooga, Tennessee	29.34	745.2	30.16	766.1	47	8.3	77	Calm	0	0	.....	2k	0	S	.....	0	0	Fair	
Cheyenne, Wyoming	24.37	619 0	30.31	769.9	13	—10.6	62	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.61	752.1	30.31	769.9	47	8.3	70	E	8	3.6	.....	.....	10s	.....	E	0	0	Cloudy	
Cincinnati, Ohio	29.59	751.6	30.26	768.6	46	7.8	47	NE	5	2.2	.....	.....	10s	.....	S	0	0	Cloudy	
Cleveland, Ohio	29.59	751.6	30.35	770.9	40	4.4	73	E	5	2.2	.....	2ck	8s;fg	SW	SW; Calm	0	0	Cloudy	
Coleman City, Texas	28.23	717.0	29.93	760.2	44	6.7	68	N	28	12.5	.....	0	0	.....	.....	0	0	Clear	
Columbus, Ohio	29.39	746.5	30.26	768.6	42	5.6	74	NE	3	1.3	.....	.....	10s	.....	E	0	0	Cloudy	
Concho, Texas	28.23	717.0	29.98	761.0	45	7.2	61	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.49	749.0	29.95	760.7	62	16.7	68	NW	8	3.6	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Davenport, Iowa	29.58	751.3	30.24	768.1	44	6.7	84	E	6	2.7	.....	.....	10n	.....	Calm	0.14	3.6	Light rain	
Deadwood, Dakota	25.75	354.0	.....	.....	34	1.1	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Denison, Texas	29.14	740.1	29.94	760.5	52	11.1	73	NW	11	4.9	.....	0	2s	.....	Calm	0	0	Fair	
Denver, Colorado	25.20	640.1	30.42	772.7	24	— 4.4	94	NW	4	1.8	.....	.....	10n	.....	Calm	0.13	3.3	Light snow	
Des Moines, Iowa	29.37	746.0	30.26	769.1	41	5.0	91	NE	7	3.1	.....	.....	10n	.....	Calm	0.17	4.3	Light rain	
Detroit, Michigan	29.65	753.1	30.35	770.9	35	1.7	80	N	5	2.2	.....	.....	10s;fg	.....	Calm	0	0	Cloudy	
Dodge City, Kansas	27.72	704.1	30.15	765.8	30	— 1.1	78	N	30	13.4	.....	.....	10s	.....	NW	0	0	Cloudy	
Dubuque, Iowa	29.58	751.3	30.31	769.9	39	3.9	91	Calm	0	0	.....	.....	10n	.....	Calm	0.02	0.5	Light Sleet	
Duluth, Minnesota	29.76	755.9	30.51	774.9	21	— 6.1	71	NW	12	5.4	.....	0	2s	.....	Calm	0	0	Fair	
Eagle Pass, Texas	29.19	741.4	29.89	759.2	75	23.9	77	NE	3	1.3	.....	.....	10ks	.....	NE	0	0	Cloudy	
Eastport, Maine	29.99	761.7	30.06	763.5	39	1.7	82	W	10	4 5	.....	0	8ks	.....	NW	0	0	Fair	
Edinburg, Texas	.....	.....	.....	.....	76	24.4	95	S	.....	.....	1	.....	10s	.....	S	0	0	Cloudy	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.60	751.8	30.34	770.6	41	5.0	74	SW	4	1.8	.....	.....	10ks	.....	W	0	0	Cloudy	
Escanaba, Michigan	29.75	755.6	30.45	773.4	29	— 1.7	67	NW	6	2.7	.....	.....	10ks	.....	N	0	0	Cloudy	
Florence, Arizona	28.69	728.7	30.29	769.4	42	5.6	74	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	28.47	723.1	30.48	774.2	22	— 5.6	86	NW	5	2.2	.....	.....	10s	.....	Calm	0.04	1.0	Cloudy	
Fort Custer, Montana	27.33	694.2	.....	.....	25	— 3.9	50	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.32	643.1	30.28	769.1	39	3.9	48	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.37	746.0	29.91	759.7	52	11.1	93	NW	12	5.4	.....	.....	10s	.....	Calm	1.40	35.6	Cloudy	
Fort Griffin, Texas	25.31	642.9	30.11	764.8	34	1.1	39	N	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	28.83	732.3	30.13	765.3	46	7.8	77	N	20	8.9	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	27.95	709.9	.....	.....	26	— 3.3	77	SW	8	3.6	.....	.....	10ks	.....	W	0	0	Cloudy	
Fort St. Michael, Alaska	27.81	706.4	29.77	756.1	46	7.8	77	NW	14	6.3	.....	4cs	0	Calm	.....	0	0	Fair	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Stevenson, Dakota	28.87	733.3	30.00	762.0	46	7.8	69	N	18	8.0	.....	.....	10s	.....	Calm	0.08	2.0	Cloudy	
Fort Verde, Arizona	28.58	725.9	.....	.....	20	— 6.7	100	NW	11	4.9	.....	.....	10s	.....	NW	Inap.	Inap.	Cloudy	
Fort Yates, Dakota	.....	.....	.....	.....	34	1.1	70	N	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fredericksburg, Texas	28.18	715.8	29.73	755.1	55	12.8	56	N	12	5.4	.....	0	2ks	.....	Calm	0	0	Fair	
Galveston, Texas	29.92	760.0	29.96	761.0	75	23.9	90	S	9	4.0	.....	0	8ks	.....	S	0.02	0.5	Cloudy	
Graham, Texas	29.01	736.8	30.08	764.0	46	7.8	77	N	11	4.9	.....	2cs	0	Calm	.....	0	0	Fair	
Grand Haven, Michigan	29.67	753.6	30.35	770.9	36	2.2	71	E	6	2.7	.....	5cs	0	Calm	.....	0	0	Fair	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.12	739.6	30.08	764.0	45	7.2	84	NW	16	7.2	.....	0	2s	.....	Calm	0	0	Clear	
Indianapolis, Indiana	29.40	746.7	30.20	767.1	46.5	8.1	47	NE	7	3.1	.....	.....	10s	.....	NE	0	0	Cloudy	
Indianola, Texas	29.93	760.2	29.96	761.0	74	23.3	95	S	5	2.2	.....	0	8s	.....	S	Inap	Inap.	Fair	
Jacksboro, Texas	28.98	736.1	30.14	765.5	47	8.3	70	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.12	765.0	30.14	765.5	71	21.7	90	SE	4	1.8	.....	.....	10s	.....	SE	0	0	Cloudy	
Keokuk, Iowa	29.51	749.5	30.14	765.5	44	6.7	76	E	15	6.7	.....	.....	10s	.....	E	0	0	Cloudy	
Key West, Florida	30.04	763 0	30.07	763.8	75	23.9	77	NE	16	7 2	.....	0	0	.....	.....	0	0	Clear	
Kittyhawk, North Carolina	30.31	769.9	30.34	770.6	58	14.4	64	NE	22	9.8	.....	0	Haze	.....	Calm	0	0	Clear	
Knoxville, Tennessee	29.16	740.7	30.19	766.8	43	6.1	71	Calm	0	0	.....	Haze	1s	.....	Calm	0	0	Hazy	
La Crosse, Wisconsin	29.60	751.8	30.38	771.6	32	0.0	69	N	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
La Mesilla, New Mexico	26.23	666.2	30.38	771.6	41	5.0	41	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.95	760.7	30.30	769.6	57	13.9	69	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.29	744.0	30.15	765.8	42	5.6	91	N	13	5.8	.....	.....	10n	.....	.....	0.07	1.8	Light rain	
Little Rock, Arkansas	29.50	749.3	29.85	758.2	67	19.4	95	S	4	1.8	.....	.....	10s	.....	S	0.13	3.3	Cloudy	
Los Angeles, California	29.79	756.7	30.14	765.5	48.0	8.9	63	NE	5	2.2	.....	0	0	.....	.....	0.01	0.3	Clear	
Louisville, Kentucky	29.56	750.8	30.13	765.3	44	6.7	60	NE	17	7.6	.....	.....	10.1	.....	N	Inap.	Inap.	Light rain	
Lynchburg, Virginia	29.70	754.4	30.42	772.7	38	3.3	81	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Madison, Wisconsin	29.30	744.2	30.33	770.4	35	1.7	80	NE	10	4.5	.....	.....	10s	.....	SW	0	0	Cloudy	
Marquette, Michigan	29.67	753.6	30.42	772.7	32	0.0	69	NW	8	3.6	.....	.....	10ks	.....	W	0.02	0.5	Cloudy	
Mason, Texas	28.38	720.8	30.15	765.8	51	10.6	59	NW	20	8.9	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	29.58	751.3	29.91	759.7	63	17.2	83	SE	9	4.0	.....	.....	10s	.....	SW	0.18	4.6	Cloudy	
Milwaukee, Wisconsin	29.59	751.6	30.35	770.9	41	5.0	82	NE	12	5.4	.....	.....	10s	.....	N	0	0	Cloudy	
Mobile, Alabama	30.03	762.7	30.07	763.8	73.5	23.1	95	SW	6	2.7	.....	.....	10s	.....	N	0.21	5.3	Cloudy	
Montgomery, Alabama	29.67	753.6	30.10	764.5	63	17.2	72	E	9	4.0	.....	8k	0	SW	.....	0	0	Fair	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Morgantown, West Virginia	29.31	744.5	30.35	770.9	35	1.7	80	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Mt. Washington, N. H.	28.68	601.5	30.04	763.0	17	— 8.3	100	NW	48	21.5	.....	.....	Fog	.....	NW	0.52	13.2	Foggy	
Nashville, Tennessee	29.47	748.5	30.01	762.2	51	10.6	59	Calm	0	0	.....	5ks	0	SE	.....	0	.	Fair	
New Haven, Connecticut	30.19	766.8	30.32	770.1	41	5.0	74	NW	5	2.2	.....	0	Sm'e	.....	.....	0	0	Clear.	
New London, Connecticut	30.24	768.1	30.29	769.4	48	8.1	75	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
New Orleans, Louisiana	30.00	762.0	30.05	763.3	73	22.8	85	SE	2	0.9	.....	.....	Fog	.....	Calm	0	0	Foggy	
Newport, Rhode Island	30.23	767.8	30.28	769.1	42	5.6	74	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
New York, New York	30.16	766.1	30.34	770.6	48	8.1	66	NW	5	2.2	.....	0	Haze	.....	.....	0	0	Clear	
Norfolk, Virginia	30.29	769.4	30.35	770.9	51	10.6	59	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
North Platte, Nebraska	27.52	699.0	30.34	770.6	19	— 7.2	69	NW	18	8.0	.....	.....	10s	.....	NW	0	0	Cloudy	
Olympia, Washington Ter.	30.43	772.9	30.47	773.9	40.5	4.7	91	NE	4	1.8	.....	Haze	8s	.....	Calm	0	0	Cloudy	
Omaha, Nebraska	29.17	740.9	30.33	770.4	32	0.0	79	N	16	7.2	.....	.....	10s	.....	Calm	0.17	4.3	Cloudy	
Oswego, New York	30.07	763.8	30.41	772.4	44	6.7	84	SW	8	3.6	.....	0	2s	.....	NW	0	0	Fair	
Pembina, Dakota	29.60	751.8	30.50	774.7	19	— 7.2	100	NE	4	1.8	.....	.....	10n	.....	Calm	0.01	0.3	Light snow	
Pensacola, Florida	30.09	764.3	30.12	765.0	73	22.8	95	S	2	0.9	.....	4k	0	S	.....	0	0	Fair	
Philadelphia, Pennsylvania	30.30	769.6	30.36	771.1	45	7.2	61	NW	7	3.1	.....	0	Fog	.....	Calm	0	0	Clear	
Phœnix, Arizona	29.00	736.6	30.89	784.6	41	5.0	65	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.08	449.1	29.89	759.2	—11	—23.9	100	NW	8	3.6	.....	2cs	8s	Calm	NW	0	0	Fair	
Pilot Point, Texas	28.82	732.0	29.62	752.3	50	10.0	71	NW	12	5.4	.....	2k	0	N	.....	0	0	Fair	
Pioche, Nevada	.....	.....	.....	.....	23	— 5.0	60	N	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.52	749.8	30.37	771.4	35	1.7	90	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Port Huron, Michigan	29.65	753.1	30.34	770.6	35	1.7	80	NW	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
Portland, Maine	30.11	764.8	30.16	766.1	44	6.7	60	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Portland, Oregon	30.38	771.6	30.46	773.7	35.8	1.8	94	NW	7	3.1	.....	0	Fog	.....	.....	0	0	Clear	
Portsmouth, N. Hampshire	.....	.....	.....	.....	61	16.1	61	NE	30	13.4	.....	0	0	.....	.....	0	0	Clear	
Prescott, Arizona	24.94	633.5	30.30	769.6	22	— 5.6	72	E	.....	.....	1	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.07	763.8	30.09	764.3	71	21.7	90	NE	7	3.1	.....	0	0	.....	.....	0	0	Clear.	
Red Bluff, California	29.96	761.0	30.33	770.4	51	10.6	22	N	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.69	754.1	29.90	759.4	73	22.8	90	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Rochester, New York	29.69	754.1	30.33	770.4	40	4.4	73	W	6	2.7	.....	8k	0	W	.....	0	0	Cloudy	
Roseburg, Oregon	29.85	758.2	30.46	773.7	31.6	— 0.3	95	SW	1	0.4	.....	.....	10s;fg	.....	Calm	0	0	Cloudy.	
Sacramento, California	29.19	741.4	30.28	769.1	38	3.3	81	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.46	748.3	30.05	763.3	40	4.4	91	NE	18	8.0	.....	.....	10n	.....	NE	1.72	43.7	Light rain	
St. Paul, Minnesota	29.56	750.8	30.45	773.4	27	— 2.8	77	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Salt Lake City, Utah	26.14	663.9	30.47	773.5	18	— 7.8	37	Calm	0	0	.....	0	0	.....	.....	0.06	1.5	Clear	
San Antonio, Texas	29.22	742.2	29.78	756.4	76	24.4	77	SE	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
San Diego, California	30.05	763.3	30.12	765.0	55	12.8	56	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Sandusky, Ohio	29.64	752.6	30.34	770.6	44	6.7	68	N	13	5.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandy Hook, New Jersey	30.30	769.6	30.33	770.4	45	7.2	61	NW	16	7.2	.....	0	0	.....	.....	0	0	Clear	
San Francisco, California	30.16	766.1	30.22	767.6	53	11.7	86	N	20	8.9	.....	0	0	.....	.....	0	0	Clear	
Santa Fé, New Mexico	23.41	594.6	29.95	760.7	26	— 3.3	63	Calm	0	0	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
Savannah, Georgia	30.10	764.5	30.19	766.8	65	18.3	78	NE	7	3.1	.....	10cs	Haze	E	Calm	0	0	Cloudy	
Shreveport, Louisiana	29.70	754.4	29.91	759.7	72	22.2	90	S	6	2.7	.....	.....	10s	.....	Calm	Inap	Inap.	Cloudy	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.22	767.6	30.26	768.6	59	15.0	88	N	8	3.6	.....	0	1s	.....	Calm	0	0	Clear	
Socorro, New Mexico	25.65	651.5	29.71	754.6	31	— 0.6	38	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois	29.48	748.8	30.17	766.3	48	6.1	79	E	20	8.9	.....	.....	10n	.....	E	0.17	4.3	Heavy rain	
Springfield, Massachusetts	30.15	765.8	30.29	769.4	46	7.8	62	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Stockton, Texas	26.91	683.5	29.91	759.7	50	10.0	8	NE	16	7.2	.....	2c	0	E	.....	0	0	Fair	
Thatcher's Island, Mass	30.18	766.6	30.28	767.8	44	6.7	84	W	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Toledo, Ohio	29.62	752.3	30.34	770.6	39	3.9	82	NW	6	2.7	.....	.....	10s	.....	NE	0	0	Threatening	
Tucson, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Uvalde, Texas	30.34	770.6	29.88	758.9	27.0	— 2.8	78	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	29.05	737.9	29.84	757.9	72	22.2	85	E	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Virginia City, Montana	29.74	755.4	29.99	761.7	72	22.2	90	S	8	3.6	.....	.....	10s	.....	SW	0	0	Threatening	
Visalia, California	24.66	626.4	30.14	765.5	15	— 9.4	66	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.83	757.7	30.22	767.6	38	3.3	91	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Wickenburg, Arizona	30.27	768.8	30.39	771.9	37	2.8	71	SW	2	0.9	.....	0	Sm'e	.....	Calm	0	0	Smoky	
Wilmington, North Carolina	.....	.....	.....	.....	37	2.8	71	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Winnemucca, Nevada	30.18	766.6	30.26	768.6	57	13.9	63	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Massachusetts	26.12	663.4	30.48	774.2	21	— 6.1	86	E	13	5.8	.....	0	0	.....	.....	0	0	Clear	
Yankton, Dakota	30.21	767.3	30.25	768.3	46	7.8	69	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Yuma, Arizona	29.20	741.7	30.63	778.0	17	— 8.3	67	NW	15	6.7	.....	1c	0	W	.....	0	0	Clear	
	30.08	764.0	30.25	768.3	54	12.2	55	NE	19	8.5	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Havana, Cuba, W. I.	29.95	760.7	30.00	762.0	77	25.0	76	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	J. B. Gordon.
Kingston, Jamaica, W. I.	30.09	764.3	30.10	764.5	77	25.0	75	Calm	0	0	.....	2c	Haze	Calm	.....	0	0	Fair	Chas. Hasselbrink.
Medellin, Colombia, S. A.*	25.20	640.1	.....	.....	65.0	18.3	87	Calm	.....	.....	0	.....	10n	.....	.....	0	0	.....	James Gall.
Navassa, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Paramaribo, D. Guiana, S. A	29.90	761.0	29.90	761.0	81	27.2	83	E	.....	.....	2	3c	5k	E	.....	0	0	Fair	F. M. Everett.
Santiago de Cuba, W. I.	29.88	758.9	29.91	759.7	77	25.0	82	N	8.6	1.6	.....	4c	2s	NW	.....	Blank	Blank	.....	C. J. Hering.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
York Factory, B. A.	30.17	766.3	30.22	767.6	— 6.0	—21.1	81	NW	7	3.1	.....	0	0	.....	.....	0	0	Fair	G. O. Gellich.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Medellin, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,208 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,861 (?) ft., or 2,088 (?) m.; Silver City, 6,866 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 m., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm. *The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.14‡	765.5‡	.....	.....	75	23.9	95	S	2	0.9	.....	.....	Mist	.....	S	0	0	.....	.....	Clear.	
Navy Yard, Portsmouth, N.H.	30.06‡	763.5‡	.....	.....	42	5.6	68	W	4	1.8	...	.....	2	.....	.....	0	0	.....	.....	Clear.	
Naval Hospital, Yokohama, Japan	30.19‡	766.8‡	.....	.....	52.5	11.4	76	NNW	.....	....	2	.....	5s; sm'o	.....	W	0	0	.....	.....	Fair	
Adams, Mare I'd., Navy Yard, Cal.	30.24‡	768.1‡	.....	.....	52	11.1	73	NNW	.....	....	3	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Alaska, Iquique, Peru .....*	30.01‡	762.2‡	.....	.....	66	18.9	84	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Blue sky.	
Alliance, N. 19° 23′, W. 35° 40′.....	29.98‡	761.6‡	.....	.....	76	24.4	68	NNE	.....	.....	4	.....	9	.....	NNE	.....	.....	Heavy	NNE	D. clouds.	
Colorado, New York, ' . Y.....	30.16‡	766.6‡	.....	.....	45	7.2	61	WNW	9	4.0	.....	.....	.....	.....	.....	0	0	.....	.....	Hazy.	
Constitution, Navy Yard, Norfolk, Va.	30.41‡	772 4‡	.....	.....	52	11.1	79	NE	6	2.7	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Enterprise, Alexandria, Egypt	30.14‡	765.5‡	.....	.....	70	21.1	70	NW	.....	.....	1	.....	1	.....	WNW	.....	.....	Smooth	.....	Clear	
Franklin, Off Navy Yard, Norfolk, Va.	30.35‡	770.9‡	.....	.....	52	11.1	66	ENE	4.8	2.1	.....	.....	0	.....	.....	0	0	.....	.....	Clear.	
Hartford. Boston, Mass	30.20‡	767.1‡	.....	.....	46	7.8	69	WNW	.....	.....	4	.....	0	.....	.....	0	0	Smooth	.....	Clear.	
Independence, Mare I'd, Navy Yard, Cal.	30.21‡	767.3‡	.....	.....	55	12.8	62	E	2.4	1.1	.....	.....	0	.....	.....	0	0	.....	.....	Clear.	
Kearsage, N. 33° —′, W. 78° —′.....	30.22‡	767.6‡	.....	.....	68	20.0	90	NE	.....	.....	5	.....	2	.....	E	.....	.....	Smooth	SE	Clear.	
Lackawana, N. 30° 56′, E. 178° 26′...†.	30.30‡	769.6‡	.....	.....	73	22.8	81	ESE	....	.....	1-3	.....	0	.....	.....	.....	.....	Long	ESE	Clear	
Marion, Off Norfolk, Va.	30.34‡	770.6‡	.....	.....	55	12.8	56	NNE	.....	.....	2	.....	0	.....	.....	.....	.....	Smooth	.....	Clear.	
Michigan, Erie, Pa.....	30.31‡	69.9‡	.....	.....	42.5	5.8	83	SSW	.....	. ...	2	.....	10	.....	W	. .....	.....	.....	.....	Cloudy	
Monocacy, Shanghai, China..	30.24‡	768.1‡	.....	.....	58	14.4	100	E	.....	.....	2	.....	5	.....	E	.....	.....	.....	.....	Fair.	
New Hampshire, Port Royal, S. C.....	30.17‡	766.3‡	.....	.....	70	21.1	100	NE	16	7.2	.....	.....	1?	.....	ESE	0	0	.....	.....	Cloudy?.....	
Onward, Callao, Peru ....†.	29.93‡	760.2‡	.....	.....	65	18.3	84	SE	.....	.....	4	.....	10	.....	.....	.....	.....	Long	W	Misty.....	
Palos, Tientsin, China...	30.24‡	768.1‡	.....	.....	41	5.0	100	ESE	.....	.....	3	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Passaic, Washington, D. C.....	30.39‡	771.9‡	.....	.....	38	3.3	91	NW	.....	....	2	.....	5	.....	SE	0	0	.....	.....	Fair	
Pensacola, Callao, Peru.....	29.91‡	759.7‡	.....	.....	64	17 8	89	S	.....	.....	2	.....	10	.....	.....	.....	.....	Smooth	.....	Hazy.	
Powhatan, Navy Yard, Brooklyn, N.Y.	30.30‡	769.6‡	.....	.....	49	9.4	71	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	.....	Clear.	
Quinnebaug, Leghorn, Italy.....	29.99‡	761.7‡	.....	.....	53	11.7	48	ENE	.....	.....	2	.....	2	.....	NE	.....	.....	.....	.....	Fair	
Ranger, N. 38° 52′, E. 159° 35′.....	30.33‡	770.4‡	.....	.....	58	14.4	82	S	.....	.....	6	.....	8	.. ....	S	.....	.....	Long	WSW	Cloudy	
Richmond, Shanghai, China.....	30.23‡	767.8‡	.....	.....	59	15.0	82	ESE	.....	.....	2	.....	10	... .	.....	0	0	Smooth	.....	Cloudy.	
Rio Bravo, Brownsville, Texas... †.	29.97‡	761.2‡	.....	.....	76	24.4	100	SE	5	2.2	.....	.....	2	.....	SE.	0	0	.....	.....	Fair	
Santee, Annapolis, Md	30.35‡	770.9‡	.....	.....	48	8.9	70	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	.....	Clear.	
Shenandoah, S. 1° 16′, W. 28° 5′... ...	29.87‡	758.7‡	.....	.....	81	27.2	91	SE	.....	.....	3	.....	2	.....	SE	.....	.....	Smooth	.....	Fair.	
St. Louis, League Island, Pa.....	30.35‡	770.9‡	.....	.....	43	6 1	68	W	3	1.3	... ..	.....	0	.....	.....	0	0	.....	.....	Clear.	
Trenton, N. 38° 18′, E. 0° 03′.....	30.31‡	769.9‡	.....	.....	61	16.1	50	SW	....	.....	4	.....	0	.....	.....	0	0	Smooth	.....	Clear.	
Tuscarora. N. 15° 58′, W. 97° 42′.	29.91‡	759.7‡	....	.....	77	25.0	91	Calm	.....	.....	0	.....	0	.....	.....	0	0	Long	S	Clear.	
Vandalia, Key West, Fla.....	30.03‡	762.7‡	.....	.....	77	25.0	91	E	.....	.....	1	.....	2	.....	E	.....	.....	.....	.....	Clear	
Wabash, Boston, Mass.....	30.24‡	768.1‡	.....	.....	42	5.6	75	NW	5	2.2	.....	.....	0	.....	.....	0	0	.....	.....	Hazy.	
Wachusett, N. 5° —′, W 29° —′.....	29.96‡	761.0‡	.....	.....	84	28.9	83	ESE	.....	.....	1	.....	5	.....	SE	... .	.....	Smooth	SE	Fair	
Wyoming, Malaga, Spain.....	30.29‡	769.4‡	.....	.....	63	17.2	52	E	.....	.....	3-4	.....	2	.....	E	.....	.....	Mod'ate	E	Clear.	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.			CHARACTER.	DIRECTION FROM—		
											Up'er	Lo'er	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S. S. Samaria																			Capt. T. Roberts.

NOTE—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitebury.
S. S. Costa Rica																			W. House & R. Lawless.
S. S. Dakota, Capt. H. G. Morse																			Capt. Connolly.
S. S. Georgia																			F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin																			Capt. A. Fuller.
S. S. Wilmington																			R. C. Ghest, 1st Officer.
S. S. Zealandia, S. 37° 09′, E. 175° 14′		29.44‡	747.8‡				SE			3				SE		Mod'ate	E	Cloudy	

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The orginals give the barometer as read off; wind-force by the scale 0 to to 12; for the Brittanic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer Yokohama, Japan	†	30.01‡	762.2‡	51	10.6	93	NW			2		2		NW		Smooth		D. clouds	D. A. Joyce, 2nd Officer
S. S. Gaelic, Capt. Davidson N. 48° 24′, W. 138° 00′	†	29.78‡	756.4‡	59	15.0		SSE			7		8		ESE	Slight	Rough	SE	Misty	J. A. Thompson, C. O. J. G. Cameron.
S. S. Oceanic, Capt. J. Metcalf																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Pfeiffer, N. 44° 53′, W. 53° 18′		29.87‡	758.7‡	41.0	5.0	96	NNW			5		8		NNW	2 h'rs	Long	NW	Clear	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, Bremerhaven, Germany		30.09‡	764.8‡				SW			4		10		W				Raining	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		Character.	Direction from—		
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 42° 38′, W. 61° 29′		29.99‡	761.7‡	48	8.9	92	NW			6		2		NW	0	Smooth		Clear.	Capt. R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.
RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents.																			
Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES—Miscellaneous.																			
Furnished by the co-operation of the Observers named.																			
Schooner Addie Fuller, N. 34° 24′, W. 76° 08′		30.25‡	768.3‡	71	21.7	53	NE	15	6.7		5k		S		0	Rough	NE	D. clouds	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George" of Halifax																			N. B. Foss.
Schooner Harry and Fred																			Capt. George Gardner.
Haytian																			
§ Iron Cross																			Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from, sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; do not distinguish between upper and lower clouds; sea-swell in general terms, as published. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

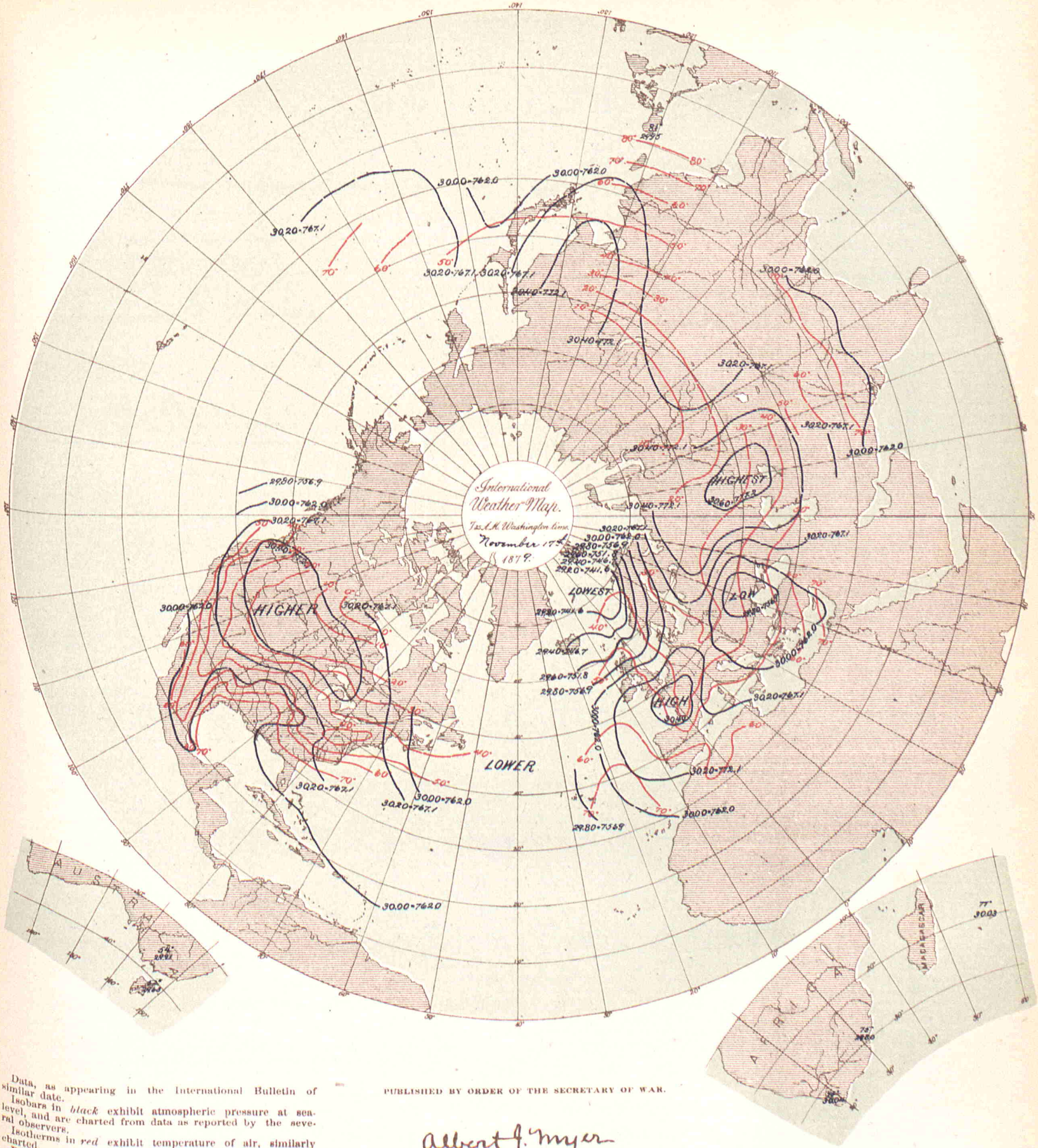
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 18, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 1—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.17	766.3	68.0	20.0	68	SW	.....	.....	1	.....	5	.....	.....	0	0	Cloudy..	
Nemours	.....	.....	30.15	765.8	64.9	18.3	71	WNW	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Kesxuche.
Algiers	.....	.....	30.15	765.7	60.4	15.8	56	S	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Touriliere.
La Calle	.....	.....	30.06	763.5	59.5	15.3	81	NW	.....	.....	5	.....	5	.....	.....	0.559	14.2	Cloudy.....	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.110	2.8	.....	Jacques.
Sfax	.....	.....	30.12	765.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Herbin.
Tebessa	.....	.....	30.19	766.8	48.9	9.4	79	NW	.....	.....	3	.....	10	.....	.....	0	0	Covered.....	Watrin.
Geriville	.....	.....	.....	.....	58.5	14.7	53	NW	.....	.....	3	.....	0	.....	.....	0	0	Clear.	Brugniuax.
Laghouat	.....	.....	30.21	767.3	59.5	15.3	13	ENE	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Bertrand.
Biskra	.....	.....	30.16	766.1	66.6	19.2	66	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Chauvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals the amount of cloudiness is given by the scale 0-4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.41	746.9	29.98	761.4	36.1	2.3	61	W	.....	.....	1	.....	10	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.13	739.9	29.94	760.5	25.3	— 3.7	100	W	8.1	3.6	.....	.....	10	.....	.....	0.047	1.2	.....	Dr. Wierzbicki.
Eperies	28.93	734.8	29.85	758.1	31.3	— 0.4	85	S	.....	.....	2	.....	10	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.65	727.8	29.95	760.8	35.1	1.7	70	S	.....	.....	3	.....	8	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.47	723.1	29.97	761.2	30.9	— 0.6	85	NW	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.58	725.9	29.98	761.4	33.6	0.9	90	Calm	.....	.....	0	.....	10	.....	.....	0.091	2.3	.....	Prof. C. Wagner.
Lemberg	28.79	731.3	29.82	757.5	30.9	— 0.6	92	SW	.....	.....	1	.....	10	.....	.....	0.047	1.2	.....	Dr. T. Stanecki.
Pola	29.89	759.1	30.00?	762.17	46.8	8.2	62	ESE	.....	.....	1	.....	10	.....	.....	0	0	.....	I.R.Hydrographic Office.
Szathmar	29.47	748.6	29.96	761.0	28.8	— 1.8	98	SW	.....	.....	4	.....	10	.....	.....	0.563	14.3	Snowing.....	Pet. Pancsics, S. J.
Szegedin	29.67	753.5	29.96	760.9	34.2	1.2	75	W	.....	.....	3	.....	10	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.90	759.6	30.00	762.1	48.0	8.9	58	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	P. Busin.
Vienna	29.23	742.5	29.97	761.2	34.5	1.4	83	SSE	.....	.....	1	.....	10	.....	.....	0	0	.....	I.R.Central Met. Ob'sy
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

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BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S,, Secretary; and Alexander Buchan, M. A., F. R. S. E. Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Millimeters.	Barometer. Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Lw'r 0—10.	Direction. Upper. From—	Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Aberdeen	30.12	765.0	30.22	767.6	51.6	10.9		SW	4	1.8			6			0.060	1.52	Misty	W. Boswell.
Ardrossan	30.27	768.8	30.29	769.4	53	11.7		NW			2		8					Overcast	Wm.McNeil &G.Carrick
Armagh, (Observatory)	30.14	765.5	30.38	771.6	54.0	12.2		SW	7	3.1			9					Gloomy	S. Call.
Bidston (Liverpool Obs)			30.33	770.4	51.0	10.6		W	19	8.5			10					Misty	John Hartnup.
Bolton (Sharples)	29.74	755.4	30.26	768.6	51.8	11.0		NW	36	16.1			10					Squally	Thomas Mackereth.
Bradford, Yorkshire	29.86	758.4	30.26	768.6	56.1	13.4		NW			4		6			0	0	D. clouds	J. McLandsborough.
Bridgetown, Barbadoes	29.85	758.2	29.88	758.9	76	24.4		NE			2		9					Overcast	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	30.17	766.3	30.27	768.8	54.0	12.2		N			1		0					Blue sky	H. Todd.
Cardington			30.27	768.8	54.0	12.2		N			0–1		8					Overcast	John McLaren.
Chatham (School M. E.)																			J. Carmell, Sapper, R.E.
Donaghadee	30.30	769.6	30.34	770.6	56	13.3		WNW			3		5					D. clouds	J. Mac Gowan.
Dover	30.22	767.6	30.25	768.3	50	10.0		NNE			2		0					Clear	J. Costello.
Falmouth (Observatory)	30.16	766.1	30.39	771.9	53.8	12.1		NNW			3		10					Overcast	The Staff.
Fort Napier, Natal	27.65	702.3	29.84	757.9	69.5	20.8		E			1		10					Overcast	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone																			
Galway (Queen's College)			30.35	770.9	53	11.7		SSW			2		10					Overcast	Prof. A. H. Curtis.
Gibraltar, Mediterranean																			Sergt. Wm. Allen, A. H. [C.
Glasgow, (Observatory)	30.07	763.8	30.27	768.8	54.7	12.6		WSW			3		9					Gloomy	D. G. Maclean.
Great Yarmouth	30.22	767.6	30.23	767.8	48	8.9		NW			2		5					Misty	G. T. Watson.
Greenwich (Royal Obs'y)	30.10	764.5	30.28	769.1	54.3	12.4		N			1		6					D. clouds	The Staff, for G.B.Airy.
Guernsey	30.11	764.8	30.33	770.4	55.5	13.1		NW			2		5					Misty	Dr.S.E Hoskins, F.R.S.
Helston	30.49	774.4	30.62	777.7	54	12.2		NW			2		6k			Blank	Blank	Fair	M. P. Moyle.
Holyhead	30.32	770.1	30.35	770.9	54	12.2		WNW			3		10					Overcast	John Tilston.
Jersey	30.07	763.8	30.37	771.4	54.9	12.7		NW			4		10					Overcast	J. Fisher.
Kew (Observatory)	30.24	768.1	30.28	769.1	54.1	12.3		N	9	4.0			6					D. clouds	The Met'g'l Office.
Leicester (Museum)	30.02	762.5	30.28	769.1	55.0	12.8		NW			1		10					Overcast	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	30.03	762.7	30.11	764.8	55.8	13.2		NW			2	2ck						Blue sky	A. King.
Nairn	30.09	764.3	30.18	766.6	54	12.2		W			1		2					¼ clouded	W. D. Penny.
Nassau, Bahamas			30.04	763.0	78.8	26.0		NE			3		4					D. clouds	C. S. Duncombe.
Nottingham (Observatory)	30.10	764.5	30.30	769.6	55.8	13.2		NW			1		10kd		NNW	0	0	Overcast	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.77	756.1	30.30	759.6	52.8	11.6		NNW			2		10					Misty	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)			30.30	767.1	53	11.7		N			2		10					Drizzling	H. E. Bellamy.
Plymouth	30.28	769.1	30.35	770.9	55.6	13.1		N			2		10					Misty	John Merrifield.
Prince Town																			W. H. Tooker.
*Roche's Point	30.35	770.9	30.45	773.4	54	12.2		NNW			2		8					¾ clouded	Wm. Kennedy.
St. Ann's Head	30.21	767.3	30.38	771.6	54	12.2		NW			1		10					Overcast,	John C. Walker.
Sandwick Manse, Orkneys			30.15	765.8	51.9	11.1		WSW	19	8.5			10					Drizzling	Rev. C. Clouston, L.L.D.
Scutari Cemetery, Turkey	29.82	757.4	29.89	759.2	52.2	11.2		ENE			2		9			Blank	Blank	D. clouds	Serg't W. H. Lyne.
Sheffield	30.01	762.2	30.40	772.1	57.8	14.3		NW			2		6			0.06	1.5	Misty	W. F. Cooper.
Silloth Rectory	30.27	768.8	30.30	769.6	51.6	10.9	92	Calm			0		10			0	0	Overcast	Francis Redford, A. M.
Stonyhurst (Observatory)			30.29	769.4	51.3	10.7		SSE			2		10					Foggy	Rev. S. J. Perry.
Stratfield, Turgiss	30.08	764.0	30.30	769.6	53.4	11.9		NW			2		10					Showery	Rev. C. H. Griffith, F.M.S
Truro (Royal Institution)	30.32	770.1	30.38	771.6	54	12.2		NW			4		10					Raining	W. Newcombe.
Valencia Observatory)	30.39	771.9	30.42	772.7	55.4	13.0		SSE	5	2.2			10			Blank	Blank	Misty	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	29.88	758.9	29.92	760.0	85.2	29.6	26	NW	3.5	1.6		0	0					Clear	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.																			Robert Burnet.
Hobart Town, Tasmania			29.72	754.9	59.0	15.0	82	S			1		3k			1.25	31.7		Francis Abbott, F.R.A.S
Leith, (Restalrig Perk)			30.28	769.1	55.2	12.9		W			2					0	0	Fine	Andrew Gibb.
Mauritius (Observatory)	29.84	757.9	30.03	762.8	75.6	24.2	72	ENE	15.0	6.7		2	8		E	0.11	2.8	Cloudy;	C. Meldrum.
Melbourne (Observatory)	29.57	751.1	29.66	753.3	55.1	12.8	83	SSE	4	1.8			9			0	0	Dull	R. L. J. Ellery.
Monach Lt-house, Hebrides			30.23	767.8	52	11.1		SW			4		Fog			0.2	5.		J. Youngclause.
North Unst, Shetland Is			30.08	764.0				SW			2		10			0	0		

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Colesberg Bridge, unknown.

BRITISH MARINE SERIES. VESSELS.	Bar. corr. Inches	Millimeters	Bar. reduced Inches	Millimeters	Fahrenheit	Centigrade	Per cent	Wind From—	Miles per hour	Meters per second	Force	Clouds Up'er	Lw'r	Upper From—	Lower From—	Sea or swell [illegible]	[illegible]	Weather	Observer
H. M. S. Alert, Off Temple Inlet, Patagonia.			29.56‡	750.8‡	46	7.8		NE			3		10					Overcast	Capt. J.P. Maclear, R.N.
H. M. Sloop Gannet, S. 11° 47′, W. 77° 13′			29.94‡	760.5‡	65	18.3		Calm			0		9					Overcast	Commander E. Bourke, R. N.
H. M. S. Magpie, Shaweishan I'd., China.			30.05‡	763.3‡	60.5	15.8		ENE			5		10					Drizzling	Capt. R. H. Napier, R.N.
Brig Alliance, N. 30° 30′, W. 58° 05′			30.18‡	766.6‡	70.1	21.2		ENE			3		8					D. clouds	Capt. W. Scott.
S. S. German, S. 5° 30′, W. 4° 45′			29.91‡	759.7‡	81	27.2		SE			4		1					Blue sky	Capt. O. D. Coxwell.
Barque Mertole, N. 49° 00′, W. 8° 20′			30.46‡	773.7‡	57.2	14.0		NE			1		9					Overcast	Capt. Turner.
S. S. Peruvian N. 52° 10′, W. 53° 20′			29.68	753.9	30	— 1.1		NNW			4		4			4	confused	Snowing	Capt. W. H. Smith.
Barque Queen of Cambria, N. 16° 55′, E. 72° 50′			29.91‡	759.7‡	81	27.2		NW			3		0					Blue sky	Capt. M. Parry.
S. S. Strathleven, Sydney, N. S. W.			29.84‡	757.9‡	65.5	18.6		N			3		6					D. clouds	Capt. C. W. Pearson.
S. S. Sunbeam, N. 39° 45′, W. 19° 30′			30.07	763.8	72	22.2		ESE			6		5			5	ESE	D. clouds	
S. S. Gordon Castle																			
German Brig "W. von Freeden"																			Capt. H. V. Freeden.
Theophane																			Capt. Greig.
S. S. Amanda																			Capt. B. Boyes.
S. S. Ethiopia																			Capt. Campbell.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	L'w'r 0—10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER.
San José	26.18	665.0	29.90	759.4	67.6	19.8	91	SE	.....	.....	1	10s;d	.....	SE	.....	0	0	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.18	766.5	30.23	767.7	36.5	2.5	77	SE	.....	.....	4	.....	0	.....	.....	.....	.....	.....	.....
Farõe	30.16	766.1	30.18	766.6	37.2	2.9	96	E	.....	.....	4	.....	10	.....	.....	.....	.....	.....	.....
Godthaab (Greenland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stykkisholm (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thorshavn (Farõe)	29.87	758.6	29.90	759.5	48.4	9.1	99	WSW	.....	.....	4	.....	10	.....	.....	.....	.....	.....	.....
Vestervig	30.11	764.7	30.22	767.5	37.0	2.8	94	E	.....	.....	2	.....	2	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.74	755.5	30.30	769.5	54.5	12.5	76	NE	.....	.....	1	.....	8u	.....	N	0	0	Very cloudy	Collignon, Director.
Amiens, Normal School	30.10	764.4	30.21	767.3	51.8	11	86	NNW	.....	.....	1	.....	8	.....	SE	0	0	Very cloudy	Vaillant, Director.
Arras, Engin'r School	29.96	761.0	30.22	767.6	48.6	9.2	80	.....	.....	.....	3	.....	n	.....	NE	0.045	1.1	.....	Klein, Commandant.
Avignon, Normal School	30.02	762.6	30.10	764.6	51.8	11	56	NNW	.....	.....	4	.....	2	.....	NNW	0	0	Light clouds	Giraud, Director.
Bar-sur-Seine	29.60	751.7	30.16	766.0	50.0	10.0	85	NE	.....	.....	2	.....	8kn	.....	NE	0.185	4.7	Very cloudy	C. Saillard, Director
Beauvais, Normal School	29.97	761.2	30.24	768.0	52.2	11.2	73	NNW	.....	.....	1	.....	8	.....	N	0.020	0.50	Very cloudy	Frère Eugene Marie
Besançon, Normal School	29.29	743.9	30.22	767.6	37.0	3.1	92	S	.....	.....	1	.....	10	.....	S	0.492	12.5	Covered	A. Carré, Director.
Bourg-en-Bresse, N. School	29.35	745.4	30.30	769.6	37.0	2.8	97	S	.....	.....	1	.....	10n	.....	.....	0.31	8.	Raining	Marlot, Diretor.
Bourges, Normal School	29.68	753.9	30.25	768.3	44.8	7.1	100	W	.....	.....	3	.....	10n	.....	W	0.228	5.8	Rain & fog	M. Gence, Director.
Brest, Naval Observatory	30.16	766.0	30.40	772.2	52.5	11.4	90	NW	.....	.....	2	.....	10	.....	NW	.....	.....	Light rain	Ch. de Rermaree, Dir.
Caen, Normal School	30.30	769.5	.....	.....	53.8	12.1	87	NW	.....	.....	1	.....	5	.....	W	0.04	1.	Cloudy	M. Bietrin, Director.
Carcassonne, N. School	29.93	760.1	30.31	769.9	45.0	7.2	66	W	.....	.....	3	.....	10	W	W	6	0	Covered	September, Director.
Châlons-sur-Marne, N. Sch'l	29.85	758.1	30.17	766.3	49.6	9.8	86	NW	.....	.....	1	.....	8	NE	NE	.....	.....	Very cloudy	Jadot, Director.
Chartres, Normal School	29.62	752.3	30.19	766.7	52.3	11.3	78	NNW	.....	.....	2	.....	9	S	SSW	0.138	3.5	.....	Vergier, Director.
Clermont-Fd, Puy de D. Obs	28.82	732.1	30.22	767.6	43.5	6.4	82	N	.....	.....	1	.....	10	.....	NW	0.079	2.0	.....	Alluard, Director.
Commercy, Normal School	29.22	742.3	30.10	764.4	48.7	9.3	86	NW	.....	.....	1	.....	10ku	NW	NW	0.150	3.8	Covered	Dr. Coullet, Director.
Commune de Gréasque*	28.80	733.8	30.03	762.8	48.4	9.1	50	NW	.....	.....	3	.....	5	.....	NW	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.47	748.5	30.27	768.8	40.3	4.6	80	ENE	.....	.....	1	.....	10n	.....	.....	0	0	Covered	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.13	765.4	30.35	770.9	51.1	10.6	86	WNW	.....	.....	1	.....	10	.....	.....	0	0	Covered	Mouillot, Director.
Le Mans, Normal School	29.98	761.4	30.30	769.7	33.8	1	96	NW	.....	.....	1	.....	8	.....	N	0	0	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.30	744.3	30.26	768.6	37.9	3.3	71	SE	.....	.....	1	.....	10	.....	.....	0.08	2.	Raining	A. Baudry, Director
Lorient, Naval Observatory	30.28	769.0	30.39	771.8	52.9	11.6	95	N	.....	.....	1	.....	10	.....	.....	0	0	Covered	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.58	751.2	30.22	767.6	38.1	3.4	100	NNE	.....	.....	1	.....	.....	.....	.....	0.012	0.3	.....	Ch. André, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	29.76	756.0	30.04	762.9	53.4	11.9	43	NW	.....	.....	3–4	.....	8	.....	NW	0	0	.....	E. Stephan, Director.
Mirecourt, Normal School	29.04	737.6	30.11	764.9	42.3	5.7	81	S	.....	.....	1	.....	kn	S	S	0.47	12.	.....	Barbier, Director.
Mont-Louis	25.02	635.5	30.34	770.5	43.2	6.2	59	W	24.2	10.8	.....	.....	6	.....	WNW	0	0	.....	M. Cave.
Nice	29.94	760.5	29.97	761.3	53.6	12.0	72	ENE	.....	.....	1	.....	2	NW	E	0	0	Slightly cld'y	M. Boissière, Director.
Nismes, Normal School	29.93	760.2	30.13	765.4	55.8	13.2	64	N	.....	.....	1	.....	5	.....	SW	0	0	Cloudy	M. Boyer, Director.
Paris, Montsouris Obs'y	29.94	760.5	.....	.....	52.0	11.1	73	NNW	.....	.....	3	.....	10	.....	N	0.031	0.8	.....	Marié Davy, Director.
Perpignan	30.05	763.2	30.15	765.8	55.8	13.2	48	NW	35.3	15.8	.....	.....	7	NW	NW	0	0	.....	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.70	576.6	.....	.....	39.6	4.2	.....	N	.....	.....	2	.....	1	.....	N	0	0	Clear	Gen'l de Nansouty.
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Privas, Normal School	29.13	740.0	30.25	768.2	36.5	2.5	73	N	.....	.....	1	.....	n	N	N	0	0	.....	M. Tallieu
Puy de Dome (Summit) Obs	25.22	640.6	.....	.....	30.2	—1.0	96	NW	.....	.....	4	.....	.....	.....	.....	0.181	4.6	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	30.35	771.0	30.39	771.8	50.0	10.0	93	SSE	.....	.....	1	.....	10	SSE	SSE	0	0	Covered	Lt E. Decante, Director
Rouen, Normal School	30.17	766.2	30.25	768.4	53.6	12.0	71	NW	.....	.....	1	.....	2	.....	N	0.098	2.5	Slightly cld'y	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.30	769.6	30.33	770.4	54.0	12.2	92	NW	.....	.....	3	.....	10	NW	NW	0	0	Misty	Lt. Hercouet, Director.
Saint Maur (near Paris)	30.06	763.4	30.22	767.6	52.2	11.2	78	NNW	.....	.....	2	.....	.....	.....	N	0.024	0.6	.....	E. Renou, Director.
Tarbes, Normal School	29.31	744.4	30.39	771.9	34.7	1.5	74	W	.....	.....	4	.....	2	SW	SSW	0	0	Slightly cl'dy	T. Huguet, Director.
Toulouse, Observatory	29.65	753.1	30.38	771.7	45.0	7.2	68	NW	.....	.....	1	.....	10	.....	.....	0.028	0.7	Covered	M. Juher Mercadier.
Tours	30.06	763.5	30.26	768.5	50.9	10.5	90	NW	.....	.....	1	.....	8	.....	N	0.016	0.4	Al. covered	Cousin-Marquet.
Versailles, Observatory	29.73	755.2	30.23	767.7	51.4	10.8	75	NW	.....	.....	1	.....	10	.....	.....	0.030	0.76	Covered	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.50	749.4	30.25	768.4	39.6	4.2	80	SE	.....	.....	1	.....	5	.....	SE	0.098	2.5	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.85	758.3	29.88	759.0	79.2	26.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.17	55.	.....	L'Abbé Marchési
Zi-Ka-Wei (near Shanghai)	30.03	762.7	30.05	763.3	59.4	15.2	90	E	13.4	6.0	.....	.....	10n	.....	.....	0.063	1.6	Raining	Marc Dechevrens.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in gene al terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centrigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.10	739.2	29.94	760.5	34.7	1.5	96	W			2		8ks	W		0.354	9.0	Rain & fog	Prof. Dr. Hoh.
Berlin	29.91	759.8	30.10	764.4	33.1	0.6	72	NE			2		10			0	0		Prof. Dr. Arndt.
Breslau	29.47	748.4	30.00	761.9	26.8	— 2.9	74	NW			3		7					Snowing	Royal University Obs'y
Carlsruhe	29.60	751.7	30.03	762.8	41.5	5.3	95	SW			2		10	SW		0.843	21.4	Raining	Albert Senz.
Cassel	29.38	746.2	29.97	761.2	41.4	5.2	90	NE			4		10	N		0.129	3.28		Dr. H. Möhl.
Emden			30.05	763.2	45.5	7.5	100	N			4		10			0	0		Prof. Dr. Prestel.
Frankfort on the Main	29.63	752.7	30.01	762.2	51.1	10.6	78	NW			1		10			0.256	6.5		Physical Society.
Friedrichshafen	28.63	727.3	30.12	765.1	37.4	3.0	93	W			5		10	W		0.681	17.3		Chief Telegrapher Wilhelm.
Hamburg	30.06	763.5	30.13	765.4	35.2	1.8	90	ENE			3		10			0.469	11.9	Foggy	Captain F. Hegemann.
Kiel	30.15	765.7	30.16	766.1	38.8	3.8	76	E			1		8			0.465	11.81	Snowing	Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.94	760.5	30.03	762.7	30.6	— 0.8	86	NE			5		10			0	0		Prof. E. Luther.
Köslin			30.12	765.1	37.2	2.9		NW			4		0			0	0		H. Müller.
Leipsic Observatory	29.63	752.5	30.07	763.6	34.2	1.2	83	NE			1		7			0.197	5.0		Prof. Dr. Bruhns, Privy Counselor
Magdeburg	29.91	759.8	30.14	765.6	36.0	2.2	82	WNW			2		7cs	N		0.071	1.8		Dr. Assmann.
Memel	30.05	763.2	30.10	764.4	33.1	0.6	78	NNE			4.5		6ks						Reinbrecht & Issermann
Munich (München)	28.12	714.1	29.97	761.3	35.8	2.1	89	SW			5		10	SW		0.307	7.8		Dr. C. Lang.
Neufahrwasser	30.04	763.0	30.06	763.4	40.5	4.7	64	NNE			6		10			0.008	0.2		A. Lothes.
Neustadt (Palatinate)	29.48	748.8	30.01	762.2	49.6	9.8	69	WNW			6		10	W		0.181	4.6	Raining	Reallehrer Dicknether
Posen	29.71	754.6	30.01	762.3	35.4	1.9	88	NW			2		10			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	29.54	750.4	30.11	764.9	37.9	3.3	97	S			3		10	S		0.476	12.09	Raining	Imp. University Observatory.
Stuttgart	29.02	737.2	29.98	761.5	44.2	6.8	74	W					10			0.362	9.2	Raining	Prof. Dr. Schoder.
Weissenburg (Bavaria)	28.46	722.9	30.02	762.5	35.8	2.1	94	WNW	5	2			10		W	0.283	7.2	Rain & fog	Reallehrer J. Hopfner
Wustrow	30.18	766.5	30.20	767.1	34.0	1.1	79	ESE			2		4s			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.45	747.9	29.85	758.1	45.1	7.3		NE			1.5		10					Raining	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.97	761.1	30.02	762.4	77.8	25.4	54	SW	16	7.2			0			0	0	Blue sky	
Deesa	29.56	750.8	30.04	763.0	76.1	24.5	22	NNE	9.2	4.1			0			0	0	Blue sky	
Bombay	29.89	759.3	29.93	760.3	77.3	25.2	66	NNW	17	7.6			0			0	0	Blue sky	
Poona (Yerrowda)	28.06	712.8	29.93	760.3	76.0	24.4	23	ENE	10	4.5			4	S		0	0	D. clouds	
Belgaum	27.36	695.1	29.95	760.8	67.0	19.4	54	N	4	1.8			10	SW		0	0	D. clouds	
Lahore	29.29	743.9	30.06	763.3	67.7	19.8	34	Calm	0.5	0.2			0			0	0	Blue sky	
Roorkee	29.09	738.8	30.02	762.6	63.8	17.7	53	W	1.3	0.6						0	0		
Agra	29.44	747.7	30.02	762.4	70.7	21.5	45	NW	2.8	1.2						0	0		
Nagpur	28.89	732.8	29.95	760.7	74.5	23.6	52	NNE	4	1.8			3	W		0	0	D. clouds	
Jubbulpore	28.59	726.2	29.98	761.5	72.6	22.6	45	N	1.7	0.8			3			0	0	D. clouds	
Lucknow	29.63	752.6	30.02	762.5	71.2	21.8	53	Calm	0.1	0.05						0	0	Blue sky	
Allahabad																			
Patna	28.81	757.2	30.00	761.9	78.5	25.8	38	WSW	0.4	0.2			2	WSW	WSW	0	0		
Hazaribagh	28.00	711.3	30.08	763.9	66.6	19.2	61	NW	3.6	1.6			0			0	0	Blue sky	
Cuttack	29.88	758.9	29.96	761.0	76.0	24.4	75	NE	2	0.9			0			0	0	Blue sky	
Calcutta (Alipore)	29.93	760.2	29.95	760.7	74.0	23.3	81	WNW	1.0	0.4			0			0	0	Blue sky	
Goalpara	29.55	750.5	29.94	760.5	76.7	24.8	65	ENE	0.3	2.8			0			0	0	Blue sky	
Chittagong	29.84	758.0	29.93	760.3	81.1	27.3	81	WNW	1.1	0.5			0			0	0	Blue sky	
Sibsagar	29.65	753.1	30.00	761.9	71.0	21.7	85	E	1.1	0.5			0			0	0		
																		Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	29.58	751.2	30.00	762.0	44.1	6.7	53	Calm	0	0	.....	.....	7	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.50	749.2	30.03	762.8	41.2	5.1	66	WSW	.....	.....	2	.....	5	SW	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.90	759.5	30.02	762.4	39.9	4.4	48	NW	1.3	0.6	.....	.....	0	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.07	738.4	30.00	762.1	42.3	5.7	46	SE	2.5	1.1	.....	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.82	757.4	30.02	762.4	50.4	10.2	73	E	11.2	5.0	.....	.....	10	S	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.04	712.1	30.00	761.9	39.6	4.2	37	NE	.....	.....	2	.....	1	NW	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.96	761.0	30.01	762.2	46.0	7.8	42	SW	10.5	4.7	.....	.....	10	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.83	757.6	30.10	764.4	38.3	3.5	61	NW	.....	.....	2	.....	10	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.88	759.0	29.97	761.2	49.8	9.9	65	SW	6.3	2.8	.....	.....	10	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.96	761.0	30.14	765.6	44.8	7.1	52	ENE	4.9	2.2	.....	.....	10	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce																		.....	Prof. C. De Giorgi.
Cosenza	29.19	741.3	30.09	764.2	46.4	8.0	70	NW	4.9	2.2	.....	.....	0	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.87	758.8	30.07	763.8	55.8	13.2	65	SE	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.87	758.7	30.13	765.2	52.3	11.3	40	WNW	4.9	2.2	.....	.....	7	NW	.....	0.051	1.3	.....	Prof. G. Ciacciatore.
Syracuse	30.04	762.9	30.11	764.8	54.0	12.2	52	NE	7.4	3.3	.....	.....	6	WSW	.....	0.059	1.5	.....	Prof. V.G. Guliano.
SUB-SERIES.																		.....	
Naples, S. R.	29.58	751.4	30.18	765.2	45.5	7.5	57	NE	1.3	0.6	.....	.....	5	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.15	765.8	30.17	766.3	51.4	10.8	74	NE	5.4	2.4	.....	.....	1s	.....	.....	0	0	Dull?.	K. Sasaki.
Nagasaki, I. M. Obs'y	29.96	761.0	30.17	766.3	53.6	12.0	80	NE	2.0	0.9	.....	.....	10s	.....	.....	0	0	.....	S. Takehayashi.
Tokei, (Yeddo) Observatory	30.04	763.0	30.11	764.8	48.0	8.9	90	E	4.9	2.2	.....	0	0	.....	.....	0	0	Clear.	The Staff.
Wakayama	30.11	764.8	30.16	766.0	51.9	11.1	75	NW	5.2	2.3	.....	.....	0	.....	.....	0	0	Clear.	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima																			R. Banda, C. E.
Guadalajara	25.10	637.6	30.17	766.2	54.0	12.2	67	Calm	.....	.....	0	.....	6	.....	.....	0	0	⅛ cloudy.....	Prof. L. Perez.
Leon	24.51	622.6	30.19	766.8	61.2	16.2	83	E	.....	.....	1	1c	4ks	N	.....	Inap.	Inap.	⅛ covered...	Prof. M. Leal.
Mazatlan	29.74	755.4	30.00	762.0	68.5	20.3	83	NW	.....	.....	1	2c	4k	.....	SW	0	0	Fair.....	I. Guerrero, C. E.
Mexico, Central Observatory	23.14	587.8	30.17	766.3	54.0	12.2	78	Calm	0	0	.....	10k	0	.....	.....	0	0	Threatening	The Staff.
Pabellon (Aguascalientes)					60.3	15.7	77	NW	.....	.....	1	1c	8k	Calm	W	0	0	Very cloudy	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.52	597.5	30.34	770.6	50.2	10.1	65	Calm	0	0	.....	1s	0	SE	.....	0	0	Clear.....	Prof. P. Spina.
San Luis Potosi	24.34	618.3	30.42	772.7	52.2	11.2	61	SE	.....	.....	1	.....	10	.....	SE	0	0	Covered.....	G. Barroeta, M. D.
Tlacotalpam	30.06	763.5	30.07	763.8	75.0	23.9	91	N	.....	.....	1	1	1	W	N	0	0	Clear.....	Prof. M. M. Chazaro
Vera-Cruz																		.....	Prof. J. Rossell
Zacatecas	22.59	573.9	30.25	768.3	53.2	11.8	76	NE	.....	.....	3	.....	10n	.....	NE	0	0	Covered	J. C. Castrillon

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,295.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column; the instrumental correction —0.88 mm., or —0.035 inch, has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.19	766.8	30.19	766.8	49.3	9.6	.....	NNW	.....	.....	4	.....	.....	.....	.....	0.047	1.2	.....	
Groningen	30.02	762.6	30.08	764.0	47.5	8.6	.....	N	.....	.....	.....	.....	.....	.....	.....	0.122	3.1	.....	
Helder	30.11	764.8	30.11	764.8	47.8	8.8	.....	NNW	.....	.....	4	.....	.....	.....	.....	0.024	0.6	.....	
Hellevoetsluis	30.14	765.5	30.14	765.5	49.8	9.9	94	NNW	.....	.....	3	.....	.....	.....	.....	0	0	.....	
Utrecht	30.09	764.2	30.13	765.4	48.7	9.3	95	NW	.....	.....	2	.....	5	.....	.....	0.051	1.3	Cloudy.....	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.14	765.5	30.19	766.9	42.4	5.8	97	SSE	7.8	3.5			10			0.016	0.4		
Brönö	29.95	760.7	29.99	761.7	41.0	5.0	63	SSW	18	8			8			0	0		
Christiana	30.11	764.9	30.27	768.8	36.0	2.2	96	SSE	0	0			10			0.272	6.9	Light fog	
Tromsö	29.68	753.9	29.72	755.0	38.8	3.8	70	SW	18	8			10			0.142	3.6		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	29.63	752.5	29.82	757.3	66.0	18.9	81	E	7.4	3.3			3			0.079	2.0		Dr. J. A. Sampaio.
Campo Major	29.24	742.6	30.27	768.8	59.7	15.4	44	E	3.8	1.7			3			0	0		Dr. A. M. R. dos Santos.
Funchal (Maderia)	29.87	758.8	29.96	761.0	72.3	22.4	75	ESE	1.8	0.8			5			0	0		Capt. D. A. de Cunha.
Lisbon Observatory	29.87	758.8	30.24	768.0	58.5	14.7	59	ENE	6.3	2.8			3	SSW		0	0		The Staff.
Ponta Delgada (Azores)	29.74	755.3	29.81	757.1	67.3	19.6	72	ESE	13.0	5.8			4			0.087	2.2		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.	Sea or swell. Height scale 0-9	Sea or swell. Direction form—		
Bartholomew Dias				A. G. da Silva Costa, Com'd't.
D. Fernando				A. M. de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.				J. C. M. Cabrate, 1st Lt.
Mindello				J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos				H. de C. C. e Athayde.
Rio Duro				J. T. d'Oliveria, Com'd't
Rio Lima. Capt. S. C. da Silva Costa, Porto Praya, Cape Verd I'ds.				
Sá da Bandeira			D. clouds	A. D. de Fonseca Sarurento
Sado, Capt. J. A de Brito Capello, St. Paul de Loando				Louiz Apra, Q. Ma.
Tejo, Capt. J. M. T. Guimaraes, Macao, China			D. clouds, 3½ hr's rain-fall.	H. Mecudonço, 2nd Lieut.
	1	NNE	Blue sky	J. G. Felgo, 2nd Lieut.

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between upper and lower clouds, and no humidity is given; duration of rain-fall in hours. The Sá da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	30.21	767.2	30.23	767.7	29.8	— 1.2	92	SSW	18	8			10						Capt. Sseliwerstow.
Astrakhan	30.49	774.4	30.41	772.3	45.7	7.6	51	ESE	18	8			2s						Capt. Wisganow.
Barnaul	30.24	768.1	30.80	782.4	4.5	—15.3	85	SW	0	0			3						Meteorological Obs.
Dorpat	30.02	762.6	30.28	769.1	29.8	— 1.2	84	NNE	11	5			10kn					Light clouds	Prof. Dr. Weihrauch.
Ekaterinburg	29.71	754.7	30.74	780.9	28.9	— 1.7	70	Calm	0	0			0						Meteorological Obs.
Irkutsk																			
Kasan	30.36	771.1	30.65	778.5	27.0	— 2.8	67	SSE	4	2			4						Physical Cabinet.
Kertch																			Lagorio.
Kieff	29.33	745.0	30.00	761.9	33.1	0.6	80	SE	9	4		c;ck	0ks						Physical Cabinet.
Krotkowo*	30.19	766.8	30.70	779.8	28.0	— 2.2	60	W	0	0			10						Cand. Fatjanow.
Lugan	29.91	759.6	30.11	764.8	48.7	9.3	87	ESE	13	6			10						Meteorological Obs
Moscow	29.71	754.7	30.29	769.4	33.1	0.6	100	S	4	2			10s						Meteorological Obs.
Nertchinsk	27.78	705.5	30.34	770.7	— 4.2	—20.1	71	Calm	0	0			0						Meteorological Obs.
Nikolaiev	30.01	762.2	30.08	764.0	44.2	6.8	66	SSW	13	6			10cs						Kurdakof.
Nukuss	30.44	773.3	30.69	779.4	39.9	4.4	48	ENE	9	4			0						
Orenberg																			
Pekin (China)	30.04	763.0	30.18	766.6	41.9	5.5	83	NE	4	2			9n						
St. Petersburg	30.35	770.8	30.36	771.2	25.7	— 3.5	89	ENE	9	4			4ks;s						Physical Observatory.
Tashkend	29.00	736.5	30.66	778.8	35.6	2	93						10						Central Physical Obs.
Tiflis	28.90	734.1	30.33	770.3	57.4	14.1	67	Calm	0	0			6k						Teich, A. M.
Vladivostock																			Physical Observatory.
Warsaw	29.40	746.8	29.84	758.0	29.5	— 1.4	96	N	13	6			10n					Snowing	
Wilna	29.61	752.1	30.05	763.2	35.1	1.7	84	NE	4	2			10					Heavy clouds	Astronomical Obs.
Yenisiesk	30.17	766.2	30.49	774.4	4.6	—15.2	82	ESE	2	1			10					Snowing	Astronomical Obs.
																			Marks.

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	30.04	762.9	30.14	765.6	54.9	12.7	51	SW	0.7	0.33			5			0	0	½ Covered	Antonio Rave, Director
Bilbao, Met. Obs'y	30.32	770.0	30.37	771.4	56.8	13.8	50	W	1.7	0.78		0	0			0	0	Clear	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.34	694.4			56.3	13.5	19	NE	5.6	2.50		0	0			0	0	Clear	Domingo Martin y Perez.
Madrid, Royal Observatory	28.00	711.2	30.24	768.0	59.5	15.3	44	NE	2.2	1.00		0	0			0	0	Clear	The Staff.
Murcia, Met. Obs'y	30.08	764.1	30.23	767.9	62.2	16.8	55	WSW	1.5	0.69		0	0			0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.34	745.1	30.22	767.6	66.2	19.0	44	NE	5.6	2.5			0			0	0	Clear	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I	29.90	759.4	29.96	761.1	77.8	25.4	83	NE	4.0	1.8		0	4k;ks		NE	Inap.	Inap.	Fair	Benito Vines, S. J.
Manilla, Phillippine Islands	29.79	756.6	29.84	757.9	81.5	27.5	82	NE	0	0			1s		E	0	0	Fine	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.11	764.8	30.21	767.3	66.6	19.2	57	ESE	17.6	7.9		0	2		SE	0	0		Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I	29.83	757.6	29.92	759.9	75.9	24.4	90	E	9.3	4.16		9kn	9kn	E	E	1.181	30.00	Raining	Enrique Gadea, Chief Eng'r

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.08	763.9	30.11	764.9	32.7	0.4	.....	S	.....	.....	2	.....	10	.....	.....	0	0	.....	
Umea	30 17	766.2	30.22	767.5	33.4	0.8	89	S	.....	.....	2	.....	10	.....	.....	0	0	.....	
Hernosand	30.15	765.8	30.20	767.1	36.0	2.2	75	SSW	.....	.....	2	.....	5	.....	.....	0.012	0.3	.....	
Stockholm	30.16	766.1	30.34	770.6	34.5	1.4	78	WNW	.....	.....	2	.....	5	.....	.....	0	0	.....	
Wisby	30.12	765.1	30.18	766.6	36.7	2.6	75	ENE	.....	.....	4	.....	0	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	30.22	767.5	30.30	769.7	33.4	0.8	87	SSE	3.4	1.5	.....	.....	0	.....	.....	0.002	0.04	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director o the Observatory at Geneva.

Geneva	28.74	729.9	30.21	767.3	38.8	3.8	86	NNE	.....	.....	2	.....	10	.....	.....	0.055	1.4	Covered.	The Observatory.
Zurich	28.47	723.1	30.17	766.4	35.1	1.7	93	SW	.....	.....	1	.....	10	.....	.....	0.748	19.0	Covered.	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, +3.4 mm.; Thermometer, —2.6 Cent.; Relative Humidity, +9 per cent.
NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.96	761.0	51.4	10.8	70	ENE	8	3.5	.....	.....	10	.....	NE	0.299	7.6	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.00	761.9	43.5	6.4	.....	N	.....	.....	2	.....	2	.....	.....	0.31	8.	Slightly cld'y	A. Bertrand.
Sub-series.																			
Beirut, (Syria) Lee Obs'y	29.82	757.4	29.93	760.2	70.9	21.6	61	NE	.....	.....	1	3c	.....	.....	.....	0	0	D. clouds. ...	Prof. C. V. A. van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	30.18	766.6	30.24	768.1	25.7	— 3.5	88	SW	4	1.8	.....	10k	0	SW	.....	0	0	Cloudy.....	G. A. Blair.
Charlottetown, P. E. Island	30.16	766.1	30.20	767.1	29.4	— 1.4	84	N	5	2.2	.....	c	6s	W	.....	0.01	0.3	Fair.....	H. J. Cundall, C. E.
Cornwall, Ontario	30.00	762.0	30.20	767.1	26.4	— 3.1	91	NE	.....	.....	1	.....	10n	.....	.....	Inap.	Inap.	Cloudy.....	James Smith, M. A.
Dalhousie, N. B	30.05	763.3	30.23	767.8	25	— 3.9	.....	W	.....	.....	2	0	5ks	.....	.....	0	0	Fair.....	H. A. Johnson.
Father Point, Quebec	30.22	767.6	30.24	768.1	29.7	— 1.3	78	N	9	4.0	.....	5k	5n	.....	.....	0	0	Cloudy.....	J. McWilliams.
Fredericton, N. B	30.24	768.1	30.30	769.6	25.8	— 3.4	78	NW	3	1.3	.....	10cs	0	.....	.....	0.05	1.3	Overcast.....	Prof. Harrison.
Fort Garry, Manitoba	29.53	750.0	30.44	773.2	11.4	—11.4	92	W	8	3.6	.....	.....	10n	.....	.....	0	0	Cloudy.....	James Stewart.
Granton, Ontario	29.07	738.4	30.24	768.1	26.2	— 3.2	.....	N	.....	.....	2	.....	10n	.....	.....	0	0	Cloudy.....	James Grant.
Halifax, N. S	30.12	765.0	30.26	768.6	30.1	— 1.1	70	N	4	1.8	.....	7c;cs	0	NW	.....	Inap.	Inap.	Cloudy.....	A. Allison, M. A.
Hamilton, Ontario	29.85	758.2	30.24	768.1	29.1	— 1.6	84	NW	.....	.....	2	.....	10cs	.....	NW	0.30	7.6	Cloudy.....	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.81	757.2	30.16	766.1	27.1	— 2.7	94	N	13	5.8	.....	.....	10n	.....	.....	0.05	1.3	Light snow.	S. Woods, M. A.
Little Glace Bay, N. S	30.05	763.3	30.09	764.3	32.2	0.1	93	N	7	3.1	.....	9k	0	N	.....	0	0	Cloudy.....	C. H. Rigby.
Montreal, Quebec	30.02	762.5	30.23	767.8	28.3	— 2.1	88	NE	15	6.7	.....	4k	6s	NE	.....	0	0	Cloudy.....	C. H. McLeod, C. E.
Moose Factory, Ontario	30.35	770.9	30.39	771.9	17.5	— 8.1	95	W	.....	.....	2	.....	10n	.....	.....	0	0	Cloudy.....	J. R. Nason.
Norwood	29.60	751.8	30.24	768.1	26.0	— 3.3	81	N	.....	.....	3	.....	10ks	.....	.....	0	0	Gloomy.....	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	Rev. R. Mosley.
Peterboro, Ontario	29.44	747.8	30.23	767.8	26.3	— 3.2	87	N	.....	.....	5	.....	10n	.....	.....	0	0	Overcast.....	J. F. Jeffers, B. A.
Port Dover, Ontario	29.45	748.0	30.18	766.6	26.0	— 3.3	100	N	18	8.0	.....	.....	10n	.....	W	0.21	5.3	Threatening	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.52	749.8	30.20	767.1	29.2	— 1.6	88	N	8	3.6	.....	.....	10n	.....	N	0.10	2.5	Cloudy.....	M. Payne.
Quebec, Quebec	29.96	761.0	30.31	769.9	25	— 3.9	75	N	.....	.....	1	0	4s	.....	.....	0	0	Fair.....	Capt. Ashe, R. N.
Rockliffe, Ontario	29.78	755.1	30.22	767.6	24.1	— 4.4	80	SE	2	0.9	.....	.....	10s	.....	SW	0	0	Cloudy.....	W. H. McIntyre.
St. Andrews, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Gove.
St. John, N. B	30.11	764.8	30.28	769.1	28	— 2.2	77	NE	5	2.2	.....	.....	10s	.....	.....	0.21	5.3	Overcast.....	G. Murdock, C. E.
Saugeen, Ontario	29.55	750.6	30.30	769.6	29.2	— 1.6	76	NE	16	7.2	.....	.....	10ks	.....	.....	0	0	Overcast.....	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.88	733.5	30.24	768.1	25.5	— 3.6	85	NE	10	4.5	.....	.....	10s	.....	.....	0	0	Cloudy.....	C. J. MacGregor, M. A.
Sydney, C. B	30.12	765.0	30.16	766.1	34.6	1.4	72	W	5	2.2	.....	6ks	7ks	.....	.....	Inap.	Inap	Cloudy.....	T. C. Hill, C. E.
Toronto, Ontario	29.83	757.7	30.24	768.1	27.5	— 2.5	79	N	13	5.8	.....	.....	10n	.....	.....	0.20	5.1	Light snow.	Magnetic Observatory.
Windsor, N. S	30.14	765.5	30.23	767.8	29.0	— 1.7	83	W	1	0.4	.....	6cs	0	.....	.....	0	0	Fair.....	Prof. John E. Oram.
Woodstock, Ontario	29.09	738.9	30.22	767.6	26.5	— 3.1	84	NW	18	8.0	.....	.....	10s	.....	.....	0	0	Overcast.....	Prof. J. Montgomery.
Yarmouth, N. S	30.15	765.8	30.21	767.3	32.5	0.3	87	NE	.....	.....	2	10k	0	N	.....	0	0	Cloudy.....	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.77	756.1	30.03	762.7	35.0	1.7	70	N	.....	.....	.....	5k	5s	.....	.....	Inap.	Inap.	Fair.....	John Delany.
St. Pierre, N. F	.....	.....	29.93	760.3	34.9	1.6	.....	NE	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	l'Hopital Maritime.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10, except Yarmouth and St. Johns on scale 0 to 20. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.**

UNITED STATES SERIES.

Furnished by the co-operation of BVT. BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0–10.	CLOUDS. Amount. Up'er 0–10.	CLOUDS. Amount. Lo'er 0–10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.87	758.7	30.10	764.5	34	1.1	95	N	8	3.6	.....	.....	10n	.....	Calm	0.36	9.1	Light snow.	
Alpena, Michigan	29.67	753.6	30.36	771.1	28	— 2.2	88	N	6	2.7	.....	.....	10s	.....	N	0.10	2.5	Cloudy	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	28.83	732.3	29.96	761.0	57	13.9	96	NW	17	7.6	.....	.....	10n	.....	Calm	1.38	35.1	Light rain	
Atlantic City, New Jersey	29.82	757.4	29.83	757.7	53	11.7	100	E	14	6.3	.....	.....	10n	.....	E	1.04	26.4	Light rain	
Augusta, Georgia	29.79	756.7	29.99	761.7	60	15.6	82	Calm	0	0	.....	.....	10s;fog	.....	Calm	0.60	15.2	Cloudy	
Baltimore, Maryland	29.82	757.4	29.87	758.7	49	9.4	85	NE	5	2.2	.....	.....	10s	.....	Calm	0.61	15.5	Cloudy	
Barnegat, New Jersey	29.84	757.9	29.86	758.4	51	10.6	100	E	22	9.8	.....	.....	10n	.....	E	0.65	16.5	Light rain	
Bismarck, Dakota	28.54	724.9	30.40	772.1	23	— 5.0	86	SE	6	2.7	.....	2c	0	NW	.....	0	0	Clear.	
Boerne, Texas	29.04	737.6	30.45	773.4	38	3.3	72	N	16	7.2	.....	0	0	.....	.....	0	0	Clear.	
Boise City, Idaho	27.78	705.6	30.74	780.8	25	— 3.9	81	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Boston, Massachusetts	29.96	761.0	30.12	765.0	42	5.6	91	NE	10	4.5	.....	.....	10n	.....	SE	0.03	0.8	Light rain	
Brackettville, Texas	29.39	746.5	30.52	775.2	42	5.6	58	N	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Breckenridge, Minnesota	29.47	748.5	30.57	776.5	18	— 7.8	100	W	6	2.7	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Brownsville, Texas	30.35	770.9	30.40	772.1	55	12.8	56	N	16	7.2	.....	.....	10s	.....	N	0.02	0.5	Cloudy	
Buffalo, New York	29.40	746.7	30.13	765.3	30.5	— 0.8	95	N	13	5.8	.....	.....	10n	.....	N	0.15	3.8	Light snow.	
Burkes, Arizona	.....	.....	.....	.....	56	13.3	29	NE	.....	.....	4	0	0	.....	.....	0	0	Clear.	
Burlington, Vermont	29.89	759.2	30.19	766.8	29	— 1.7	89	N	10	4.5	.....	.....	10n	.....	N	0.22	5.6	Light snow.	
Cairo, Illinois	29.98	761.5	30.39	771.9	42	5.6	74	N	20	8.9	.....	.....	10s	.....	N	0.29	7.4	Cloudy	
Campo, California	27.64	702.0	30.21	767.3	47	8.3	34	E	21	9.4	.....	0	0	.....	.....	0	0	Clear.	
Cape Hatteras, N. Carolina	29.85	758.2	29.86	758.4	69	20.6	95	W	24	10.7	.....	.....	10s	.....	NW	0.63	16.0	Cloudy	
Cape Henry, Virginia	29.84	757.9	29.86	758.4	60	15.6	100	SW	5	2.2	.....	.....	10n	.....	SW	0.35	8.9	Light rain	
Cape Lookout, N. Carolina	29.92	760.0	29.94	760.5	65	18.3	100	W	14	6.3	.....	.....	Fog	.....	W	0	0	Dense fog	
Cape May, New Jersey	29.81	757.2	29.84	757.9	62	16.7	77	S	1	0.4	.....	.....	10n	.....	Calm	0.23	5.8	Light rain	
Castroville, Texas	29.71	754.6	30.47	773.9	42	5.6	66	NW	16	7.2	.....	2ck	0	NW	.....	0	0	Fair.	
Cedar Keys, Florida	30.02	762.5	30.04	763.0	72	22.2	80	S	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Charleston, South Carolina	29.95	760.7	30.00	762.0	68	20.0	84	SW	4	1.8	.....	0	8ks	.....	SW	Inap.	Inap.	Cloudy	
Charlotte, North Carolina	29.08	738.6	29.89	759.2	53	11.7	94	W	4	1.8	.....	.....	Fog	.....	Calm	0	0	Foggy	
Chattanooga, Tennessee	29.32	744.7	30.14	765.5	43	6.1	83	NW	12	5.4	.....	.....	10s	.....	W	1.26	32.0	Cloudy	
Cheyenne, Wyoming	24.37	619.0	30.31	769.9	18	— 7.8	53	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Chicago, Illinois	29.74	755.4	30.47	773.9	38	3.3	54	NE	8	3.6	.....	.....	10s	.....	Calm	0.20	5.1	Cloudy	
Cincinnati, Ohio	29.56	750.8	30.24	768.1	37	2.8	76	NE	4	1.8	.....	.....	10s	.....	N	0.64	16.3	Cloudy	
Cleveland, Ohio	29.41	747.0	30.16	766.1	36	2.2	90	N	28	12.5	.....	.....	10n	.....	N	0.77	19.6	Light rain	
Coleman City, Texas	28.75	730.2	30.56	776.2	31	— 0.6	79	N	22	9.8	.....	0	0	.....	.....	0	0	Clear.	
Columbus, Ohio	29.29	744.0	30.17	766.3	36	2.2	80	N	13	5.8	.....	.....	10ks	.....	N	0	0	Cloudy	
Concho, Texas	28.68	728.5	30.50	774.7	30	— 1.1	68	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Corsicana, Texas	29.95	760.7	30.44	773.2	42	5.6	83	N	8	3.6	.....	0	0	.....	.....	0.02	0.5	Clear.	
Davenport, Iowa	29.77	756.1	30.44	773.2	36	2.2	80	N	6	2.7	.....	.....	10s	.....	N	0.18	4.6	Cloudy	
Deadwood, Dakota	25.63	652.5	.....	.....	24	— 4.4	61	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Decatur, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Denison, Texas	29.72	754.9	30.57	776.7	34	1.1	79	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear.	
Denver, Colorado	25.20	640.3	30.42	772.7	15	— 9.4	65	S	16	7.2	.....	0	0	.....	.....	0	0	Clear.	
Des Moines, Iowa	29.59	751.6	30.54	775.7	29	— 1.7	67	N	2	0.9	.....	0	5s	.....	N	0.10	2.5	Fair.	
Detroit, Michigan	29.55	750.6	30.25	768.3	32	0.0	89	N	10	4.5	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
Dodge City, Kansas	28.00	711.2	29.53	775.4	20	— 6.7	85	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear.	
Dubuque, Iowa	29.71	754.6	30.46	773.7	33	0.6	79	NW	1	0.4	.....	.....	10s	.....	NW	0.01	0.3	Cloudy	
Duluth, Minnesota	29.75	755.6	30.48	774.2	25	— 3.9	87	NW	12	5.4	.....	.....	10s	.....	WN	0.02	0.5	Cloudy	
Eagle Pass, Texas	29.85	758.2	30.62	777.7	46	7.8	69	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Eastport, Maine	30.18	766.6	30.25	768.3	30	— 1.1	68	NE	9	4.0	.....	.....	10s	.....	.....	0	0	Cloudy	
Edinburg, Texas	.....	.....	.....	.....	64	17.8	48	N	.....	.....	4	.....	10s	.....	N	0	0	Cloudy	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.34	745.2	30.08	764.0	36	2.2	90	NE	24	10.7	.....	.....	10n	.....	NE	0.62	15.7	Light rain	
Escanaba, Michigan	29.72	754.9	30.42	772.7	28	— 2.2	66	NW	3	1.3	.....	.....	10ks	.....	NW	0	0	Cloudy	
Florence, Arizona	28.92	734.6	30.52	775.2	47	8.3	48	E	16	7.2	.....	0	0	.....	.....	0	0	Clear.	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	28.22	716.8	30.19	766.8	20	— 6.7	85	S	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Fort Custer, Montana	27.18	690.4	.....	.....	20	— 6.7	70	W	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Fort Davis, Texas	25.64	651.2	30.60	777.2	27	— 2.8	64	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Fort Gibson, Indian Ter	30.00	762.0	30.58	776.7	33	0.6	79	NW	6	2.7	.....	0	0	.....	.....	0.03	0.8	Clear.	
Fort Grant, Arizona	25.54	648.7	30.34	770.6	38	3.3	31	SE	28	12.5	.....	0	0	.....	.....	0	0	Clear.	
Fort Griffin, Texas	29.34	745.2	30.72	780.3	32	0.0	69	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Fort Keogh, Montana	27.81	706.4	.....	.....	20	— 6.7	60	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Fort McKavett, Texas	28.28	718.3	30.37	771.4	31	— 0.6	79	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear.	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	29.35	745.5	30.56	776.2	31	— 0.6	79	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Fort Stevenson, Dakota	28.51	724.1	.....	.....	23	— 5.0	87	NW	6	2.7	.....	.....	10s	.....	NW	Inap.	Inap.	Cloudy	
Fort Verde, Arizona	.....	.....	.....	.....	34	1.1	61	NW	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.63	727.2	30.28	769.1	40	4.4	39	N	17	7.6	.....	0	0	.....	.....	0	0	Clear.	
Galveston, Texas	30.28	769.1	30.32	770.1	54	12.2	61	N	28	12.5	.....	.....	10ks	.....	N	0.75	19.1	Cloudy	
Graham, Texas	29.51	749.5	30.67	779.0	30	— 1.1	89	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Grand Haven, Michigan	29.69	754.1	30.39	771.9	28	— 2.2	88	E	4	1.8	.....	0	2s	.....	E	0	0	Fair.	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29 64	752.8	30.67	779.0	29	— 1.7	89	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Indianapolis, Indiana	29.47	748.5	30.28	769.1	34	1.1	79	N	5	2.2	.....	0	5s	.....	N	0.48	12.2	Fair.	
Indianola, Texas	30.39	771.9	30.42	772.7	51	10.6	65	N	45	20.1	.....	.....	10s	.....	N	0.06	1.5	Cloudy	
Jacksboro, Texas	29.45	748.0	30.67	779.0	34	1.1	90	N	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Jacksonville, Florida	30.01	762.2	30.04	763.0	68	20.0	84	SE	3	1.3	.....	.....	0	.....	.....	0	0	Clear.	
Keokuk, Iowa	29.76	755.9	30.41	772.4	35	1.7	90	N	9	4.0	.....	.....	10s	.....	Calm	0.50	12.7	Cloudy	
Key West, Florida	29.96	761.0	30.00	762.0	76	24.4	86	NE	12	5.4	.....	1k	0	NE	.....	0	0	Clear.	
Kittyhawk, North Carolina	29.84	757.9	29.86	758.4	64	17.8	94	SE	18	8.0	.....	8cs	0	SE	.....	0.07	1.8	Fair.	
Knoxville, Tennessee	29.10	739.1	30.13	765.3	44	6.7	80	NW	11	4.9	.....	.....	10s	.....	NW	1.87	47.5	Cloudy	
La Crosse, Wisconsin	29.67	753.6	30.46	773.7	30	— 1.1	78	Calm	0	0	.....	5k	0	Calm	.....	0	0	Fair.	
La Mesilla, New Mexico	26.61	675.9	30.76	781.3	25	— 3.9	62	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Laredo, Texas	29.87	758.7	30.22	767.6	53	11.7	67	N	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Leavenworth, Kansas	29.65	753.1	30.56	776.2	30	— 1.1	78	NW	8	3.6	.....	0	0	.....	.....	0.29	7.4	Clear.	
Little Rock, Arkansas	30.07	763.8	30.44	773.2	45	7.2	68	N	12	5.4	.....	.....	10s	.....	N	0.93	23.6	Cloudy	
Los Angeles, California	29.90	759.4	30.24	768.1	53.5	11.9	61	N	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Louisville, Kentucky	29.67	753.6	30.26	768.6	38	3.3	72	N	12	5.4	.....	.....	10s	.....	N	1.08	27.4	Cloudy	
Lynchburg, Virginia	29.19	741.4	29.84	757.9	49	9.4	93	SW	2	0.9	.....	.....	10s	.....	Calm	0.38	9.7	Threatening	
Madison, Wisconsin	29.35	745.5	30.39	771.9	34	1.1	79	NW	6	2.7	.....	.....	10s	.....	NW	0	0	Cloudy	
Marquette, Michigan	29.65	753.1	30.40	772.1	32	0.0	89	N	2	0.9	.....	.....	10s	.....	NW	1.19	30.2	Cloudy	
Mason, Texas	28.90	734.0	30.80	782.3	35	1.7	70	NW	24	10.7	.....	0	0	.....	.....	0	0	Clear.	
Memphis, Tennessee	29.99	761.7	30.35	770.9	43	6.1	75	NW	18	8.0	.....	2cs	5s	N	NW	2.13	54.1	Fair.	
Milwaukee, Wisconsin	29.62	752.3	30.40	772.1	33	0.6	79	NW	9	4.0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Mobile, Alabama	30.07	763.8	30.12	765.0	57	13.9	81	N	18	8.0	.....	.....	10s	.....	N	0.12	3.0	Cloudy	
Montgomery, Alabama	29.88	758 9	30.12	765.0	54	12.2	79	NW	15	6.7	.....	.....	10ks	.....	NW	0.20	5.1	Cloudy	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Morgantown, West Virginia	28.96	735.6	29.96	761.0	46	7.8	69	NW	11	4.9	.....	.....	10s	.....	Calm	0.30	7.6	Cloudy.....	
Mt. Washington, N. H.....	23.70	602.0	30.06	763.5	19	— 7.2	100	SW	6	2.7	.....	.....	10n	.....	SW	0.19	4.8	Light snow.	
Nashville, Tennessee.....	29.70	754.4	30.24	768.1	42	5.6	83	NW	8	3.6	.....	.....	10ks	.....	NW	1.28	32.5	Cloudy.....	
New Haven, Connecticut.....	29.89	759.2	30.01	762.2	41	5.0	82	NE	9	4.0	.....	.....	10n	.....	NE	0.02	0.5	Light rain...	
New London, Connecticut...	29.99	761.7	30.04	763.0	45	7.2	84	E	12	5.4	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy.....	
New Orleans, Louisiana.....	30.11	764.8	30.17	766.3	60	15.6	94	NW	21	9.4	.....	.....	10s	.....	N	0.15	3.8	Cloudy.....	
Newport, Rhode Island.....	30.02	762.5	30.07	763.8	46	7.8	92	NE	7	3.1	.....	.....	10n	.....	Calm	0.01	0.3	Light rain...	
New York, New York.....	29.78	756.4	29.96	761.0	44	6.7	84	E	15	6.7	.....	.....	10n	.....	Calm	0.37	9.4	Light rain...	
Norfolk, Virginia.....	29.81	757.2	29.87	758.7	61	16.1	94	NW	5	2.2	.....	.....	10n	.....	Calm	0.03	0.8	Light rain...	
North Platte, Nebraska.....	27.58	700.5	29.45	748.0	12	—11.1	80	NW	9	4.0	.....	0	0	.....	.....	0	0	Clear.	
Olympia, Washington Ter...	30.30	769.6	30.34	770.6	30.0	— 1.1	94	W	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Omaha, Nebraska.....	29.37	746.0	30.56	776.2	25	— 3.9	75	NW	9	4.0	.....	0	2s	.....	Calm	0	0	Clear.	
Oswego, New York.....	29.74	755.4	30.07	763.8	33	0.6	91	NE	13	5.8	.....	.....	10n	.....	Calm	0.22	5.6	Light snow.	
Pembina, Dakota.....	29.52	749.8	30.42	772.7	11	—11.7	100	W	4	1.8	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy.....	
Pensacola, Florida.....	30.04	763.0	30.06	763.5	62	16.7	94	N	10	4.5	.....	.....	10s	.....	N	0.42	10.7	Cloudy.....	
Philadelphia, Pennsylvania	29.81	757.2	29.86	758.4	48	8.9	100	NE	16	7.2	.....	.....	10n	.....	Calm	0.31	7.9	Light rain...	
Phœnix, Arizona.....	29.21	741.9	31.06	788.9	51	10.6	28	E	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Pike's Peak, Colorado.....	17.83	452.9	30.04	763.0	0	—17.8	70	NE	24	10.7	.....	0	0	.....	.....	0	0	Clear.	
Pilot Point, Texas.....	29.81	757.2	30.70	779.8	35	1.7	70	N	12	5.4	.....	0	0	.....	.....	0	0	Clear.	
Ploche, Nevada.....	.....	.....	.....	.....	21	— 6.1	57	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Pittsburg, Pennsylvania.....	29.15	740.4	29.97	761.2	39	3.9	82	N	8	3.6	.....	.....	10n	.....	N	0.69	17.5	Light rain...	
Port Huron, Michigan.....	29.53	750.0	30.22	767.6	34	1.1	90	NE	26	11.6	.....	.....	10ks	.....	.....	0.04	1.0	Cloudy.....	
Portland, Maine.....	30.16	766.1	30.21	767.3	37	2.8	90	NE	16	7.2	.....	.....	10n	.....	Calm	0.05	1.3	Light snow.	
Portland, Oregon.....	30.32	770.1	30.39	771.9	43.0	6.1	55	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Portsmouth, N. Hampshire..	.....	.....	.....	.....	65	18.3	94	SW	13	5.8	.....	5c	0	SW	.....	0.23	5.8	Fair.....	
Prescott, Arizona.....	25.13	638.3	30.49	774.4	35	1.7	80	E	.....	.....	4	0	0	.....	.....	0	0	Clear.	
Punta Rassa, Florida.....	30.01	762.2	30.03	762.7	71	21.7	85	N	8	3.6	.....	10ck	0	SE	.....	0	0	Cloudy.....	
Red Bluff, California.....	30.01	762.2	30.39	771.9	40	4.4	56	N	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Rio Grande City, Texas.....	30.32	770.1	30.55	776.0	56	13.3	35	NW	16	7.2	.....	.....	10s	.....	N	0	0	Cloudy.....	
Rochester, New York.....	29.47	748.5	30.11	764.8	34	1.1	90	E	12	5.4	.....	.....	10n	.....	Calm	0.09	2.3	Light snow.	
Roseburg, Oregon.....	29.81	757.2	30.42	772.7	29	— 1.7	94	Calm	0	0	.....	.....	10s;fg	.....	Calm	0	0	Cloudy.	
Sacramento, California.....	30.27	768.8	30.35	770.9	39	3.9	82	N	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
St. Louis, Missouri.....	29.81	757.2	30.42	772.7	39	3.9	73	N	10	4.5	.....	.....	10s	.....	N	0.06	1.5	Cloudy.....	
St. Paul, Minnesota.....	29.59	751.6	30.48	774.2	28	— 2.2	78	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Salt Lake City, Utah.....	26.26	667.0	30.59	777.0	23	— 5.0	47	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
San Antonio, Texas.....	29.81	757.2	30.43	772.9	44	6.7	52	NW	10	4.5	.....	0	0	.....	.....	Inap.	Inap.	Clear.	
San Diego, California.....	30.14	765.5	30.21	767.3	64	17.8	80	E	14	6.3	.....	0	0	.....	.....	0	0	Clear.	
Sandusky, Ohio.....	29.53	750.0	30.23	767.8	35	1.7	70	N	36	16.1	.....	.....	10ks	.....	N	1.18	30.0	Cloudy.....	
Sandy Hook, New Jersey.....	29.89	759.2	29.92	760.0	49	9.4	85	E	34	15.2	.....	.....	10n	.....	Calm	0.42	10.7	Heavy rain..	
San Francisco, California....	30.24	768.1	30.31	769.9	50	10.0	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Santa Fé, New Mexico.....	23.69	601.7	30.23	767.8	19	— 7.2	85	NW	6	2.7	.....	.....	10n	.....	NW	0.06	1.5	Light snow.	
Savannah, Georgia.....	29.92	760.0	30.01	762.2	69	20.6	90	SW	6	2.7	.....	0	1s	.....	Calm	0	0	Clear.	
Shreveport, Louisiana.....	30.21	767.3	30.43	772.9	52	11.1	61	N	8	3.6	.....	5ck	0	Calm	.....	0.30	7.6	Fair.....	
Silver City, New Mexico.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina..	30.00	762.0	30.03	762.7	66	18.9	100	SW	5	2.2	.....	.....	Fog	.....	.....	0.43	10.9	Dense fog....	
Socorro, New Mexico.....	25.94	658.9	30.01	762.2	25	— 3.9	62	N	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Springfield, Illinois.....	29.72	754.9	30.43	772.9	36.5	2.5	76	N	9	4.0	.....	.....	10s	.....	N	0.52	13.2	Cloudy.....	
Springfield, Massachusetts..	29.93	760.2	30.07	763.8	41	5.0	82	NE	7	3.1	.....	.....	10n	.....	NE	0.05	1.3	Light rain...	
Stockton, Texas.....	27.48	698.0	30.48	774.2	47	8.3	21	NE	8	3.6	.....	.....	10s	.....	E	0	0	Cloudy.....	
Thatcher's Island, Mass.....	30.07	763.8	30.13	765.3	40	4.4	100	E	17	7.6	.....	.....	10n	.....	SE	0.20	5.1	Heavy rain..	
Toledo, Ohio.....	29.54	750.3	30.26	768.6	34	1.1	70	NW	10	4.5	.....	.....	10ks	.....	NW	0.23	5.8	Cloudy.....	
Tucson, Arizona.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon.....	30.27	768.8	30.82	782.8	20.0	— 6.7	73	SE	4	1.8	.....	.....	Fog	.....	.....	0	0	Dense fog....	
Uvalde, Texas.....	29.65	753.1	30.49	774.4	44	6.7	52	N	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Vicksburg, Mississippi.....	30.07	763.8	30.34	770.6	47	8.3	70	N	9	4.0	.....	.....	10s	.....	N	0.31	7.9	Cloudy.....	
Virginia City, Montana.....	24.68	626.9	30.16	766.1	10	—12.2	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Visalia, California.....	29.92	760.0	30.31	769.9	36	2.2	90	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Washington, D. C.....	29.75	755.6	29.87	758.7	48	8.9	93	E	1	0.4	.....	.....	Fog	.....	Calm	0.36	9.1	Foggy	
Wickenburg, Arizona.....	.....	.....	.....	.....	36	2.2	45	W	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Wilmington, North Carolina	29.86	758.4	29.94	760.5	65	18.3	100	SW	6	2.7	.....	.....	Fog	.....	Calm	0.23	5.8	Foggy	
Winnemucca, Nevada.....	26.13	663.7	30.49	774.4	20	— 6.7	85	E	12	5.4	.....	0	0	.....	.....	0	0	Clear.	
Wood's Holl, Massachusetts	30.01	762.2	30.05	763.3	50	10.0	64	SE	12	5.4	.....	.....	10n	.....	SE	0.05	1.3	Light rain...	
Yankton, Dakota.....	29.27	743.4	30.71	780.0	17	— 8.3	67	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Yuma, Arizona.....	30.30	769.6	30.48	774.2	52	11.1	29	N	13	5.8	.....	0	0	.....	.....	0	0	Clear.	
SUB-SERIES.																			
Fayetteville, Arkansas.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.....	29.89	759.2	29.94	760.5	79	26.1	82	Calm	0	0	.....	0	4ks	.....	NE	0	0	Cloudy.....	Chas. Hasselbrunk.
Kingston, Jamaica, W. I.....	30.08	764.0	30.09	764.3	77	25.0	87	Calm	0	0	.....	Haze	2s	Calm	.....	0	0	Fair.....	James Gall.
Medellin, Colombia, S. A..*..	25.18	639.6	.....	.....	65.0	18.3	92	Calm	.....	.....	0	.....	10n	.....	.....	0.29	7.4	.....	Thomas Herran.
Navassa, W. I.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.94	760.5	29.94	760.5	82	27.8	79	E	.....	.....	2	3c	6k	E	.....	0	0	½ cloudy....	C. J. Hering.
Santiago de Cuba, W. I.....	29.86	758.4	29.88	758.9	78	25.6	82	NW	1.2	0.5	.....	0	2s	.....	NE	Blank	Blank	.....	Robert Mason.
St. Thomas, W. I.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.....	30.21	767.3	30.27	768.8	— 8.0	—22.2	79	W	7	3.1	.....	0	.....	.....	.....	0	0	Clear.	J. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Medellin, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm. *The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.19‡	766.8‡	.....	.....	62	16.7	88	NNW	15	6.7	.....	.....	10	.....	NNW	0.32	8.1	.....	.....	Threatening	
Navy Yard, Portsmouth, N.H	29.93‡	760.2‡	.....	.....	40	4.4	83	NE	4	1.8	.....	.....	10	.....	.....	0.1	2.	.....	.....	Rain & snow	
Naval Hospital, Yokohama, Japan	30.08‡	764.0‡	.....	.....	50.5	10.3	93	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	.....	Clear.	
Adams,																					
Mare I'd., Navy Yard, Cal.	30.34‡	770.6‡	.....	.....	49	9.4	93	E	.....	.....	1–2	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Alaska,																					
Iquique, Peru .....*.	29.90‡	759.4‡	.....	.....	65	18.3	78	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Hazy	
Alliance,																					
N. 19° 12′, W. 36° 25′	30.02‡	762.5‡	.....	.....	76	24.4	64	NE	.....	.....	1	.....	4	.....	NE	.....	.....	Heavy	N;W	D. clouds	
Colorado,																					
New York, . Y.	29.84‡	757.9‡	.....	.....	45	7.2	76	Calm	0	0	.....	.....	10	.....	.....	0.19	4.8	.....	.....	Rainy	
Constitution,																					
Navy Yard, Norfolk, Va.	29.93‡	760.2‡	.....	.....	61	16.1	??	SSW	1	0.4	.....	.....	10	.....	Calm	.....	.....	.....	.....	Rainy	
Enterprise,																					
Alexandria, Egypt	30.08‡	764.0‡	.....	.....	70	21.1	66	W	.....	.....	2	.....	1	.....	W	.....	.....	Smooth	.....	Clear	
Franklin,																					
Off Navy Yard, Norfolk, Va.	29.90‡	759.4‡	.....	.....	62	16.7	88	SSW	4.8	2.1	.....	.....	10	.....	S	0.5	13.	.....	.....	Cloudy	
Hartford,																					
Boston, Mass	30.14‡	765.5‡	.....	.....	45	7.2	84	NE	.....	.....	2	.....	10	.....	.....	0	0	Smooth	.....	Cloudy	
Independence,																					
Mare I'd, Navy Yard, Cal.	30.31‡	769.9‡	.....	.....	55	12.8	62	SE	1.7	0.8	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Kearsage,																					
Charleston, S. C	30.00‡	762.0‡	.....	.....	68	20.0	90	SW	.....	.....	2	.....	5	.....	SW	.....	.....	Smooth	.....	Fair	
Lackawana,																					
N. 31° 30′, E. 179° 04′...†	30.32‡	770.1‡	.....	.....	73	22.8	72	NE	.....	.....	1	.....	8	.....	ENE	.....	.....	Long	ESE	Fair	
Marion,																					
Off Norfolk, Va.	29.89‡	759.2‡	.....	.....	61	16.1	94	NNW	.....	.....	1	.....	10	.....	W	.....	.....	Smooth	.....	Drizzling	
Michigan,																					
Erie, Pa	30.02‡	762.5‡	.....	.....	37	2.8	91	N	.....	.....	7	.....	10	.....	.....	.....	.....	.....	.....	Snowing	
Monocacy,																					
Shanghai, China	30.10‡	764.5‡	.....	.....	59	15.0	94	E	.....	.....	2	.....	10	.....	E	.....	.....	.....	.....	Raining	
New Hampshire,																					
Port Royal, S. C	30.01‡	762.2‡	.....	.....	70	21.1	95	SSW	6	2.7	.....	.....	1	.....	SSW	0	0	.....	.....	Clear	
Onward,																					
Callao, Peru .....†.	29.91‡	759.7‡	.....	.....	65	18.3	89	NW	.....	.....	2	.....	5	.....	.....	.....	.....	Long	W	Misty	
Palos,																					
Tientsin, China	30.17‡	766.3‡	.....	.....	43	6.1	92	ESE	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....	Overcast	
Passaic,																					
Washington, D. C	29.90‡	759.4‡	.....	.....	50	10.0	100	Calm	.....	.....	0	.....	10	.....	.....	0.32	8.1	.....	.....	Cloudy	
Pensacola,																					
Callao, Peru	29.87‡	758.7‡	.....	.....	67	19.4	79	W	.....	.....	1	.....	5	.....	.....	.....	.....	Smooth	.....	D. clouds	
Powhatan,																					
Navy Yard, Brooklyn, N.Y.	30.01‡	762.2‡	.....	.....	47	8.3	85	ENE	.....	.....	2	.....	10	.....	Calm	0.26	6.6	.....	.....	Rainy	
Quinnebaug,																					
Leghorn, Italy	30.05‡	763.3‡	.....	.....	48	8.9	78	E	.....	.....	3	.....	10	.....	NE	.....	.....	.....	.....	Raining	
Ranger,																					
N. 39° 20′, E. 162° 10′	30.02‡	762.5‡	.....	.....	61	16.1	82	SSE	.....	.....	5	.....	10	.....	S	.....	.....	Smooth	.....	Overcast	
Richmond,																					
Shanghai, China	30.07‡	763.8‡	.....	.....	60	15.6	94	NNE	.....	.....	2	.....	10	.....	.....	0.11	2.8	Smooth	.....	Rainy	
Rio Bravo,																					
Brownsville, Texas...†	30.51‡	774.9‡	.....	.....	54	12.2	61	NW	10	4.5	.....	10	5	Calm	SE	0.04	1.0	.....	.....	Cloudy	
Santee,																					
Annapolis, Md	29.88‡	758.9‡	.....	.....	51	10.6	100		.....	.....	1	.....	10	.....	Calm	0.32	8.1	.....	.....	Cloudy	
Shenandoah,																					
S. 3° 30′, W. 29° 52′	29.87‡	758.7‡	.....	.....	81	27.2	78	SE	.....	.....	3	.....	2	.....	.....	.....	.....	Smooth	.....	Fair	
St. Louis,																					
League Island, Pa	29.89‡	759.2‡	.....	.....	49	9.4	93	NE	5	2.2	.....	.....	10	.....	NE	0.58	14.7	.....	.....	Light rain	
Trenton,																					
N. 36° 28′, W. 2° 50′	30.30‡	769.6‡	.....	.....	66	18.9	59	SSE	.....	.....	1	.....	0	.....	.....	0	0	Smooth	.....	Clear	
Tuscarora,																					
N. 16° 00′, W. 97° 56′	29.84‡	757.9‡	.....	.....	78	25.6	91	NW	.....	.....	2	.....	2	.....	Calm	0	0	Long	S	Fair	
Vandalia,																					
Key West, Fla.....†.	29.96‡	761.0‡	.....	.....	77	25.0	100	NE	.....	.....	1	.....	2	.....	NE	.....	.....	.....	.....	Clear	
Wabash,																					
Boston, Mass	30.08‡	764.0‡	.....	.....	43	6.1	75	NE	10	4.5	.....	.....	10	.....	.....	0.9	23.	.....	.....	Light rain	
Wachusett,																					
N. 4° —′, W 28° —′	30.02‡	762.5‡	.....	.....	82	27.8	91	ESE	.....	.....	1	.....	8	.....	ESE	.....	.....	Long	SSE	Rainy	
Wyoming,																					
Malaga, Spain	30.25‡	768.3‡	.....	.....	66	18.9	64	SSW	.....	.....	0–1	.....	2	.....	SW	.....	.....	Smooth	SW	Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the last 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S. S. Samaria																			Capt. T. Roberts.
NOTE.—†Aneroid. *The error of the barometer is not known.																			
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitebury.
S. S. Costa Rica																			W. House & R. Lawless.
S. S. Dakota, Capt. H. G. Morse																			Capt. Connolly.
S. S. Georgia																			F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin																			Capt. A. Fuller.
S. S. Wilmington																			
S. S. Zealandia, S. 36° 51′, E. 174° 45′		29.42‡	747.8‡				S			3				SE		Mod'ate	E	Cloudy	R. C. Ghest, 1st Officer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
NOTE.—The orginals give the barometer as read off; wind-force by the scale 0 to to 12; for the Brittanic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer N. 34° 01′, E. 137° 13′		30.03‡	762.7‡	63	17.2	78	NW			4		2		N		Mod'ate	NW	D. clouds	D. A. Joyce, 2nd Officer
S. S. Gaelic, Capt. Davidson N. 42° 41′, W. 134° 58′		29.82‡	757.4‡	55	12.8		ESE			6		8		E	Slight	Rough	E	Raining	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andreessen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Pfeiffer, N. 43° 01′, W. 59° 46′		30.20‡	767.1‡	44.0	6.7	76	N			3		8		NW	0	Mod'ate	NNW	Fair	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, Bremerhaven, Germany		30.10‡	764.6‡				E			2		10		N				Raining	Capt. G. Meyer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD.	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		Character.	Direction from—		

AMERICAN S. S. CO. MARINE SERIES.

Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.

S. S. Indiana, N. 41° 07', W. 67° 28'....		30.24‡	768.1‡	47	8.3	92	SE			3		9		SW	0	Smooth		Cloudy	Capt. R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents.

Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

NOTE.—The originals give the barometer as read off; do not distinguish between upper and lower clouds; sea-swell in general terms, as published. ‡Corrections for temperature, instrumental error and elevation applied at this office.

ALLAN LINE MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES—Miscellaneous.

Furnished by the co-operation of the Observers named.

Schooner Addie Fuller, N. 35° 30', W. 75° 14'....		29.84‡	757.9‡	68	20.0	100	S	4	1.8		10n		S		1.23 in. or 31.2mm	Rough.	S	Light rain..	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George" of Halifax																			N. B. Foss.
Schooner Harry and Fred																			Capt. George Gardner.
Haytian																			
§ Iron Cross																			Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS;

TAKEN SIMULTANEOUSLY ON NOVEMBER 19, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.07	763.8	66.4	19.1	72	SW	.....	.....	1	.....	8	.....	.....	0	0	Very cloudy	Kesxuche.
Nemours	.....	.....	29.93	760.3	71.1	21.7	78	N	.....	.....	1	.....	0	.....	.....	0	0	Clear.	
Algiers	.....	.....	29.92	759.9	56.1	13.4	90	NE	.....	.....	3	.....	10	.....	.....	0.142	3.6	Raining	Tourillere.
La Calle	.....	.....	29.90	759.5	54.1	12.3	94	W	.....	.....	6	.....	10	.....	.....	0.567	14.4	Raining	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.039	1.0	.....	Jacques.
Sfax	.....	.....	30.02	762.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Herbin.
Tebessa	.....	.....	30.06	763.4	54.5	12.5	57	N	.....	.....	4	.....	10	.....	.....	0	0	Covered	Watrin.
Geriville	.....	.....	.....	.....	59.5	15.3	25	WNW	.....	.....	4	.....	0	.....	.....	0	0	Clear.	Brugniaux.
Laghouat	.....	.....	30.05	763.3	66.9	19.4	15	WNW	.....	.....	2	.....	0	.....	.....	0	0	Clear.	Bertrand.
Biskra	.....	.....	30.00	761.9	61.5	16.4	52	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals the amount of cloudiness is given by the scale 0-4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.51	749.6	30.09	764.2	34.7	1.5	75	E	.....	.....	2	.....	10	.....	.....	0.020	0.5	.....	Prof. Ivan Stoztr.
Cracow, I. R. Observatory	29.43	747.5	30.25	768.3	24.4	— 4.2	93	NNE	12.1	5.4	.....	.....	10	.....	.....	0.031	0.8	.....	Dr Wierzbicki.
Eperies	29.26	741.7	30.13	65.2	32.0	0.0	86	Calm	.....	.....	0	.....	10	.....	.....	0.461	11.70	.....	Julius Mikolik.
Gratz	28.82	731.9	30 13	765.2	32.4	0.2	75	SW	.....	.....	2	.....	10	.....	.....	0.138	3.5	.....	Andreas Rospini.
Hermannstadt	28.71	729.1	30.24	768.1	24.1	— 4.4	79	ESE	.....	.....	2	.....	4	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.69	728.6	30.10	764.6	28.4	— 2.0	94	Calm	.....	.....	0	.....	10	.....	.....	0.532	13.5	.....	Prof. C. Wagner.
Lemberg	29.19	741.5	30.25	768.4	23.4	— 4.8	98	S	.....	.....	1	.....	6	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	29.82	757.3	29 93	760.2	44.8	7.1	54	E	.....	.....	6	.....	5	.....	.....	0.063	1.6	.....	I.R.Hydrographic Office.
Szathmar	29.74	755.3	30.29	767.7	35.2	1.8	67	E	.....	.....	3	.....	8	.....	.....	0	0	.....	Pet. Pancsics, S. J.
Szegedin	29.85	758.2	30.14	765.6	35.6	2.0	68	Calm	.....	.....	0	.....	4	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.85	758.2	29.95	760.8	42.4	5.8	40	ENE	.....	.....	2	.....	10	.....	.....	0	0	.....	P. Busin.
Vienna	29.37	746.0	30.12	765.1	32.0	0.0	92	NW	.....	.....	1	.....	10	.....	.....	0.094	2.4	.....	I.R.Central Met. Ob'sy
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. E. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maaseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:51 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S,, Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society. Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.39	771.9	30.49	774.4	49.7	9.8		NE	6	2.7			10			0.080	2.03	Misty	W. Boswell.
Ardrossan	30.41	772.4	30.43	772.9	51	10.6		E			2		8					Foggy	Wm.McNeil &G.Carrick.
Armagh, (Observatory)	30.19	766.8	30.43	772.9	53.2	11.8		SW	3	1.3			9					Foggy	S. Call.
Bidston (Liverpool Obs)			30.39	771.9	50.0	10.0		E	14	6.3			9					Misty	John Hartnup.
Bolton (Sharples)	29.84	757.9	30.36	771.1	53.0	11.7		E	30	13.4			5					D. clouds	Thomas Mackereth.
Bradford, Yorkshire	30.00	762.0	30.40	772.1	46.4	8.2		N			3		10			0.02	0.5	Overcast	J McLandsborough.
Bridgetown, Barbadoes	29.84	757.9	29.86	758.4	78	25.6		NE			3		8					Overcast	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	30.24	768.1	30.34	770.6	46.9	8.3		NE			1		7			Blank	Blank	D. clouds	H. Todd.
Cardington			30.32	770.1	45.0	7.2		N			0-1		10					Misty	John McLaren.
Chatham (School M. E.)	30.20	767.1	30.34	770.6	43.1	6.2		NW			2		8					D. clouds	J. Carmell, Sapper, R.E.
Donaghadee	30.40	772.1	30.44	773.2	58	14.4		NNW			2		10					Misty	J. Mac Gowan.
Dover	30.24	768.1	30.27	768.8	44	6.7		ENE			4		5					½ clouded	J. Costello.
Falmouth (Observatory)	30.06	763.5	30.29	769.4	54.7	12.6		N			1		10					Foggy	The Staff.
Fort Napier, Natal	27.44	697.0	29.66	753.4	92.0	33.3		NW			3		0					Blue sky	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone																			
Galway (Queen's College)			30.29	769.4	56	13.3		ENE			1		10					Overcast	Prof. A. H. Curtis.
Gibraltar, Mediterranean																			Sergt.Wm. Allen, A. H.
Glasgow, (Observatory)	30.17	766.3	30.37	771.4	51.3	10.7		SW			1		5k					D. clouds	D. G. Maclean. [C.
Great Yarmouth	30.35	770.9	30.35	770.9	43	6.1		ENE			4		4					D. clouds	G. T. Watson.
Greenwich (Royal Obs'y)	30.14	765.5	30.32	770.1	43.8	6.6		NE			2		5					D. clouds	The Staff, for G.B.Airy.
Guernsey	30.02	762.5	30.24	768.1	48.5	9.2		NE			2		8					D. clouds	Dr.S.E Hoskins, F.R.S.
Helston	30.40	772.1	30.53	775.4	55	12.8		N			1		10			0	0	Light mist	M. P. Moyle.
Holyhead	30.33	770.4	30.37	771.4	53	11.7		ENE			3		10					Misty	John Tilston.
Jersey	29.96	761.0	30.26	768.6	47.9	8.8		NE			3		10					Overcast	J. Fisher.
Kew (Observatory)	30.28	769.1	30.32	770.1	45.1	7.3		NE	20	8.9			8					Misty	The Met'g'l Office.
Leicester (Museum)	30.10	764.5	30.36	771.1	45.2	7.3		NE			3		10					Drizzling	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.78	756.4	29.85	758.2	62.6	17.0		SW			3		6kn					D. clouds	A. King.
Nairn	30.37	771.4	30.46	773.7	51	10.6		Calm			0		2					½ clouded	W. D. Penny.
Nassau, Bahamas			29.86	758.4	78.5	25.8		SE			1		4					D. clouds	C. S. Duncombe.
Nottingham (Observatory)	30.20	767.1	30.40	772.1	45.4	7.4		N			3		10d		N	0.033	0 84	Raining	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.84	757.9	30.38	771.6	44.2	6.8		NNE			2		10					Drizzling	Rev. Stephen J.Whitty.
Oxford (Radcliffe Obs'y)			30.34	770.6	45	7.2		NE			1		10					Threatening	H. E. Bellamy.
Plymouth	30.21	767.3	30.29	769.4	51.0	10.6		ESE			1		10					Overcast	John Merrifield.
Prince Town																			W. H. Tooker.
*Roche's Point	30.27	768.8	30.38	771.6	54	12.2		ESE			4							Hazy	Wm. Kennedy.
St. Ann's Head	30.16	766.1	30.33	770.4	56	13.3		NE			1		10					Overcast	John C. Walker.
Sandwick Manse, Orkneys			30.49	774.4	51.5	10.8		S			9		10					Misty	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	30.08	764.0	30.14	765.5	45.0	7.2		WNW			2		10					Drizzling	Serg't W. H. Lyne.
Sheffield	30.15	765.8	30.44	773.2	44.9	7.2		NE			1		10			0.03	0.8	Overcast	W. F. Cooper.
Silloth Rectory	30.38	771.6	30.41	772.4	52.3	11.3	93	E			1		10			0	0	Overcast	Francis Redford, A. M.
Stonyhurst (Observatory)			30.39	771.9	47.4	8.6		ENE	13	5.8			10					Misty	Rev. S. J. Perry.
Stratfield, Turgiss	30.15	765.8	30.38	771.6	45.7	7.6		NE			2		4					D. clouds	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	30.26	768.6	30.31	769.9	55	12.8		E			4		10					Raining	W. Newcombe.
Valencia (Observatory)	30.28	769.1	30.30	769.6	56.9	13.8		ESE	13	5.8			8					D. clouds	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	29.82	757.4	29.86	758.4	69.0	20.6	76	W	11.7	5.2		5c	8						The Staff, for D. Gill.
Colesberg Bridge, Cape Col.																			Robert Burnet.
Hobart Town, Tasmania			29.92	760.0	52.0	11.1	93	Calm			0		10kn			0.02	0.5	Raining	Francis Abbott, F.R.A.S
Leith, (Restalrig Perk)			30.49	774.4	47.9	8.8		E			1		10s			0.02	0.5	Overcast	Andrew Gibb.
Mauritius (Observatory)	29.80	756.9	29.99	761 6	78.4	25.8	66	ENE	12.5	5.6		1	4		E	0.12	3.0	Fine	C. Meldrum.
Melbourne (Observatory)	29.59	751.6	29.68	753.9	54.6	12.6	68	SW	24	10.7			7			0.29	7.4	Squally	R. L. J. Ellery.
Monach Lt-house, Hebrides			30.45	773.4	53	11.7		S			4		10			0.1	2.		J. Youngclause.
North Unst, Shetland Is			30.46	773.7				SW			2		10			0	0		

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Colesberg Bridge, unknown.

BRITISH MARINE SERIES. VESSELS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. Alert, Molyneux Sound, Patagonia			29.81‡	757.2‡	51.8	11.0		N			3		6					D. clouds	Capt.J.P. Maclear, R.N.
H. M. Sloop Gannet, S. 11° 47′, W. 77° 13′			29.98‡	761.5‡	65	18.3		Calm			0		9					Overcast	Commander E. Bourke, R. N.
H. M. S. Magpie, Shaweishan I'd., China			30.00‡	762.0‡	61.5	16.4		NE			2		9					Misty	Capt. R. H. Napier, R.N.
Brig Alliance, N. 32° 05′, W. 57° 50′			30.15‡	765.8‡	74.3	23.5		SSW			4		3					D. clouds	Capt. W. Scott.
Barque Belle-Isle, Off Port Antonio, Cuba			29.87	758.7	80	26.7		Calm			0		1			0		Blue sky	Capt. A. J. Brown.
S. S. German, S. 1° 20′, W. 7° 55′			29.94‡	760.5‡	79	26.1		SSE			3		7					D. clouds	Capt. O. D. Coxwell
Barque Mertole, N. 47° 05′, W. 9° 55′			30.22‡	767.6‡	56.4	13.6		ESE			4		10					Overcast	Capt. Turner.
S. S. Peruvian N. 53° 55′, W. 46° 05′			29.77‡	756.1‡	37	2.8		ESE			4		4			4	Con-fused	Snowing	Capt. W. H. Smith.
Barque Queen of Cambria, N. 17° 25′, E. 72° 35′			29.87‡	758.7‡	81.5	27.5		NNW			3		0					Blue sky	Capt. M. Parry.
S. S. Strathleven, Sydney, N. S. W.			29.78‡	756.4‡	65.5	18.6		S			6		10					Showery	Capt. C. W. Pearson.
S. S. Sunbeam, N. 40° 55′, W. 23° 20′			29.69	754.1	64	17.8		WSW			6		8			6	WSW	Showery	
Light House Tender Richmond, Stirrups Cay, Bahama Islands			29.89	759.2	80	26.7		SSE			4		4					D. clouds	
S. S. Gordon Castle																			
German Brig "W. von Freeden"																			Capt. H. V. Freeden.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Barometer. Corrected for instru-m'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.18	665.0	29.90	759.4	67.6	19.8	81	SE	.....	.....	3	2c	2d	.....	E	Inap.	Inap.	.....	Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.42	772.7	30.47	773.9	38.1	3.4	80	ENE	.....	.....	4	.....	9	.....	.....	.....	.....	Snowing	.....
Fanöe	30.43	772.9	30.45	773.4	37.9	3.3	85	ENE	.....	.....	4	.....	5	.....	.....	.....	.....	.....	.....
Godthaab (Greenland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stykkisholm (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thorshavn (Faröe)	30.32	770.0	30.35	770.9	46.9	8.3	99	W	.....	.....	4	.....	10	.....	.....	.....	.....	.....	.....
Vestervig	30.33	772.3	30.52	775.1	35.4	1.9	88	NE	.....	.....	2	.....	1	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.66	753.3	30.21	767.3	46.4	8	78	NE	.....	.....	1	.....	8n	.....	N	0.012	0.3	Very cloudy	Collignon, Director.
Amiens, Normal School	30.08	763.6	30.17	766.4	43.5	6.4	91	NNE	.....	.....	1	.....	8	.....	Calm	0	0	Very cloudy	Vaillant, Director.
Arras, Engin'r School	29.97	761.3	30.24	768.2	38.8	3.8	76	ENE	.....	.....	3	.....	.....	.....	NE	0	0	.....	Klein, Commandant.
Avignon, Normal School	29.83	757.7	29.91	759.7	53.2	11.8	45	N	.....	.....	4	.....	0	.....	.....	0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.54	750.4	30.12	765.0	41.0	5.0	61	SE	.....	.....	1	.....	5n	.....	.....	0.110	2.8	Cloudy	C. Saillard, Director
Beauvais, Normal School	29.92	760.0	30.20	767.1	41.9	5.5	87	NE	.....	.....	1	.....	10	.....	.....	0.010	0.25	Covered	Frère Eugene Marie
Besançon, Normal School	29.19	741.3	30.10	764.6	40.5	4.7	86	E	.....	.....	1	.....	2	.....	E	0.492	12.5	Slightly cld'y	A. Carré, Director.
Bourg-en-Bresse, N. School	29.16	740.6	30.11	764.7	41.4	5.2	94	N	.....	.....	3	.....	8cn	N	N	0.244	6.2	Very cloudy	Marlot, Diretor.
Bourges, Normal School	29.54	750.4	30.11	764.7	46.2	7.9	93	N	.....	.....	1	.....	10kn	.....	N	0.04	1.	Covered	M. Gence, Director.
Brest, Naval Observatory	29.99	761.8	30.24	768.0	52.2	11.2	75	NE	.....	.....	2	.....	10	.....	NE	0	0	.....	Ch. de Rermaree, Dir.
Caen, Normal School	30.23	767.7	.....	.....	45.3	7.4	85	N	.....	.....	2	.....	8	.....	N	0	0	Very cloudy	M. Bletrin, Director.
Carcassonne, N. School	29.63	752.5	30.05	763.2	49.5	9.7	79	W	.....	.....	2	.....	10	W	W	0	0	Covered	September, Director.
Châlons-sur-Marne, N. Sch'l	29.81	757.1	30.14	765.6	35.6	2.0	59	NE	.....	.....	2	.....	8	.....	.....	.....	.....	Very cloudy	Jadot, Director.
Chartres, Normal School	29.56	750.8	30.14	765.6	43.9	6.6	73	NE	.....	.....	1	.....	9	.....	S	0	0	.....	Vergier, Director.
Clermont-Fd, Puy de D. Obs	28.62	726.9	30.01	762.2	44.4	6.9	88	N	.....	.....	1	.....	10	.....	N	0.024	0.6	.....	Alluard, Director.
Commercy, Normal School	29.22	742.3	30.11	764.8	38.3	3.5	69	N	.....	.....	1	.....	2k	N	N	0	0	Slightly cld'y	Dr. Coullet, Director.
Commune de Gréasque*	28.76	730.6	29.91	759.6	52.0	11.1	50	NW	.....	.....	1	.....	2	.....	SE	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.21	741.9	29.99	761.8	46.0	7.8	61	NNE	.....	.....	1	.....	8k	.....	N	0.04	1.	Very cloudy	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	29.96	761.0	30.18	766.6	48.4	9.1	76	N	.....	.....	1	.....	10	.....	.....	0	0	Covered	Mouillot, Director.
Le Mans, Normal School	29.87	758.8	30.19	766.8	46.0	7.8	91	NNE	.....	.....	2	.....	8	.....	NNE	0	0	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.14	740.2	30.09	764.2	40.8	4.9	82	NNE	.....	.....	1	.....	5k	NNE	NNE	0.16	4.	Cloudy	A. Baudry, Director
Lorient, Naval Observatory	30.12	765.1	30.23	767.9	48.6	9.2	84	NE	.....	.....	2	.....	.....	.....	NE	0	0	.....	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.37	746.0	30.01	762.2	45.3	7.4	80	N	.....	.....	2	.....	.....	.....	N	0.047	1.2	.....	Ch. André, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	29.60	751.7	29.87	758.6	57.0	13.9	66	NW	.....	.....	1	.....	1	.....	.....	0	0	.....	E. Stephan, Director.
Mirecourt, Normal School	29.00	736.6	30.08	763.9	36.3	2.4	61	N	.....	.....	1	.....	ks	N	N	0	0	.....	Barbier, Director.
Mont-Louis	24.79	629.6	30.10	764.6	41.0	5.0	70	NE	22.4	10.0	.....	.....	3	.....	E	0	0	.....	M. Cave.
Nice	29.84	757.9	29.87	758.8	57.2	14.0	69	E	.....	.....	2	.....	2	NW	E	0	0	Slightly cld'y	M. Boissière, Director.
Nismes, Normal School	29.81	757.2	30.02	762.5	47.5	8.6	57	N	.....	.....	1	.....	5	.....	SW	0	0	Cloudy	M. Boyer, Director.
Paris, Montsouris Obs'y	29.89	759.1	.....	.....	42.4	5.8	91	NNE	.....	.....	2	.....	10	.....	.....	Inap.	Inap.	.....	Marié Davy, Director.
Perpignan	29.83	757.7	29.93	760.3	54.5	12.6	67	NW	29.8	13.3	.....	.....	1	.....	NW	0	0	.....	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.41	569.3	.....	.....	36.5	2.5	.....	N	.....	.....	1	.....	1	.....	N	0	0	Clear	Gen'l de Nansouty.
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Privas, Normal School	28.92	734.5	30.00	761.9	47.3	8.5	67	N	.....	.....	3	.....	n	N	N	0	0	.....	M. Tallieu
Puy de Dome (Summit) Obs	25.08	636.9	.....	.....	30.9	—0.6	98	N	.....	.....	2	.....	.....	.....	.....	0.205	5.2	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	30.15	765.9	30.19	766.7	46.4	8.0	98	N	.....	.....	1	.....	N	N	N	0	0	Misty...S	Lt E. Decante, Director
Rouen, Normal School	30.12	765.0	30.21	767.2	43.0	6.1	85	NE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.18	766.5	30.21	767.2	48.7	9.3	86	NE	.....	.....	3	.....	8	NE	NE	0	0	Very cloudy	Lt. Hercouet, Director.
Saint Maur (near Paris)	30.00	762.0	30.17	766.2	43.0	6.1	91	NNE	.....	.....	3	.....	.....	.....	NNE	0	0	.....	E. Renou, Director.
Tarbes, Normal School	29.19	741.4	30.27	768.9	35.6	2	100	NW	.....	.....	3	.....	2	NE	NW	0	0	Slightly cld'y	T. Huguet, Director.
Toulouse, Observatory	29.37	746.0	30.10	764.4	50.0	10.0	74	NW	.....	.....	3	.....	10	.....	.....	0.087	2.2	Covered	M. Juher Mercadier.
Tours	29.93	760.3	30.13	765.3	49.1	9.5	75	N	.....	.....	1	.....	10	.....	ENE	0	0	Covered	Cousin-Marquet.
Versailles, Observatory	29.67	753.6	30.16	766.1	41.4	5.2	94	NNE	.....	.....	2	.....	.....	.....	.....	0	0	.....	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.32	744.6	30.05	763.2	46.0	7.8	92	NW	.....	.....	1	.....	8	S	SE	0.059	1.5	Very cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.87	758.6	29.89	759.3	73.4	23	.....	.....	.....	.....	.....	.....	.....	.....	.....	6.50	165.	.....	L'Abbé Marchési
Zi-Ka-Wei (near Shanghai	29.98	761.6	30.01	762.2	58.8	14.9	97	NNE	3.8	1.7	.....	10ck	.....	W	.....	0.252	6.4	Covered	Marc Dechevrens.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,082.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centrigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.24	742.6	30.08	764.0	31.5	— 0.3	79	NW			4		8ks	W		0.004	0.1	Snowing	Prof. Dr. Hoh.
Berlin	30.09	764.2	30.27	768.8	33.8	1.0	72	NE			2		2			0	0		Prof. Dr. Arndt.
Breslau	29.69	754.1	30.23	767.7	26.1	— 3.3	87	NE			3		7					Snowing	Royal University Obs'y.
Carlsruhe	29.71	754.5	30.16	766.0	31.8	— 0.1	92	NNE			0		10			0.067	1.7	Snowing	Albert Senz.
Cassel	29.58	751.2	30.19	766.7	33.8	1.0	77	NNE			4		10	N		0	0		Dr. H. Möhl.
Emden			30.33	770.4	38.1	3.4	86	ENE			4		10			0.322	8.2		Prof. Dr. Prestel.
Frankfort on the Main	29.82	757.4	30.19	766.9	34.7	1.5	82	N			3		10			0.091	2.3	Raining	Physical Society.
Friedrichshafen	28.60	726.5	30.11	764.7	32.5	0.3	78	NE			4		10	NE		0.008	0.2		Chief Telegrapher Wilhelm.
Hamburg	30.27	768.8	30.34	770.7	36.5	2.5	80	ENE			3		7k			0.012	0.3	Light fog	Captain F. Hegemann.
Kiel	30.37	771.3	30.39	771.8	36.5	2.5	83	NE			3		10			0.007	0.18		Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.39	772.0	30.48	774.2	28.6	— 1.9	88	E			2		3			0.028	0.7	Snowing	Prof. E. Luther.
Köslin			30.39	771.9	32.9	0.5		E			4		1			0.035	0.9		H. Müller.
Leipsic Observatory	29.81	757.1	30.25	768.4	29.8	— 1.2	78	NE			2		8			0	0		Prof. Dr. Bruhns, Privy Counselor
Magdeburg	30.07	763.6	30.29	769.4	35.6	2.0	73	NE			3	3c		NE		0.118	3.0		Dr. Assmann.
Memel	30.46	773.7	30.51	774.9	30.6	— 0.8	94	E			1-2	4cs							Reinbrecht & Issermann
Munich (München)	28.20	716.3	30.07	763.6	28.9	— 1.7	77	Calm			0		10			0.220	5.6	Rain & fog	Dr. C. Lang.
Neufahrwasser	30.44	773.2	30.46	773.6	34.3	1.3	78	E			3		5			0	0		A. Lothes.
Neustadt (Palatinate)	29.60	751.7	30.12	765.1	35.1	1.7	80	N			3		10			0.031	0.8	Light snow.	Reallehrer Dicknether
Posen	30.02	762.4	30.32	770.0	38.5	3.6	86	E			5		2			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	29.60	751.7	30.17	766.4	34.0	1.1	79	NE			3		9	N		0.159	4.05		Imp. University Observatory.
Stuttgart	29.13	739.8	30.11	764.9	32.0	0.0	96	NW					10			0.051	1.3	Snowing	Prof. Dr. Schoder.
Weissenburg (Bavaria)	28.54	724.9	30.10	764.6	31.1	— 0.5	88	NE	2	1			10		NE	0.118	3.0	Snowing	Reallehrer J. Hopfner
Wustrow	30.41	772.4	30.43	773.0	37.9	3.3	71	ESE			3		5s			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.76	755.9	30.16	766.0	54.3	12.4		NE			0.5		0					Clear.	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.96	761.1	30.02	762.4	75.9	24.4	69	W	11	4.9			0			0	0	Blue sky	
Deesa	29.52	749.7	30.00	762.0	74.9	23.8	17	NNE	9.0	4.0			0			0	0	Blue sky	
Bombay	29.84	758.0	29.89	759.2	76.7	24.8	71	NNW	18	8.0			0			0	0	Blue sky	
Poona (Yerrowda)	28.00	711.1	29.85	758.1	80.0	26.7	37	WSW	5	2.2			2		S	0	0	D. clouds	
Belgaum	27.32	693.9	29.88	758.8	71.9	22.2	68	W	7	3.1			10	SE	SE	0	0	D. clouds	
Lahore	29.23	742.4	30.00	761.9	65.6	18.7	36	Calm	1.3	0.6			0			0	0	Blue sky	
Roorkee	29.02	737.1	29.95	760.7	64.8	18.2	49	W	0.7	0.3						0	0		
Agra	29.41	746.9	29.99	761.7	67.8	19.9	47	SW	2.6	1.2						0	0		
Nagpur	28.85	732.7	29.90	759.4	77.2	25.1	51	NE	4.1	1.8			8		SW	0	0	D. clouds	
Jubbulpore	28.56	725.4	29.95	760.8	70.5	21.4	53	E	3.4	1.5			3			0	0	D. clouds	
Lucknow	29.59	751.5	29.98	761.4	70.3	21.3	51	Calm	0.2	0.1						0	0	Blue sky	
Allahabad	29.66	753.3	29.98	761.6	63.8	17.7	65	Calm	0.9	0.4			0			0	0	Blue sky	
Patna	29.77	756.1	29.95	760.8	75.7	24.3	46	NW	0.5	0.2			2	NW	NW	0	0		
Hazaribagh	27.90	708.8	29.96	761.0	67.8	19.9	60	NW	4.0	1.8			3			0	0		
Cuttack	29.85	758.1	29.93	760.2	79.0	26.1	72	ENE	3	1.3			2			0	0	D. clouds	
Calcutta (Alipore)	29.89	759.3	29.92	759.8	75.3	24.1	77	Calm	0	0			1			0	0	D. clouds	
Goalpara	29.50	749.3	29.90	759.3	77.1	25.1	63	Calm	4.6	2.1			0			0	0	Blue sky	
Chittagong	29.82	757.3	29.91	759.6	80.1	26.7	72	Calm	1.6	0.7			0			0	0		
Sibsagar	29.60	751.8	29.94	760.5	70.5	21.4	88	E	1.9	0.9			0			0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	BAROMETER. Corrected for instru-m'tal error and tem-perature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	Lo'er 0—10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER.
Udine	29.58	751.2	30.00	762.0	39.6	4.2	57	SE	5.6	2.5	.....	.....	10	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.36	745.8	29.89	759.3	45.3	7.4	59	E	.....	.....	2	.....	3	.....	.....	0.213	5.4	.....	Prof. Schiaparelli.
Padua	29.84	758.0	29.96	760.9	39.4	4.1	87	ENE	10.9	8.9	.....	.....	10	.....	.....	0.098	2.5	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.90	736.6	29.93	760.2	43.3	6.3	62	E	2.5	1.1	.....	.....	0	.....	.....	0.197	5.0	.....	Prof. P. F. Denza.
Genoa	29.65	753.2	29.85	758.1	56.1	13.4	46	NW	4.9	2.2	.....	.....	0	.....	.....	0.004	0.1	.....	Prof. G. M. Garibaldi.
Mondovi	27.94	709.6	29.90	759.4	40.1	4.5	66	NW	.....	.....	2	.....	1	N	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.85	758.3	29.91	759.6	44.4	6.9	65	W	3.8	1.7	.....	.....	10	S	.....	0.063	1.6	.....	Prof. Luigi Guidi.
Florence	29.63	752.5	29.89	759.3	48.7	9.3	53	E	.....	.....	2	.....	1	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.79	756.6	29.87	758.8	49.5	9.7	73	ENE	8.7	3.9	.....	.....	10	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.68	753.8	29.86	758.4	51.1	10.6	41	N	5.6	2.5	.....	.....	9	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce																			Prof. C. De Giorgi.
Cosenza	28.99	736.4	29.89	759.2	39.2	4.0	85	SW	0	0	.....	.....	10	.....	.....	0.315	8.0	.....	Prof. D. Conti.
Cagliari	29.56	750.8	29.76	755.8	59.2	15.1	58	NW	.....	.....	2	.....	9	NW	.....	0.024	0.6	.....	Prof. A. Pacinotti.
Palermo	29.51	749.6	29.77	756.1	56.3	13.5	77	WSW	3.1	1.4	.....	.....	10	.....	.....	0.224	5.7	.....	Prof. G. Ciacciatore.
Syracuse	29.78	756.3	29.85	758.2	60.1	15.6	75	SW	6.3	2.8	.....	.....	10	S	.....	0.177	4.5	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.29	743.9	29.82	757.4	50.4	10.2	48	NW	2.5	1.1	.....	.....	5	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Bergamo is 379.6 m., or 1,246.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.07	763.8	30.08	764.0	51.9	11.1	85	NNE	5.4	2.4	.....	ck	7ks	.....	.....	0	0	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.84	757.9	30.04	763.0	55.4	13.0	90	ENE	1.0	0.4	.....	ck	8s	.....	.....	0.020	0.51	Cloudy	S. Takehayashi.
Tokei, (Yeddo) Observatory	30.09	764.3	30.16	766.0	50.3	10.2	81	NNE	4.9	2.2	.....	.....	10s	.....	.....	0	0	Cloudy	The Staff.
Wakayama	30.05	763.3	30.10	764.5	52.5	11.4	91	E	7.3	3.3	.....	.....	10n	.....	.....	0.337	8.56	Raining	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima																			R. Banda, C. E.
Guadalajara	25.21	640.4	30.37	771.3	48.2	9.0	61	NE	.....	.....	2	.....	9	.....	W	0	0	Very cloudy	Prof. L. Perez.
Leon	24.61	625.2	30.49	774.5	48.0	8.9	85	W	.....	.....	1	0	0	.....	.....	0	0	Blue sky	Prof. M. Leal.
Mazatlan	29.76	755.8	30.02	762.4	73.9	23.3	25	NE	.....	.....	4	6c	0	SW	.....	0	0	Cloudy	I. Guerrero, C. E.
Mexico, Central Observatory	23.24	590.2	30.60	777.2	36.5	2.5	93	NW	8.9	4.0	.....	.....	10n	.....	.....	0	0	.....	The Staff.
Pabellon (Aguascalientes)					45.0	7.2	64	N	.....	.....	2	.....	10kn	.....	.....	0	0	Covered	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.60	599.5	30.68	779.3	37.4	3.0	95	N	3.6	1.6	.....	5ck	0	E	.....	0	0	½ covered	Prof. P. Spina.
San Luis Potosi	24.39	619.6	30.60	777.1	44.6	7.0	69	SE	.....	.....	2	.....	10	.....	SE	0	0	Covered	G. Barroeta, M. D.
Tlacotalpam	30.34	770.5	30.35	770.8	64.4	18.0	56	N	.....	.....	7	10	0	NNE	.....	0	0	Covered	Prof. M. M. Chazaro.
Vera-Cruz																			Prof. J. Rossell
Zacatecas	22.63	574.7	30.45	773.5	36.5	2.5	69	NE	.....	.....	2	0	3cs	.....	NE	0	0	Clear	J. C. Castrillon.

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column; the instrumental correction —0.88 mm., or —0.035 inch, has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.33	770.3	30.33	770.3	38.8	3.8	.....	ENE	.....	.....	4	.....	.....	.....	.....	0.047	1.2	.....	
Groningen	30.31	769.8	30.36	771.2	39.6	4.2	.....	ENE	.....	.....	.....	.....	.....	.....	.....	0	0	.....	
Helder	30.36	771.1	30.36	771.1	41.0	5.0	.....	ENE	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.31	769.9	30.31	769.9	37.6	3.1	86	ENE	.....	.....	3	.....	.....	.....	.....	0.039	1.0	.....	
Utrecht	30.29	769.4	30.34	770.6	38.8	3.8	78	NE	.....	.....	3	.....	2	.....	.....	0	0	Slightly cl'dy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour,	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.43	773.0	30.49	774.4	40.3	4.6	94	Calm	0	0	.....	.....	8	.....	.....	0	0	.....	.....
Brönö	30.30	769.6	30.34	770.6	45.0	7.2	98	SW	27	12	.....	.....	10	.....	.....	1.039	26.4	Rain & fog..	.....
Christiana	30.44	773.1	30.59	777.0	36.3	2.4	87	ESE	0	0	.....	.....	10	.....	.....	0	0	Light fog.....	.....
Tromsö	29.94	760.4	29.98	761.5	43.0	6.1	65	SW	9	4	.....	.....	10	.....	.....	0.610	15.5	.....	.....

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	29.66	753.4	29.85	758.3	60.8	16.0	85	WNW	8.7	3.9	.....	.....	3	.....	.....	0.059	1.5	.....	Dr. J. A. Sampaio.
Campo Major	29.02	737.0	30.04	762.9	64.0	17.8	48	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	29.76	755.9	29.85	758.1	67.5	19.7	80	SW	8.1	3.6	.....	.....	10	.....	.....	0.874	22.2	Raining.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.69	754.2	30.05	763.3	59.0	15.0	61	NE	3.8	1.7	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	29.76	756.0	29.84	757.8	64.0	17.8	76	NW	12.5	5.6	.....	.....	3	.....	.....	0.028	0.7	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.															Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Matto	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J.T.d'Oliveria, Com'd't
Rio Lima, Capt. S. C. da Silva Costa, Porto Praya, Cape Verd I'ds.	.....	.....	.....	.....	84.9	29.4	.....	NE	.....	.....	3	.....	5	.....	NE	2	NE	D. clouds....	A. D. de Fonseca Saurento....
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Louiz Apra, Q. Ma.
Sado, Capt. J. A de Brito Capello, St. Paul de Loando	.....	.....	29.84	757.9	78.8	26.0	.....	NNE	.....	.....	3	.....	8	.....	NNE	.....	.....	Raining, 3 hr's rain-fall.]	H. Mecudonco, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	.....	.....	29.98	761.5	76.1	24.5	.....	E	.....	.....	1	.....	0	.....	.....	0	.....	Blue sky.....	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between upper and lower clouds, and no humidity is given; duration of rain-fall in hours. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	30.16	766.1	30.18	766.6	33.3	0.7	87	SW	18	8	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow
Astrakhan	30.47	773.8	30.38	771.7	40.6	4.8	68	E	18	8	.....	.....	7s	.....	.....	.....	.....	Light clouds	Capt. Wisganow.
Barnaul	30.05	763.3	30.60	777.2	12.0	—11.1	89	SW	.....	.....	.....	.....	10	.....	.....	.....	.....	Snowing.	Meteorological Obs.
Dorpat	30.39	772.0	30.65	778.6	31.1	— 0.5	98	NE	4	2	.....	.....	10n	.....	.....	.....	.....	Light fog.....	Prof. Dr. Weihrauch.
Ekaterinburg	29.48	748.9	30.50	774.6	33.6	0.9	40	W	31	14	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	30.42	772.7	30.71	780.1	25.9	— 3.4	74	SSE	7	3	.....	.....	3	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.54	750.4	30.21	767.4	34.5	1.4	94	N	9	4	.....	.....	10n	.....	.....	.....	.....	Rain & fog...	Physical Cabinet.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	29.95	760.8	30.16	766.1	44.1	6.7	86	ENE	19	8	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs
Moscow	30.00	762.1	30.59	776.9	31.6	— 0.2	92	SE	7.8	3.5	.....	.....	10s	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	27.81	706.3	30.37	771.5	— 3.1	—19.5	55	WNW	4	2	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	29.97	761.2	30.04	763.0	46.2	7.9	99	N	4	2	.....	.....	10n	.....	.....	.....	.....	Raining	Kurdakof.
Nukuss	30.41	772.3	30.65	778.6	33.8	1.0	68	ENE	11	5	.....	.....	0	.....	.....	.....	.....	.....	.....
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	30.05	763.2	30.19	766.8	45.9	7.7	36	NE	4	2	.....	.....	5ks	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	30.58	776.7	30.60	777.1	30.2	— 0.1	96	E	4	2	.....	.....	10n	.....	.....	.....	.....	Light fog.....	Central Physical Obs.
Tashkend	28.97	735.9	30.65	778.6	32.4	0.2	89	.....	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.87	733.2	30.29	769.4	57.7	14.3	62	SE	4	2	.....	.....	9ks	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	29.90	759.5	30.35	771.0	26.4	— 3.1	89	E	11	5	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	30.05	763.3	30.50	774.6	29.7	— 1.3	90	NE	4	2	.....	.....	10	.....	.....	.....	.....	Heavy clouds...	Astronomical Obs.
Yenisiesk	29.91	759.6	30.22	767.5	14.2	— 9.9	83	W	7	3	.....	.....	10	.....	.....	.....	.....	Snowing.	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	29.96	761.0	30.07	763.7	57.2	14	52	WSW	3.9	1.75	.....	.....	0	.....	.....	0	0	Clear.	Antonio Rave, Director
Bilbao, Met. Obs'y	30.05	763.3	30.11	764.8	52.5	11.4	89	SE	1.3	0.57	.....	.....	10	.....	.....	0.024	0.6	Covered.....	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.12	688.9	.....	.....	48.6	9.2	69	NE	5.0	2.22	.....	0	8	.....	.....	0	0	Cloudy.....	Domingo Martin y Perez.
Madrid, Royal Observatory	27.74	704.6	29.97	761.1	57.9	14.4	57	SE	7.4	3.33	.....	0	0	.....	.....	0	0	Clear.	The Staff.
Murcia, Met. Obs'y	29.80	756.9	29.95	760.7	69.8	21.0	46	SSE	4.4	1.97	.....	0	0	.....	.....	0	0	Clear.	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.12	739.6	30.00	762.1	63.0	17.2	59	NE	3.1	1.4	.....	.....	0	.....	.....	0	0	Clear.	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	29.83	757.8	29.90	759.4	75.7	24.3	87	WNW	2.7	1.2	.....	.....	10n	.....	NNW	0.102	2.6	Light rain...	Benito Vines, S. J.
Manilla, Phillippine Islands	29.63	752.6	29.69	754.0	82'8	28.2	77	N	6.7	3.0	.....	.....	6kn	.....	E	0.36	0.9	Cloudy.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.94	760.4	30.04	762.9	64.6	18.1	66	Calm	0	0	.....	0	1	.....	NW	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.80	757.0	29.89	759.3	78.8	26.0	84	E	8.9	4.00	.....	3ck	3k	E	E	0.165	4.20	Clear.	Enrique Gadea, Chief Eng'r

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity Miles per hour.	Wind. Velocity Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.17	766.4	30.21	767.4	34.2	1.2	.....	SW	.....	.....	2	.....	7	.....	.....	0	0	.....	
Umea	30.33	770.3	30.38	771.6	36.3	2.4	89	Calm	.....	.....	0	.....	9	.....	.....	0	0	.....	
Hernosand	30.42	772.7	30.47	774.0	42.8	6.0	82	Calm	.....	.....	0	.....	2	.....	.....	0	0	.....	
Stockholm	30.49	774.4	30.67	778.9	30.6	— 0.8	85	N	.....	.....	2	.....	2	.....	.....	0	0	.....	
Wisby	30.46	773.7	30.52	775.2	36.3	2.4	82	ESE	.....	.....	4	.....	7	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	30.50	774.6	30.58	776.8	29.3	— 1.5	95	SSW	2.2	1.0	.....	.....	4	ENE	.....	0.004	0.10	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.56	725.5	30.03	762.8	40.6	4.8	75	ENE	.....	.....	3	.....	10	.....	.....	0.055	1.4	Covered.....	The Observatory.
Zurich	28.41	721.5	30.12	765.0	33.4	0.8	81	N	.....	.....	2	.....	10	.....	.....	0.020	0.5	Covered.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, —1.0 mm.; Thermometer, —1.4 Cent.; Relative Humidity, —2 per cent.
NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.13	765.3	44.4	6.9	85	NW	11	5.0	.....	.....	10	.....	N	0.110	2.8	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.95	760.6	46.0	7.8	.....	SE	.....	.....	2	.....	2	.....	.....	0	0	Slightly cld'y	A. Bertrand.
Sub-series.																			
Beirut, (Syria) Lee Obs'y	29.99	761.7	30.10	764.6	72.9	22.7	56	SW	.....	.....	3	.....	6ks	.....	SW	0	0	D. clouds.....	Prof. C. V. A. van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	29.84	757.9	30.01	759.7	26.5	— 3.1	88	NW	9	4.0	.....	2ck	0	N	.....	0.04	1.0	Fair.....	G. A. Blair.
Charlottetown, P. E. Island	29.70	754.4	29.74	755.4	31.2	— 0.4	93	NE	9	4.0	.....	.....	10n	.....	.....	0.27	6.9	Cloudy.....	H. J. Cundall, C. E.
Cornwall, Ontario	29.76	755.9	29.96	761.0	25.9	— 3.4	93	W	.....	.....	1	.....	9n	.....	.....	0.10	2.5	Cloudy.....	James Smith, M. A.
Dalhousie, N. B	29.75	755.6	29.93	760.2	23	— 5.0	.....	W	.....	.....	2	.....	10ks	.....	.....	0	0	Cloudy.....	H. A. Johnson.
Father Point, Quebec	29.92	760.0	29.94	760.5	25.4	— 3.7	88	NE	6	2.7	.....	8k	2s	.....	.....	0	0	Cloudy.....	J. McWilliams.
Fredericton, N. B	29.80	758.4	29.92	760.0	27.2	— 2.7	80	NW	5	2.2	.....	.....	8s	.....	.....	0.05	1.3	Cloudy.....	Prof. Harrison.
Fort Garry, Manitoba	29.32	744.7	30.21	767.3	16.0	— 8.9	94	N	32	14.8	.....	Mist	4n	N	.....	0	0	Hazy.....	James Stewart.
Granton, Ontario	28.79	731.3	29.94	760.5	28	— 2.2	.....	SW	.....	.....	2	.....	10n	.....	.....	Inap.	Inap.	Cloudy.....	James Grant.
Halifax, N. S	29.56	750.8	29.99	754.1	32.0	0.0	93	N	13	5.8	.....	5cs	5ks	.....	.....	0.88	22.4	Fair.....	A. Allison, M. A.
Hamilton, Ontario	29.62	752.3	30.00	762.0	30.7	— 0.7	96	N	.....	.....	2	.....	10cs	.....	NW	0	0	Cloudy.....	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.66	753.4	30.02	762.5	21.1	— 6.1	74	W	3	1.3	.....	5ck	0	W	.....	0.02	0.5	Fair.....	S. Woods, M. A.
Little Glace Bay, N. S	29.55	750.6	29.59	751.6	33.2	0.7	93	NE	14	6.3	.....	.....	10n	.....	.....	0.40	10.2	Snowing.....	C. H. Rigby.
Montreal, Quebec	29.78	756.4	29.99	761.7	23.6	— 4.7	87	SW	4	1.8	.....	7k	Sm'e	SW	.....	0.11	2.8	Cloudy.....	C. H. McLeod, C. E.
Moose Factory, Ontario	29.23	742.4	29.26	743.2	22.3	— 5.4	97	S	.....	.....	6	.....	10n	.....	.....	Inap.	Inap.	Snow-storm	J. R. Nason.
Norwood	29.20	741.7	29.94	760.5	23.8	— 4.6	95	SE	.....	.....	2	5k	0	NW	.....	Inap.	Inap.	Fair.....	Rev. T. F. Fotheringham, M. A.
Parry Sound, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. R. Mosley.
Peterboro, Ontario	29.16	740.7	29.96	761.0	23.3	— 4.8	59	W	.....	.....	1	0	8ks	.....	.....	0	0	.....	J. F. Jeffers, B. A.
Port Dover, Ontario	29.25	742.9	29.97	761.2	33.0	0.6	80	W	8	3.6	.....	10k	0	W	.....	0	0	Cloudy.....	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.31	744.5	29.98	761.5	35.2	1.8	88	W	40	17.9	.....	5k	0	SW	.....	0	0	Cloudy.....	M. Payne.
Quebec, Quebec	29.69	754.1	30.03	762.7	21	— 6.1	86	Calm	.....	.....	0	Haze	Haze	.....	.....	0	0	Hazy.....	Capt. Ashe, R. N.
Rockliffe, Ontario	29.39	746.5	29.88	758.9	22.1	— 5.5	86	SE	3	1.3	.....	.....	8s	.....	SE	0	0	Cloudy.....	W. H. McIntyre.
St. Andrews, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Gove.
St. John, N. B	29.69	754.1	29.86	758.4	29	— 1.7	88	N	13	5.8	.....	0	7ks	.....	.....	0.06	1.5	Cloudy.....	G. Murdock, C. E.
Saugeen, Ontario	29.07	738.4	29.80	756.9	36	2.2	90	SW	46	20.6	.....	.....	10n	.....	W	0	0	Overcast.....	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.90	726.4	29.93	760.2	29.2	— 1.6	74	SW	16	7.2	.....	2cs	8s	NW	.....	0.05	1.3	Cloudy.....	C. J. MacGregor, M. A.
Sydney, C. B	29.61	752.1	29.95	753.1	32.0	0.0	95	NE	5	2.2	.....	.....	10n	.....	.....	Inap.	Inap.	Snowing.....	T. C. Hill, C. E.
Toronto, Ontario	29.58	751.3	29.98	761.5	30.8	— 0.7	69	SW	14	6.3	.....	8ck	2s	W	W	Inap.	Inap.	Cloudy.....	Magnetic Observatory.
Windsor, N. S	29.61	752.1	29.70	754.4	31.5	— 0.3	95	N	17	7.6	.....	0	7k;n	.....	.....	0.52	13.2	Fair.....	Prof. John E. Oram.
Woodstock, Ontario	28.82	732.0	29.93	760.2	30.6	— 0.8	83	S	21	9.4	.....	7k	1s	SW	.....	0.02	0.5	Cloudy.....	Prof. J. Montgomery.
Yarmouth, N. S	29.76	755.9	29.82	757.4	32.7	0.4	95	N	.....	.....	2	0	5ks	.....	.....	0.65	16.5	Fair.....	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.78	756.4	30.04	763.0	31.0	— 0.6	100	SE	.....	.....	.....	.....	10	.....	.....	0	0	Threatening	John Delany.
St. Pierre, N. F	.....	.....	29.68	753.8	30.2	— 1	.....	NE	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	l'Hopital Maritime.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10, except Yarmouth and St. Johns on scale 0 to 20. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.** UNITED STATES SERIES.

Furnished by the co-operation of BVT. BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instru'm'tal error and temperature. Inches.	BAROMETER. Corrected for instru'm'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	Force. 0–10.	CLOUDS. Amount. Up'er 0–10.	CLOUDS. Amount. Lo'er 0–10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.82	757.4	30.07	763.8	26	— 3.3	75	NW	4	1.8		0	0			0.25	6.3	Clear.	
Alpena, Michigan	29.04	737.6	29.69	754.1	33	0.6	89	SW	17	7.6			10s		Calm	0	0	Cloudy	
Atcha, Aleutian Is., Alaska																			
Atlanta, Georgia	28.91	734.3	30.10	764.5	38	3.3	90	NW	10	4.5			10n		Calm	0.11	2.8	Light snow.	
Atlantic City, New Jersey	30.07	763.8	30.09	764.3	32	0.0	79	NW	12	5.4		10k	0	W		0	0	Cloudy	
Augusta, Georgia	29.91	759.7	30.11	764.8	45	7.2	76	NE	8	3.6			10n		Calm	1.12?	28.4?	Light rain...	
Baltimore, Maryland	30.13	765.3	30.18	766.6	33	0.6	51	N	6	2.7		2ck	0	W		0.01	0.3	Clear.	
Barnegat, New Jersey	30.04	763.0	30.06	763.5	34	1.1	70	N	16	7.2		8k	2ks	N	N	0.16	4.1	Cloudy	
Bismarck, Dakota	28.58	725.9	30.35	770.9	25	— 3.9	75	NW	36	16.1		0	5s		NW	0	0	Fair...	
Boerne, Texas	28.97	735.8	30.41	772.4	27	- 2.8	76	NW	2	0.9		0	0			0	0	Clear.	
Boise City, Idaho	27.71	703.8	30.67	779.0	25	— 3.9	81	E	2	0.9		0	0			0	0	Clear.	
Boston, Massachusetts	29.87	758.7	30.03	762.7	29	— 1.7	67	N	7	3.1		0	8ks		NW	0.89	22.6	Fair...	
Brackettville, Texas	29.31	744.5	30.46	773.7	29	— 1.7	67	N	1	0.4		0	0			0	0	Clear.	
Breckenridge, Minnesota	29.00	736.6	30.05	763.3	27	- 2.8	76	N	36	16.1			10s		N	0	0	Cloudy	
Brownsville, Texas	30.47	773.9	30.52	775.2	40	4.4	65	N	4	1.8		0	0			0	0	Clear.	
Buffalo, New York	29.25	742.9	29.98	761.5	32	0.0	79	S	12	5.4			9s		SW	0.14	3.6	Cloudy	
Burkes, Arizona					49	9.4	18	E			1	0	0			0	0	Clear.	
Burlington, Vermont	29.72	754.9	30.02	762.5	26	— 3.3	88	E	5	2.2		0	5ks		W	0.08	2.0	Fair...	
Cairo, Illinois	29.92	760.0	30.34	770.6	35	1.7	90	SW	2	0.9		0	0			0	0	Clear.	
Campo, California	27.64	702.0	30.21	767.3	52	11.1	79	E	14	6.3		0	0			0	0	Clear.	
Cape Hatteras, N. Carolina	30.04	763.0	30.05	763.3	47	8.3	100	NE	24	10.7			10n		NE	0.67	17.0	Light rain...	
Cape Henry, Virginia	30.05	763.3	30.07	763.8	42	5.6	74	N	28	12.5			10s		NW	0.09	2.3	Cloudy	
Cape Lookout, N. Carolina	30.02	762.5	30.04	763.0	44	6.7	84	N	35	15.6			10s		N	0	0	Cloudy	
Cape May, New Jersey	30.07	763.8	30.10	764.5	34	1.1	70	W	24	10.7		2k	0	W		0.25	6.3	Clear.	
Castroville, Texas	29.70	754.4	30.47	773.9	30	— 1.1	57	NW	4	1.8		0	0			0	0	Clear.	
Cedar Keys, Florida	29.98	761.5	30.01	762.2	52	11.1	93	N	20	8.9			10n		N	0.11	2.8	Light rain...	
Charleston, South Carolina	29.89	759.2	29.95	760.7	44	6.7	92	NE	18	8.0			10n		Calm	1.53	38.9	Light rain...	
Charlotte, North Carolina	29.26	743.2	30.10	764.5	40	4.4	56	N	11	4.9			10s		NW	0	0	Cloudy	
Chattanooga, Tennessee	29.37	746.0	30.21	767.3	34	1.1	70	NW	8	3.6		0	1s		Calm	0	0	Clear.	
Cheyenne, Wyoming	24.33	618.0	30.37	771.4	36	2.2	36	W	14	6.3		0	0			0	0	Clear.	
Chicago, Illinois	29.28	743.7	30.00	762.0	31	— 0.6	69	SW	8	3.6		5ck	0	Calm		0	0	Fair...	
Cincinnati, Ohio	29.54	750.3	30.23	767.8	32	0.0	79	S	2	0.9		0	Fog		Calm	Inap.	Inap.	Clear.	
Cleveland, Ohio	29.32	744.7	30.08	764.0	30	— 1.1	78	S	16	7.2		0	0			0.04	1.0	Clear.	
Coleman City, Texas	28.62	726.9	30.41	772.4	31	— 0.6	58	N	5	2.2		0	0			0	0	Clear.	
Columbus, Ohio	29.26	743.2	30.08	764.0	59	15.0	77	SW	3	1.3		0	0			0	0	Clear.	
Concho, Texas	28.48	723.4	30.31	769.9	28	— 2.2	66	Calm	0	0		0	0			0	0	Clear.	
Corsicana, Texas	29.96	761.0	30.47	773.9	35	1.7	80	NW	4	1.8		0	0			0	0	Clear.	
Davenport, Iowa	29.32	744.7	29.99	761.7	30	— 1.1	78	SW	16	7.2		0	0			0	0	Clear.	
Deadwood, Dakota	25.72	653.3			34	1.1	43	Calm	0	0		0	0			0	0	Clear.	
Decatur, Texas																			
Denison, Texas	29.56	750.8	30.41	772.4	35	1.7	61	SW	7	3.1		0	0			0	0	Clear.	
Denver, Colorado	25.05	636.3	30.27	768.8	33	0.6	51	SE	10	4.5		0	0			0	0	Clear.	
Des Moines, Iowa	29.05	737.9	29.95	760.7	35	1.7	70	N	9	4.0		0	0			0	0	Clear.	
Detroit, Michigan	29.28	743.7	29.97	761.2	31	— 0.6	89	SW	16	7.2		5cs	0	Calm		0	0	Fair...	
Dodge City, Kansas	27.62	701.5	30.04	763.0	28	— 2.2	66	W	12	5.4		0	0			0	0	Clear.	
Dubuque, Iowa	29.17	740.9	29.89	759.2	30	— 1.1	68	SW	7	3.1		5c	0	W		0	0	Fair...	
Duluth, Minnesota	28.98	736.1	29.66	753.4	36	2.2	90	NW	8	3.6		0	2s		NW	0	0	Fair...	
Eagle Pass, Texas	29.74	755.4	30.54	775.7	33	0.6	70	Calm	0	0		0	0			0	0	Clear.	
Eastport, Maine	29.81	757.2	29.88	758.9	29	— 1.7	78	N	17	7.6		5c;k	0	N		0.66	16.8	Fair...	
Edinburg, Texas					50	10.0	65	NW			1	0	0			0	0	Clerr.	
El Paso, Texas																			
Erie, Pennsylvania	29.26	743.2	29.99	761.7	35	1.7	70	SW	15	6.7			10ks		SW	0.03	0.8	Cloudy	
Escanaba, Michigan	28.89	733.8	29.55	750.6	31	— 0.6	79	SW	14	6.3			10s		SW	0	0	Cloudy	
Florence, Arizona																			
Fort Assiniboine, Montana																			
Fort Buford, Dakota	28.52	724.4	30.56	776.2	16	— 8.9	66	NW	16	7.2		10cs	0	NW		0	0	Cloudy	
Fort Custer, Montana	27.32	693.9			34	1.1	71	SW	4	1.8		0	0			0	0	Clear.	
Fort Davis, Texas	25.52	648.4	30.48	774.2	21	— 6.1	57	Calm	0	0		0	0			0	0	Clear.	
Fort Gibson, Indian Ter	29.76	755.9	30.33	770.4	32	0.0	59	NE	3	1.3		0	0			0	0	Clear.	
Fort Grant, Arizona	25.53	648.4	30.33	770.4	31	— 0.6	30	N	7	3.1		0	0			0	0	Clear.	
Fort Griffin, Texas	29.09	738.9	30.44	773.2	35	1.7	53	Calm	0	0		0	0			0	0	Clear.	
Fort Keogh, Montana	27.88	708.1			35	1.7	52	NW	15	6.7		0	5s		NW	0	0	Fair...	
Fort McKavett, Texas	27.11	688.6	30.18	766.6	29	— 1.7	67	W	4	1.8		0	0			0	0	Clear.	
Fort St. Michael, Alaska																			
Fort Shaw, Montana																			
Fort Sill, Indian Territory	29.09	738.9	30.28	769.1	27	— 2.8	76	SE	4	1.8		0	0			0	0	Clear.	
Fort Stevenson, Dakota	28.09	713.5			20	— 6.7	85	NW	34	15.2		8k	0	W		Inap.	Inap.	Cloudy	
Fort Verde, Arizona					29	— 1.7	67	NW			1	0	0			0	0	Clear.	
Fort Yates, Dakota																			
Fredericksburg, Texas	28.54	724.9	30.19	766.8	36	2.2	53	N	1	0.4		0	0			0	0	Clear.	
Galveston, Texas	30.41	772.4	30.46	773.7	47	8.3	41	N	21	9.4		0	0			0	0	Clear.	
Graham, Texas	29.27	743.4	30.42	772.7	26	— 3.3	75	Calm	0	0		0	0			0	0	Clear.	
Grand Haven, Michigan	29.17	740.9	29.82	757.4	42	5.6	66	SW	30	13.4		5cs	5s	W	SW	0.04	1.0	Fair...	
Helena, Montana																			
Henrietta, Texas	29.40	746.7	30.30	769.6	31	— 0.6	69	SW	4	1.8		0	0			0	0	Clear.	
Indianapolis, Indiana	29.32	744.7	30.14	765.5	31	— 0.6	89	S	3	1.3		0	1s;fg			0	0	Clear.	
Indianola, Texas	30.50	774.7	30.53	775.4	46	7.8	54	N	13	5.8		0	0			0	0	Clear.	
Jacksboro, Texas	29.15	740.4	30.36	771.1	30	— 1.1	68	N	3	1.3		0	0			0	0	Clear.	
Jacksonville, Florida	29.96	761.0	29.98	761.5	53	11.7	86	NW	7	3.1			10s		NW	0	0	Cloudy	
Keokuk, Iowa	29.37	746.0	30.01	762.2	32	0.0	79	SW	14	6.3		2cs	0	Calm		0	0	Clear.	
Key West, Florida	29.85	758.2	29.88	758.9	75	23.9	90	N	12	5.4			10s		N	0.33	8.4	Cloudy	
Kittyhawk, North Carolina	30.09	764.3	30.11	764.8	45	7.2	100	N	22	9.8			10n		W	0.89	22.6	Light rain...	
Knoxville, Tennessee	29.16	740.7	30.22	767.6	31.5	— 0.3	74	N	7	3.1		Haze	1ks		Calm	0	0	Hazy	
La Crosse, Wisconsin	29.04	737.6	29.78	756.4	36	2.2	71	SW	12	5.4			10s		Calm	0	0	Cloudy	
La Mesilla, New Mexico	26.48	672.6	30.63	778.0	21	— 6.1	57	Calm	0	0		0	0			0	0	Clear.	
Laredo, Texas	30.05	763.3	30.41	772.4	50	10.0	65	NW	3	1.3		0	0			0	0	Clear.	
Leavenworth, Kansas	29.21	741.9	30.09	764.3	34	1.1	79	S	5	2.2		0	0			0	0	Clear.	
Little Rock, Arkansas	30.04	763.0	30.42	772.7	35	1.7	80	NW	2	0.9		0	0			0	0	Clear.	
Los Angeles, California	29.87	758.7	30.22	767.6	53.0	11.7	25	N	3	1.3		0	0			0	0	Clear.	
Louisville, Kentucky	29.64	752.8	30.22	767.6	35	1.7	70	S	3	1.3		0	Sm'e		Calm	0	0	Clear.	
Lynchburg, Virginia	29.46	748.3	30.18	766.6	35	1.7	61	NE	2	0.9		10cs	0	SW		0	0	Cloudy	
Madison, Wisconsin	28.79	731.3	29.80	756.9	31	— 0.6	79	SW	20	8.9		5cs	0	W		0	0	Fair	
Marquette, Michigan	28.81	731.8	29.51	749.5	34	1.1	79	W	12	5.4			10ks		NW	0.09	2.3	Cloudy	
Mason, Texas	28.79	731.3	30.69	779.5	30	— 1.1	57	NW	3	1.3		0	0			0	0	Clear.	
Memphis, Tennessee	29.99	761.7	30.35	770.9	33	0.6	69	W	2	0.9		0	0			0	0	Clear.	
Milwaukee, Wisconsin	29.05	737.9	29.79	756.7	32	0.0	69	SW	20	8.9			10s		W	Inap.	Inap.	Cloudy	
Mobile, Alabama	30.21	767.3	30.26	768.6	42	5.6	74	N	11	4.9		0	0			0	0	Clear.	
Montgomery, Alabama	29.97	761.2	30.21	767.3	40	4.4	73	N	8	3.6		0	0			0.11	2.8	Clear.	

UNITED STATES SERIES—CONTINUED.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	Lo'er 0—10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER.
Morgantown, West Virginia	29.11	739.4	30.16	766.1	28	— 2.2	77	Calm	0	0	.....	0	0	.....	.....	0.07	1.8	Clear	
Mt. Washington, N. H.	23.43	595.1	29.79	756.7	8	—13.3	78	NW	21	9.4	.....	0	10ks	.....	NW	1.08	27.4	Clear.	
Nashville, Tennessee	29.74	755.4	30.31	769.9	33	0.6	79	Calm	0	0	.....	0	Sm'e	.....	Calm	0	0	Dense smoke	
New Haven, Connecticut	29.93	760.2	30.05	763.3	32	0.0	79	N	6	2.7	.....	0	2s	.....	NW	0.43	10.9	Clear.	
New London, Connecticut	29.97	761.2	30.12	765.0	35	1.7	70	NW	11	4.9	.....	7ck	1s	NW	NW	0.32	8.1	Cloudy.....	
New Orleans, Louisiana	30.27	768.8	30.33	770.4	50	10.0	58	N	13	5.8	.....	2k	Haze	N	Calm	0.18	4.6	Fair.....	
Newport, Rhode Island	29.97	761.2	30.02	762.5	32	0.0	79	N	7	3.1	.....	1k	0	Calm	.....	0.51	13.0	Clear.	
New York, New York	29.90	759.4	30.09	764.3	35	1.7	61	NW	7	3.1	.....	0	8ks	.....	E	0.24	6.1	Fair.....	
Norfolk, Virginia	30.08	764.0	30.14	765.5	39	3.9	63	NW	18	8.0	.....	.....	10s	.....	Calm	0.27	6.9	Cloudy.....	
North Platte, Nebraska	27.32	693.9	30.00	762.0	34	1.1	48	NW	18	8.0	.....	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter.	30.35	770.9	30.39	771.9	31.0	— 0.6	100	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Omaha, Nebraska	28.88	733.5	30.00	762.0	37	2.8	53	W	9	4.0	.....	0	0	.....	.....	0	0	Clear.	
Oswego, New York	29.71	754.6	30.04	763.0	30	— 1.1	78	S	4	1.8	.....	.....	10s	.....	NW	0.16	4.1	Cloudy.....	
Pembina, Dakota	29.27	743.4	30.17	766.3	15	— 9.4	82	NW	30	13.4	.....	0	0	.....	.....	0	0	Clear.	
Pensacola, Florida	30.20	767.1	30.23	767.8	45	7.2	61	N	2	0.9	.....	5k	0	N	.....	0.01	0.3	Fair.....	
Philadelphia, Pennsylvania	30.05	763.3	30.10	764.5	33	0.6	70	NW	13	5.8	.....	0	2s	.....	N	0.02	0.5	Fair.....	
Phœnix, Arizona	29.15	740.4	31.04	788.4	45	7.2	53	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.99	456.9	30.20	767.1	15	— 9.4	65	NE	20	8.9	.....	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	29.58	751.3	30.46	773.7	37	2.8	54	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Pioche, Nevada	.....	.....	.....	.....	34	1.1	43	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.29	744.0	30.14	765.5	29	— 1.7	78	NW	1	0.4	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Port Huron, Michigan	29.23	742.4	29.92	760.0	30	— 1.1	89	SW	18	8.0	.....	5cs	0	Calm	.....	0	0	Fair.....	
Portland, Maine	29.97	761.2	30.02	762.5	28	— 2.2	66	N	4	1.8	.....	0	0	.....	.....	1.10	27.9	Clear	
Portland, Oregon	30.37	771.4	30.45	773.4	39.5	4.2	73	S	7	3.1	.....	2cs	0	Calm	.....	0	0	Clear	
Portsmouth, N. Hampshire	.....	.....	.....	.....	45	7.2	100	N	36	16.1	.....	.....	10m	.....	N	0.67	17.0	Light rain...	
Prescott, Arizona	25.09	637.3	30.45	773.4	24	— 4.4	74	NE	.....	.....	1	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	29.88	758.9	29.89	759.2	71	21.7	75	NE	4	1.8	.....	9ck;k	0	S	.....	Inap.	Inap.	Fair.....	
Red Bluff, California	30.01	762.2	30.39	771.9	40	4.4	73	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	30.37	771.4	30.61	777.5	32	0.0	59	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Rochester, New York	29.40	746.7	30.05	763.3	27	— 2.8	76	SW	12	5.4	.....	5k	0	SW	.....	0.43	10.9	Fair.....	
Roseburg, Oregon	29.86	758.4	30.47	773.9	30.5	— 0.8	95	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Clear	
Sacramento, California	30.26	768.6	30.34	770.6	37	2.8	95	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.62	752.3	30.23	767.8	31	0.4	69	SW	9	4.0	.....	0	0	.....	.....	Inap.	Inap.	Clear	
St. Paul, Minnesota	28.91	734.3	29.74	755.4	36	2.2	80	W	10	4.5	.....	5cs	0	NW	.....	0	0	Fair.....	
Salt Lake City, Utah	26.15	664.2	30.48	774.2	21	— 6.1	43	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.80	756.9	30.43	772.9	36	2.2	53	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
San Diego, California	30.14	765.5	30.21	767.3	50	10.0	32	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Sandusky, Ohio	29.36	745.7	30.05	763.3	32	0.0	69	SW	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Sandy Hook, New Jersey	30.05	763.3	30.08	764.0	35	1.7	61	N	24	10.7	.....	.....	10s	.....	NW	0.43	10.9	Cloudy.....	
San Francisco, California	30.25	768.3	30.32	770.1	50	10.0	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Santa Fé, New Mexico	23.56	598.4	30.10	764.5	19	— 7.2	85	N	6	2.7	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Savannah, Georgia	29.97	761.2	30.07	763.8	44	6.7	92	N	12	5.4	.....	.....	10m	.....	N	1.17	29.7	Light rain...	
Shreveport, Louisiana	30.19	766.8	30.43	772.9	37	2.8	71	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.05	763.3	30.09	764.3	41	5.0	91	NE	16	7.2	.....	.....	10n	.....	Calm	1.00	25.4	Light rain...	
Socorro, New Mexico	25.82	655.8	29.89	759.2	25	— 3.9	50	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois	29.45	748.0	30.14	765.5	35	1.7	66	SW	12	5.4	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Springfield, Massachusetts	29.92	760.0	30.05	763.3	38	3.3	54	NW	8	1.3	.....	0	2ks	.....	N	0.63	16.0	Fair.....	
Stockton, Texas	27.48	698.0	30.48	774.2	29	— 1.7	14	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	29.96	761.0	30.02	762.5	33	0.6	79	N	15	6.7	.....	10k	0	NE	.....	3.28	83.3	Cloudy.....	
Toledo, Ohio	29.32	744.7	30.03	762.7	31	— 0.6	79	S	16	7.2	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Tucson, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon	30.30	769.6	30.86	783.6	22.5	— 5.3	80	SE	8	3.6	.....	0	1s	.....	.....	0	0	Clear	
Uvalde, Texas	29.56	750.8	30.41	772.4	27	— 2.8	53	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	30.11	764.8	30.38	771.6	40	4.4	73	N	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Virginia City, Montana	24.65	626.1	30.13	765.3	22	— 5.6	72	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.91	759.7	30.31	769.9	35.5	1.9	90	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	30.07	763.8	30.19	766.8	31	— 0.6	79	N	4	1.8	.....	2k	2s;sme	SW	N;calm	Inap.	Inap.	Fair.....	
Wickenburg, Arizona	.....	.....	.....	.....	32	0.0	59	W	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, North Carolina	29.97	761 2	30.05	763.3	39	3.9	91	NE	10	4.5	.....	.....	10n	.....	NE	1.00	25.4	Light rain...	
Winnemucca, Nevada	26.09	662.7	30.45	773.4	18	— 7.8	84	NE	12	5.4	.....	0	0	.....	.....	0	0	Clear.....	
Wood's Holl, Massachusetts	29.96	761.0	30.00	762.0	33	0.6	89	NW	10	4.5	.....	.....	8ks	.....	NW	0.66	16.8	Cloudy.....	
Yankton, Dakota	28.82	732.0	30.14	765.5	39	3.9	38	NW	16	7.2	.....	2c	0	NW	.....	0	0	Fair.....	
Yuma, Arizona	30.19	766.8	30.36	771.1	53	11.7	31	N	5	2.2	.....	0	0	.....	.....	0	0	Clear.	
SUB-SERIES.																			
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	29.82	757.4	29.87	758.7	77	25.0	90	SW	2.4	1.1	.....	0	8ks	.....	W	0.10	2.5	Cloudy.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.07	763.8	30.08	764.0	79	26.1	83	Calm	0	0	.....	0	2cs	.....	.....	0	0	Fair.....	James Gall.
Medellin, Colombia, S. A.*	25.20	640.1	.....	.....	65.5	18.6	92	Calm	.....	.....	0	.....	10n	.....	.....	0.27	6.9	.....	Thomas Herran.
Navassa, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.93	760.2	29.93	760.2	85	29.4	64	E	.....	.....	2	5ks	5k	E	.....	0	0	½ cloudy.....	C. J. Hering.
Santiago de Cuba, W. I.	29.84	757.9	29.86	758.4	78	25.6	86	NE	2.4	1.1	.....	0	2ks	.....	SW	Blank	Blank	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	30.18	766.6	30.23	767.8	— 4.0	—20.0	82	NW	9	4.0	.....	5k	4s	W	NW	0	0	Clear.	J. Fortescue & W. Wood
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NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Medellin, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.8 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,7.7 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,100 (?) ft., or 335 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,506 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,642 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 m., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm. *The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.34‡	770.6‡	.....	.....	46	7.8	84	N	16	7.2	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Navy Yard, Portsmouth, N.H	29.84‡	757.9‡	.....	.....	27	—2.8	90	W	2	0.9	.....	.....	10	.....	.....	.....	.....	.....	.....	Raining	
Naval Hospital, Yokohama, Japan	30.15‡	765.8‡	.....	.....	51.2	10.7	79	NE	.....	.....	2	.....	10ks	.....	W	0	0	.....	.....	Cloudy.....	
Adams. Mare I'd., Navy Yard, Cal.	30.35‡	770.9‡	.....	.....	49	9.4	78	ENE	.....	.....	3	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Alaska, Iquique, Peru .....*	29.93‡	760.2‡	.....	.....	62	16.7	83	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Hazy.....	
Alliance. N. 19° 07′, W. 37° 48′.....	30.07‡	763.8‡	.....	.....	77	25.0	73	ENE	.....	.....	4	.....	5	.....	ENE	.....	.....	Heavy	NE	D. clouds.....	
Colorado, New York, N. Y.....	30.04‡	763.0‡	.....	.....	35	1.7	74	NW	5	2.2	.....	.....	8	.....	Calm	0.16	4.1	.....	.....	Pleasant.....	
Constitution, Navy Yard, Norfolk, Va.	30.17‡	766.3‡	.....	.....	40	4.4	91	N	14	6.3	.....	.....	10	.....	N	.....	.....	.....	.....	Cloudy.....	
Enterprise, Alexandria, Egypt.....	30.15‡	765.8‡	.....	.....	69	20.6	65	NW	.....	.....	3	.....	3	.....	NW	.....	.....	Smooth	.....	Clear	
Franklin, Off Navy Yard, Norfolk, Va.	30.12‡	765.0‡	.....	.....	39	3.9	100	NNW	20.4	9.1	.....	.....	0?	.....	.....	0.05	1.3	.....	.....	Cloudy.....	
Hartford, Boston, Mass.....	30.02‡	762.5‡	.....	.....	31	—0.6	90	NNW	.....	.....	3	.....	10	.....	N	0	0	Smooth	.....	Cloudy.....	
Independence, Mare I'd, Navy Yard, Cal.	30.35‡	770.9‡	.....	.....	54	12.2	80	E	0.3	0.1	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Kearsage, Savannah, Ga.....	30.03‡	762.7‡	.....	.....	50	10.0	93	N	.....	.....	6	.....	10	.....	N	.....	.....	Mod'ate	NE	Heavy rain..	
Lackawana, N. 33° 20′. E. 179° 30′...†.	30.39‡	771.9‡	.....	.....	69	20.6	85	E	.....	.....	4	.....	2	.....	E	.....	.....	Mod'ate	E	Fair.....	
Marion, Off Norfolk, Va.	30.12‡	765.0‡	.....	.....	41	5.0	68	NNW	.....	.....	5	.....	10	.....	NNW	.....	.....	Smooth	.....	Cloudy.....	
Michigan, Erie, Pa.....	29.96‡	761.0‡	.....	.....	35	1.7	74	SSW	.....	.....	6	.....	5	.....	W	.....	.....	.....	.....	Fair.....	
Monocacy, Shanghai, China..	29.96‡	761.0‡	.....	.....	60	15.6	94	E	.....	.....	1	.....	8	.....	E	.....	.....	.....	.....	Cloudy.....	
New Hampshire, Port Royal, S. C.....	30.02‡	762.5‡	.....	.....	46	7.8	100	NNE	30	13.4	.....	.....	10	.....	Calm	1.6	42.	.....	.....	Raining	
Onward, Callao, Peru ....†.	29.91‡	759.7‡	.....	.....	65	18.3	89	NW	.....	.....	1	.....	10	.....	.....	.....	.....	Long	W	Misty.....	
Palos. Tientsin, China...	30.10‡	766.1‡	.....	.....	40	4.4	91	N	.....	.....	0–1	.....	8	.....	.....	.....	.....	.....	.....	Cloudy.....	
Passaic, Washington, D. C.....	30.16‡	766.1‡	.....	.....	32	0.0	82	NW	.....	.....	1	.....	8	.....	.....	0	0	.....	.....	Cloudy.....	
Pensacola, Callao, Peru.....	29.94‡	760.5‡	.....	.....	65	18.3	89	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Smooth	.....	Overcast....	
Powhatan, Navy Yard, Brooklyn, N.Y.	30.07‡	763.8‡	.....	.....	39	3.9	74	N	.....	.....	3	.....	10	.....	NNW	0.27	6.9	.....	.....	Cloudy.....	
Quinnebaug, Leghorn, Italy.....	29.86‡	758.4‡	.....	.....	52	11.1	73	SE	.....	.....	2	.....	8	.....	E	.....	.....	.....	.....	Cloudy.....	
Ranger, N. 39° 18′, E. 164° 22′.....	29.93‡	760.2‡	.....	.....	56	13.3	87	NNE	.....	.....	6	.....	10	.....	NE	.....	.....	Smooth	.....	Overcast....	
Richmond, Shanghai, China.....	30.01‡	762.2‡	.....	.....	60	15.6	100	NNE	.....	.....	1	.....	5	.....	NE	0.42	10.7	.....	.....	Pleasant....	
Rio Bravo, Brownsville, Texas... †.	30.08‡	779.3‡	.....	.....	40	4.4	68	NNW	5	2.2	.....	.....	2	.....	Calm	0	0	.....	.....	Fair.....	
Santee. Annapolis, Md.....	30.16‡	766.1‡	.....	.....	35	1.7	.....	NW	.....	.....	3	.....	5?	.....	SW	0	0	.....	.....	Clear?.....	
Shenandoah, S. 5° 30′. W. 30° 54′..... .	29.92‡	760.0‡	.....	.....	81	27.2	78	SE	.....	.....	5	.....	2	.....	.....	.....	.....	Smooth	.....	Fair.....	
St. Louis, League Island, Pa.....	30.14‡	765.5‡	.....	.....	31	—0.6	100	NW	6	2.7	.....	.....	2	.....	.....	0.14	3.6	.....	.....	Clear	
Trenton. Gibraltar, Mediterranean	30.01‡	762.2‡	.....	.....	73	22.8	49	WNW	.....	.....	1	.....	0	.....	.....	0	0	Smooth	.....	Clear	
Tuscarora. N. 16° 05′, W. 98° 10′.	29.84‡	757.9‡	.....	.....	77	25.0	61	NE	.....	.....	3	.....	2	.....	Calm	0	0	Smooth	.....	Fair.....	
Vandalia. Key West, Fla.....†.	29.92‡	760.0‡	.....	.....	76	24.4	95	NW	.....	.....	3	.....	8	.....	.....	.....	.....	.....	.....	Cloudy.....	
Wabash, Boston, Mass.....	29.98‡	761.5‡	.....	.....	27	—2.8	90	NW	10	4.5	.....	.....	5	.....	.....	0	0	.....	.....	Clearing.....	
Wachusett, N. 5° —′, W 27° —′.....	30.00‡	762.0‡	.....	.....	79	26.1	91	ESE	.....	.....	2	.....	10	.....	ESE	.....	.....	Long	NNW	Squally.....	
Wyoming, Malaga, Spain.....	29.91‡	759.7‡	.....	.....	72	22.2	87	WSW	.....	.....	3–4	.....	0	.....	.....	.....	.....	Smooth	W	Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S. S. Samaria																			Capt. T. Roberts.
NOTE.—†Aneroid. *The error of the barometer is not known.																			
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitebury.
S. S. Costa Rica																			W. House & R. Lawless.
S. S. Dakota, Capt. H. G. Morse																			Capt. Connolly.
S. S. Georgia																			F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin																			Capt. A. Fuller.
S. S. Wilmington																			
S. S. Zealandia, S. 36° 46′, E. 170° 22′		29.56‡	751.3‡				SW			6				W		Mod'ate	E	Squally	R. C. Ghest, 1st Officer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
NOTE.—The orginals give the barometer as read off; wind-force by the scale 0 to to 12; for the Brittanic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer N. 31° 48′, E. 132° 35′..†		29.96‡	761.0‡	70	21.1	70	S			4		2		S		Mod'ate	S	Showery	D. A. Joyce, 2nd Officer
S. S. Gaelic, Capt. Davidson N. 40° 59′, W. 130° 20′..†		30.20‡	767.1‡	56	13.3		S			2		ks		SE	0	Mod'ate		D. clouds	J. A. Thompson, C. O. J. G. Cameron.
S. S. Oceanic, Capt. J. Metcalf																			
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Pfeiffer, N. 41° 42′, W. 64° 40′		29.67‡	753.6‡	41.5	5.3	90	NNE			8		10		N	6 h'rs	Very heavy	N	Drizzling	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, Bremerhaven, Germany		30.15‡	765.8‡				E			2		5		E				Cloudy?	Capt. G. Meyer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD.	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.			CHARACTER.	DIRECTION FROM—		
											Up'er	Lo'er	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
S. S. Indiana, N. 39° 13′, W. 73° 49′		30.07‡	763.8‡	48	6.1	??	NNW			6		9		NW	Heavy	Mod'ate	NNW	Cloudy	Capt. R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents.

Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

NOTE.—The originals give the barometer as read off; do not distinguish between upper and lower clouds; sea-swell in general terms, as published. ‡Corrections for temperature, instrumental error and elevation applied at this office.

ALLAN LINE MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES—Miscellaneous.

Furnished by the co-operation of the Observers named.

Schooner Addie Fuller, N. 36° 03′, W. 74° 33′		30.01‡	762.2‡	54	12.2	100	N	20	8.9		10n		S		0.75 in. or 10.1mm.	Heavy	N	Raining	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George" of Halifax																			N. B. Foss.
Schooner Harry and Fred																			Capt. George Gardner.
Haytian																			
§ Iron Cross																			Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sundelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds or types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.,) Chief Signal Officer, U. S. A

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 20, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	29.78	756.5	67.6	19.8	87	SW	.....	.....	1	.....	10	.....	.....	0.236	6.0	Covered.....	
Nemours	.....	.....	29.78	756.3	67.6	19.8	76	WNW	.....	.....	1	.....	10	.....	.....	0	0	Covered.....	Kesxuche.
Algiers	.....	.....	29.86	758.4	66.6	19.2	64	SW	.....	.....	2	.....	0	.....	.....	0	0	Clear.	Touriliere.
La Calle	.....	.....	29.96	761.0	65.8	18.8	64	S	.....	.....	4	.....	2	.....	.....	0	0	Fair...	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.039	1.0	.....	Jacques.
Sfax	.....	.....	30.08	764.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Herbin.
Tebessa	.....	.....	30.09	764.3	59.4	15.2	70	SSW	.....	.....	3	.....	0	.....	.....	0	0	Clear.	Watrin.
Geriville	.....	.....	.....	.....	57.6	14.2	39	NNW	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Brugniaux.
Laghouat	.....	.....	30.09	764.3	66.9	19.4	10	SSW	.....	.....	5	.....	2	.....	.....	0	0	Fair...	Bertrand.
Biskra	.....	.....	30.01	762.3	66.2	19.0	64	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.60	751.9	30.18	766.6	32.4	0.2	85	N	.....	.....	4	.....	10	.....	.....	0.028	0.7	Snowy	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.65	753.0	30.47	774.0	25.2	— 3.8	93	E	11.2	5.0	.....	.....	10	.....	.....	0	0	.....	Dr. Wierzbicki.
Eperies	29.36	745.6	30.29	769.3	30.2	— 1.0	80	NW	.....	.....	1	.....	9cs	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.86	733.1	30.17	766.3	34.7	1.5	87	SE	.....	.....	2	.....	7	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.81	731.8	30.34	770.6	28.2	— 2.1	89	S	.....	.....	2	.....	4	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.65	727.8	30.06	763.5	31.8	— 0.1	81	ENE	.....	.....	5	.....	5	.....	.....	0.110	2.8	.....	Prof. C. Wagner.
Lemberg	29.35	745.5	30.40	772.1	32.5	0.3	90	SE	.....	.....	1	.....	10	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	29.85	758.3	29.97	761.2	45.1	7.3	68	E	.....	.....	0	.....	8	.....	.....	0	0	.....	I.R.Hydrographic Office.
Szathmar	29.84	758.0	30.33	770.4	37.0	2.8	88	E	.....	.....	3	.....	1	.....	.....	0	0	.....	Pet. Pancsics, S. J.
Szegedin	29.92	759.9	30.21	767.4	37.0	2.8	74	SE	.....	.....	4	.....	10	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.92	759.9	30.02	762.5	41.0	5.0	46	ENE	.....	.....	2	.....	1	.....	.....	0.087	2.2	.....	P. Busin.
Vienna	29.50	749.4	30.25	768.3	29.1	— 1.6	84	Calm	.....	.....	0	.....	10	.....	.....	0.087	2.2	.....	I.R.Central Met. Ob'sy
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

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BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Barometer. Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Lw'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Aberdeen	30.43	772.9	30.53	775.4	43.5	6.4		SE	24	10.7			6			Blank	Blank	Squally	W. Boswell.
Ardrossan	30.38	771.6	30.40	772.1	44	6.7		E			3		7					D. clouds	Wm. McNeil & G. Carrick.
Armagh, (Observatory)	30.09	764.3	30.34	770.6	43.5	6.4		ENE	16	7.2			8					D. clouds	S. Call.
Bidston (Liverpool Obs)			30.24	768.1	39.8	4.3		ENE	23	10.3			8					Misty	John Hartnup.
Bolton (Sharples)	29.67	753.6	30.19	766.8	37.1	2.8		ENE	24	10.7			6					Overcast	Thomas Mackereth.
Bradford, Yorkshire	29.86	758.4	30.26	768.6	39.6	4.2		E			5		8			0.02	0.5	Snowing	J McLandsborough.
Bridgetown, Barbadoes	29.83	757.7	29.86	758.4	82	27.8		NE			2		6					Gloomy	Pvt. G. Surgener, A.H.C.
Cambridge (Observatory)	30.02	762.5	30.12	765.0	36.0	2.2		NE			2		10			Blank	Blank	Overcast	H. Todd.
Cardington			30.11	764.8	34.4	1.3		NE			3		10					Snowing	John McLaren.
Chatham (School M. E.)	29.92	760.0	30.06	763.5	34.1	1.2		NE			5		10					Overcast	J. Carmell, Sapper, R. E.
Donaghadee	30.31	769.9	30.35	770.9	45	7.2		ESE			5		5					D. clouds	J. Mac Gowan.
Dover	29.99	761.7	30.01	762.2	36	2.2		E			6		7					¾ clouded	J. Costello.
Falmouth (Observatory)	29.85	758.2	30.09	764.3	39.9	4.4		NNE			4		2					D. clouds	The Staff.
Fort Napier, Natal	27.26	692.4	29.48	748.8	89.4	31.9		E			2		0					Blue sky	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone																			
Galway (Queen's College)			30.19	766.8	46	7.8		ENE			2		8					D. clouds	Prof. A. H. Curtis.
Gibraltar, Mediterranean																			Sergt. Wm. Allen, A. H. C.
Glasgow, (Observatory)	30.21	767.3	30.42	772.7	43.7	6.5		ENE			4		9					Gloomy	D. G. Maclean.
Great Yarmouth	30.14	765.5	30.14	765.5	38	3.3		ENE			7		5					D. clouds	G. T. Watson.
Greenwich (Royal Obs'y)	29.90	759.4	30.09	764.3	32.7	0.4		NE			2		10					Snowing	The Staff, for G. B. Airy.
Guernsey	29.77	756.1	29.99	761.7	35	1.7		NE			2		10					Snowing	Dr. S. E Hoskins, F.R.S.
Helston	30.34	770.6	30.46	773.7	47	8.3		NE			2	c				0	0	Fine	M. P. Moyle.
Holyhead	30.18	766.6	30.22	767.6	43	6.1		E			6		1					Blue sky	John Tilston.
Jersey	29.69	754.1	29.99	761.7	39.0	3.9		ENE			3		5			Blank	Blank	D. clouds	J. Fisher.
Kew (Observatory)	30.05	763.3	30.09	764.3	33.5	0.8		NE	20	8.9			10					Snowing	The Met'g'l Office.
Leicester (Museum)	29.90	759.4	30.16	766.1	38.0	3.3		NE			6		0			Blank	Blank	Blue sky	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	29.94	760.5	30.02	762.5	68	20.0		SW			2		0					Blue sky	A. King.
Nairn	30.40	772.1	30.49	774.4	44	6.7		SE			2		2					¼ clouded	W. D. Penny.
Nassau, Bahamas			29.92	760.0	69.0	20.6		NW			5		9					D. clouds	C. S. Duncombe.
Nottingham (Observatory)	30.01	762.2	30.21	767.3	38.0	3.3		NNE			4		9kd		NE	0.126	3.20	D. clouds	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.62	752.3	30.16	766.1	37.0	2.8		NE			4		9					D. clouds	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)			30.13	765.3	36	2.2		E			3		10					Threatening	H. E. Bellamy.
Plymouth	29.99	761.7	30.06	763.5	40.9	4.9		ENE			4		5					D. clouds	John Merrifield.
Prince Town																			W. H. Tooker.
*Roche's Point	30.14	765.5	30.22	767.6	42	5.6		ESE			5		10					Raining	Wm. Kennedy.
St. Ann's Head	29.98	761.5	30.15	765.8	42	5.6		ENE			3		10					Squally	John C. Walker.
Sandwick Manse, Orkneys			30.56	776.2	43.7	6.5		SE	24	10.7			8					D. clouds	Rev. C. Clouston, L.L.D.
Scutari Cemetery, Turkey	30.24	768.1	30.30	769.6	54.0	12.2		NE			2		5					D. clouds	Serg't W. H. Lyne.
Sheffield	29.97	761.2	30.27	768.8	38.4	3.6		NE			2		6			0.50	12.7	D. clouds	W. F. Cooper.
Silloth Rectory	30.30	769.6	30.33	770.4	43.5	6.4	80	E			6		4			0	0	D. clouds	Francis Redford, A. M.
Stonyhurst (Observatory)			30.24	768.1	40.3	4.6		ENE	17	7.6			10					Drizzling	Rev. S. J. Perry.
Stratfield, Turgiss	29.89	759.2	30.12	765.0	34.3	1.3		NE			2–3		10					Snowing	Rev. C. H. Griffith, F.M.S.
Truro (Royal Institution)	30.06	763.5	30.13	765.3	44	6.7		NE			6		6					D. clouds	W. Newcombe.
Valencia Observatory)	30.15	765.8	30.18	766.6	47.6	8.6		E	18	8.0			8					D. clouds	The Met'g'l Office.
Sub-Series.																			
Cape Town (C. G. H. Obs'y)	29.92	760.0	29.96	761.0	72.5	22.5	54	W	13	5.8		4c	6ks						The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.22	640.6			88	31.1		W				0	1cs						Robert Burnet.
Hobart Town, Tasmania			29.72?	754.9?	53.0	11.7	71	S			3		4k			0.02	0.5		Francis Abbott, F.R.A.S.
Leith, (Restalrig Park)			30.44	773.2	43.2	6.2		E			4		8k			0.05	1.3	Cloudy	Andrew Gibb.
Mauritius (Observatory)	29.83	757.7	30.02	762.6	80.2	26.8	58	E	11.5	5.1		4	1	NNW		0	0	Fine	C. Meldrum.
Melbourne (Observatory)	29.81	757.2	29.90	759.4	53.0	11.7	82	S	3	1.3			10			0.03	0.8	Gloomy	R. L. J. Ellery.
Monach Lt-house, Hebrides			30.43	772.9	47	8.3		SSE			4		10			0	0		J. Youngclause.
North Unst, Shetland Is			30.64	778.2				SW			2		10			0	0		

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Colesberg Bridge, unknown.

British Marine Series. Vessels.	Corrected Inches	Millimeters	Reduced Inches	Millimeters	Fahrenheit	Centigrade	Per cent	Wind From—	Miles per hour	Meters per second	Force	Clouds Upper	Lower	Upper From—	Lower From—	Sea or swell. Height	Direction from—	Weather	Observer
H. M. S. Alert, Off Walker Bay, Patagonia			29.37‡	746.0‡	54	12.2		WSW			1		7					D. clouds	Capt. J.P. Maclear, R.N.
H. M. Sloop Gannet, S. 11° 50′, W. 77° 45′			29.96‡	761.0‡	64	17.8		SSE			3		9					Overcast	Commander E. Bourke, R. N.
H. M. S. Magpie, Shaweishan I'd., China.			30.17‡	766.3‡	58	14.4		NE			7		3					Misty	Capt. R. H. Napier, R.N.
Brig Alliance, N. 33° 20′, W. 56° 10′			30.03‡	762.7‡	73.5	23.1		SSE			5		9					Overcast	Capt. W. Scott.
Barque Belle-Isle, N. 18° 10′, W. 75° 40′			29.86	758.4	80	26.7		NW			2		4			2	N	D. clouds	Capt. A. J. Brown.
S. S. German, N. 2° 50′, W. 11° 05.′			29.89‡	759.2‡	82	27.8		SSW			3		4					D. clouds	Capt. O. D. Coxwell.
Barque Mertole, N. 44° 25′, W. 11° 45′			29.72‡	754.9‡	56.2	13.4		E			6		10					Overcast	Capt. Turner.
S. S. Peruvian, N. 55° 20′, W. 37° 40′			29.96‡	761.0‡	43	6.1		E			4		6			4	NE	Squally	Capt. W. H. Smith.
Barque Queen of Cambria, N. 17° 55′, E. 72° 20′			29.88‡	758.9‡	79.8	26.6		NNW			3		0					Blue sky	Capt. M. Parry.
S. S. Strathleven, Sydney, N. S. W.			29.84‡	757.9‡	67.5	19.7		NW			4		8					D. clouds	Capt. C. W. Pearson.
S. S. Sunbeam, N. 41° 0′, W. 26° 20′			29.90	759.4	69	20.6		N			6		4			5	N	D. clouds	
Light House Tender Richmond, N. 26° 10′, W. 77° 05′			29.93	760.2	68	20.0		NW			6		7			6	N	D. clouds	
S. S. Gordon Castle																			
German Brig "W. von Freeden"																			Capt. H. V. Freeden.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.23	666.2	29.95	760.7	66.6	19.2	80	SE			2	8ks				Inap.	Inap.		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Copenhagen	30.52	775.3	30.57	776.5	37.2	2.9	85	ESE			4		10						
Fanöe	30.47	774.0	30.49	774.5	37.6	3.1	93	E			6		5						
Godthaab (Greenland)																			
Stykkisholm (Iceland)																			
Thorshavn (Faröe)	30.49	774.5	30.53	775.4	47.1	8.4	96	SSE			4		10					Raining	
Vestervig	30.48	774.2	30.59	777.0	34.2	1.2	92	NE			6		9						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alençon, Normal School	29.42	747.3	29.97	761.3	32.9	0.5	72	NE			2		8n		NE			Snowing	Collignon, Director.
Amiens, Normal School	29.82	757.3	29.93	760.1	45.0	7.2	94	E			1		10		Calm	0	0	Covered	Vaillant, Director.
Arras, Engin'r School	29.74	755.3	30.00	762.0	34.7	1.5	75	ENE			2		10n		NE			Snowing	Klein, Commandant.
Avignon, Normal School	29.75	755.6	29.83	757.6	45.9	7.7	40	N			2		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.32	744.7	29.94	759.4	33.3	0.7	88	E			1		10			0.008	0.2	Covered	C. Saillard, Director
Beauvais, Normal School	29.71	754.6	29.99	761.7	31.3	—0.4	92	E			2		8		E	0	0	Very cloudy	Frère Eugene Marie
Besançon, Normal School	29.00	736.6	29.93	760.2	32.2	0.1	91	NE			1		8		S	0	0	Very cloudy	A. Carré, Director.
Bourg-en-Bresse, N. School	28.98	736.1	29.90	759.5	32.0	0.0	100	W			2	2c		SW	SW	0	0	Slightly cld'y	Marlot, Diretor.
Bourges, Normal School	29.32	744.8	29.90	759.4	32.4	0.2	97	ENE			1		10n		ENE			Raining	M. Gence, Director.
Brest, Naval Observatory	29.75	755.7	30.00	761.9	42.8	6.0	70	NNE			1		9		NE	0	0		Ch. de Rermaree, Dir.
Caen, Normal School	29.97	761.3			35.6	2	82	NNE			1		2		NE	0	0	Slightly cld'y	M. Bietrin, Director.
Carcassonne, N. School	29.41	746.9	29.83	757.6	45.7	7.6	75	W			2		5	W	W	0	0	Cloudy	September, Director.
Châlons-sur-Marne, N. Sch'	29.67	753.5	30.00	762.0	32.7	0.4	86	NE			2		8					Very cloudy	Jadot, Director.
Chartres, Normal School	29.32	744.6	30.07	763.7	29.3	—1.5	89	NE			1		10		S			Light snow	Vergier, Director.
Clermont-Fd, Puy de D. Obs	28.44	722.3	29.86	758.4	31.1	—0.5	85	N			1		10		N	0.071	1.8	Light snow	Alluard, Director.
Commercy, Normal School	28.99	736.3	29.89	759.1	31.1	—0.5	96	NE			3		10kn	NE	NE	0	0	Covered	Dr. Coullet, Director.
Commune de Gréasque*	28.67	728.2	29.81	757.2	49.5	9.7	31	SW			1		8	SE	SW	0	0		L. Kina, Director.
Grenoble, Normal School	29.06	738.1	29.85	758.3	36.0	2.2	75	WNW			2		5kn		NE	0	0	Cloudy	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	29.73	755.1	29.95	760.8	38.1	3.4	60	N			1		5		NE	0	0	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.64	752.8	29.96	761.0	34.0	1.1	68	ENE			4		5		E	0	0	Cloudy	Poirrier, Director.
Long-Le-Saulnier, N. School	28.97	735.9	29.91	759.7	32.5	0.3	78	WSW			1		5k	E	S	0	0	Cloudy	A. Baudry, Director
Lorient, Naval Observatory	29.86	758.4	29.97	761.2	38.8	3.8	65	NE			3				NE	0	0		Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.23	742.5	29.87	758.7	35.8	2.1	71	ENE			1					0	0		Ch. André, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.54	750.4	29.82	757.3	46.9	8.3	69	SW			0–1		8		W	0	0		E. Stephan, Director.
Mirecourt, Normal School	28.85	732.7	29.92	760.0	31.1	—0.5	77	NNE			3		kn	NNE	NNE	0	0		Barbier, Director.
Mont-Louis	24.56	623.7	29.87	758.7	34.5	1.4	82	ENE	26.8	12.0			9		N	0.055	1.4		M. Cave.
Nice	29.80	756.8	29.83	757.7	50.4	10.2	75	E			4		10	E	E	0.150	3.8	Light rain	M. Boissière, Director.
Nismes, Normal School	29.58	751.2	29.78	756.4	52.2	11.2	61	SW			1		8		SW	0	0	Very cloudy	M. Boyer, Director.
Paris, Montsouris Obs'y	29.66	753.4			30.7	—0.7	75	NE			3		10		ENE	Inap.	Inap.		Marié Davy, Director.
Perpignan	29.71	754.5	29.81	757.1	48.2	9.0	82	SW	3.8	1.7			9		W	Inap.	Inap.	Raining	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.16	562.7			27.0	—2.8		N			2		1		W	0	0	Clear	Gen'l de Nansouty.
Pic du Midi (Summit) H. P.																			M. Baylac.
Privas, Normal School	28.85	732.8	29.90	759.5	49.1	9.5	66	NE			1		k	NE	NE	0	0		M. Tallieu
Puy de Dome (Summit) Obs	24.78	629.4			25.5	—3.6	100	E			1					0.102	2.6	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	29.89	759.3	29.87	758.6	38.1	3.4	73	NE			2		10	NE	NE	0	0	Covered	Lt E. Decante, Director
Rouen, Normal School	29.89	759.2	29.98	761.4	32.5	0.3	70	E			3		5		NE	0	0	Cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.92	759.9	29.95	760.7	37.6	3.1	53	ENE			3		1	NE	NE	0	0	Clear	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.78	756.3	29.94	760.5	31.3	—0.4	76	NE			3		10		ENE	0.004	0.1	Snowing	F. Renou, Director.
Tarbes, Normal School	28.91	734.3	29.98	761.5	37.4	3	83	SW			3		10	F	W	0.08	2.	Raining	T. Huguet, Director.
Toulouse, Observatory	29.13	740.0	29.85	758.3	41.4	5.2	78	NW			1		8			0.012	0.3	Very cloudy	M. Julier Mercadier.
Tours	29.71	754.6	29.91	759.6	35.1	1.7	74	NE			3		8		E	0	0	¾ covered	Cousin-Marquet.
Versailles, Observatory	29.44	747.7	29.93	760.2	29.5	—1.4	75	NE			2		10			0	0	Covered	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.14	740.1	29.88	758.9	36.5	2.5	74	NNW			1		5		NW	0	0	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.86	758.4	29.89	759.1	77.0	25										1.89	48.		L'Abbé Marchési
Zi-Ka-Wei (near Shanghai	30.20	767.0	30.22	767.6	55.4	13.0	76	NE	15.9	7.1			10			0.08	2.0	Covered	Marc Dechevrens.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in gene al terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centrigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.09	738.9	29.93	760.2	35.2	1.8	90	SE			8		6k	E		0.051	1.3		Prof. Dr. Hoh.
Berlin	30.18	766.6	30.36	771.2	28.8	— 1.8	78	E			2		3			0	0		Prof. Dr. Arndt.
Breslau	29.89	759.2	30.43	772.9	23.4	— 4.8	89	ENE			2		10			0.016	0.41	Light snow.	Royal University Obs'y.
Carlsruhe	29.44	747.8	29.88	759.0	34.5	1.4	74	E			0		10	SW		0	0		Albert Senz.
Cassel	29.50	749.4	30.11	764.9	36.0	2.2	54	ENE			4		5			0	0		Dr. H. Möhl.
Emden			30.21	767.3	35.6	2.0	30	E			5		0			0	0		Prof. Dr. Prestel.
Frankfort on the Main	29.61	752.1	29.98	761.6	32.5	0.3	86	NNE			3		9			0.008	0.2		Physical Society.
Friedrichshafen	28.37	720.5	29.85	758.3	32.0	0.0	85	NE			3		6	SE		0	0		Chief Telegrapher Wilhelm.
Hamburg	30.32	770.1	30.39	772.0	32.9	0.5	85	ENE			4		0			0	0	Clear.	Captain F. Hegemann.
Kiel	30.42	772.7	30.44	773.1	36.9	2.7	71	ENE			4		6			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.51	775.0	30.60	777.2	32.9	0.5	90	E			2		10			0.012	0.3		Prof. E. Luther.
Köslin			30.54	775.6	32.9	0.5		Calm			0		4			0	0		H. Müller.
Leipsic Observatory	29.84	758.0	30.29	769.4	28.0	— 2.2	79	ENE			4		4			0	0		Prof. Dr. Bruhns, Privy Counselor
Magdeburg	30.11	764.8	30.34	770.6	31.6	— 0.2	81	E			5	2c		E		0.142	3.6		Dr. Assmann.
Memel	30.54	775.6	30.58	776.8	34.3	1.3	87	NE			0–1		10n						Reinbrecht & Issermann
Munich (München)	28.00	711.1	29.85	758.1	34.0	1.1	64	E			7		9			0.079	2.0		Dr. C. Lang.
Neufahrwasser	30.56	776.1	30.57	776.5	37.2	2.9	93	NE			2		10			0.039	1.0		A. Lothes.
Neustadt (Palatinate)	29.36	745.7	29.88	759.0	34.0	1.1	81	N			4		10	NNE		0	0		Reallehrer Dicknether
Posen	30.16	766.1	30.47	773.9	35.2	1.8	96	NE			4		10					Light snow.	Prof. Dr. Magener.
Strassburg (in Alsace)	29.34	745.1	29.91	759.7	32.5	0.3	73	NE			3		10	NNW		0.010	0.26		Imp. University Observatory.
Stuttgart	28.89	733.7	29.86	758.5	35.2	1.8	66	N					9	W		0	0		Prof. Dr. Schoder.
Weissenburg (Bavaria)	28.35	720.2	29.91	759.7	34.2	1.2	68	ESE	25	11			9		ESE	0	0		Reallehrer J. Hopfner.
Wustrow	30.48	774.1	30.50	774.7	35.4	1.9	80	E			2		5s			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.89	759.3	30.29	769.3	60.1	15.6		NE			1.5		5						Dr. J. F. J. Schmidt.
																		⅛ clear.	

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.91	759.6	29.96	761.0	74.1	23.4	45	SW	15	6.7			0			0	0	Blue sky	
Deesa	29.52	749.9	30.01	762.2	74.4	23.6	23	N	8.9	4.0			0			0	0	Blue sky	
Bombay	29.84	757.9	29.88	758.8	77.5	25.2	74	NNW	18	8.0			0			0	0	Blue sky	
Poona (Yerrowda)	28.00	711.3	29.84	758.0	80.5	26.9	42	NW	4	1.8			3		S	0	0	D. clouds	
Belgaum	27.34	694.4	29.91	759.7	69.3	20.7	80	WSW	6	2.7			0			0	0	D. clouds	
Lahore	29.26	743.3	30.04	762.9	62.6	17.0	36	Calm	0.5	0.2			0			0	0	Blue sky	
Roorkee	29.05	737.8	29.98	761.4	65.4	18.6	42	W	0.8	0.4									
Agra	29.42	747.2	30.00	762.0	65.8	18.8	40	W	4.5	2.0						0	0		
Nagpur	28.85	732.8	29.90	759.5	75.8	24.3	61	NE	5.5	2.5			10			0	0	Overcast	
Jubbulpore	28.55	725.2	29.95	760.7	69.5	20.8	53	ENE	4.0	1.8			10		N	0	0	Overcast	
Lucknow	29.58	751.4	29.97	761.2	70.4	21.3	39	N	0.5	0.2						0	0	Blue sky	
Allahabad	29.67	753.5	29.99	761.7	67.8	19.9	57	Calm	1.0	0.4			0			0	0	Blue sky	
Patna	29.79	756.6	29.97	761.3	74.7	23.7	31	W	0.5	0.2			8	W	W	0	0	D. clouds	
Hazaribagh	27.90	708.7	29.97	761.1	66.8	19.3	64	NNW	2.8	1.2			6			0	0		
Cuttack	29.84	758.0	29.92	760.1	78.8	26.0	72	ENE	3	1.3			8			0	0	D. clouds	
Calcutta (Alipore)	29.90	759.4	29 92	760.0	75.7	24.3	73	N	1.0	0.4			0			0	0	Blue sky	
Goalpara	29.48	748.8	29.88	758.9	76.0	24.4	69	Calm	2.4	1.1			0			0	0	Blue sky	
Chittagong	29.80	757.0	29.90	759.3	78.3	25.7	76	WNW	1.9	0.9			0			0	0		
Sibsagar	29.58	751.4	29.93	760.1	71.2	21.8	84	ENE	1.9	0.9			2			0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.63	752.7	30.06	763.5	42.8	6.0	51	SE	0.7	0.3	.....	.....	6	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.41	747.1	29.95	760.7	34.3	1.3	91	S	.....	.....	2	.....	10	.....	.....	0.492	12.5	.....	Prof. Schiaparelli.
Padua	29.91	759.7	30.02	762.6	40.8	4.9	58	ENE	18.6	8.3	.....	.....	10	.....	.....	0.224	5.7	.....	Prof. Dott. Lorenzoni.
Moncalieri	28.58	725.8	29.90	759.5	37.0	2.8	83	N	3.8	1.7	.....	.....	10	N	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.69	754.0	29.88	759.0	41.4	5.2	69	NE	9.4	4.2	.....	.....	6	SW	.....	3.165	80.4	.....	Prof. G. M. Garibaldi.
Mondovi	27.97	710.5	29.93	760.3	32.5	0.3	93	W	.....	.....	4	.....	10	.....	.....	0.197	5.0	.....	Prof. D. C. Bruno.
Pesaro	29.90	759.4	29.95	760.7	49.3	9.6	89	E	3.1	1.4	.....	.....	5	.....	.....	0.020	0.5	.....	Prof. Luigi Guidi.
Florence	29.65	753.0	29.91	759.8	50.9	10.5	57	SE	.....	.....	2	.....	10	SE	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.83	757.6	29.91	759.8	49.6	9.8	89	E	13.7	6.1	.....	.....	10	.....	.....	0.417	10.6	.....	Prof. P. Monte.
Rome	29.78	756.3	29.96	760.9	55.2	12.9	61	S	11.2	5.0	.....	.....	10	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce																			Prof. C. De Giorgi.
Cosenza	29.11	739.4	30.01	762.3	57.2	14.0	73	SE	14.8	6.6	.....	.....	1	.....	.....	0.146	3.7	.....	Prof. D. Conti.
Cagliari	29.67	753.6	29.87	758.6	61.2	16.2	60	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.70	754.4	29.96	761.0	61.2	16.2	60	NE	3.8	1.7	.....	.....	6	NE	.....	0.028	0.7	.....	Prof. G. Ciacciatore.
Syracuse	29.94	760.4	30.01	762.2	62.4	16.9	71	NE	2.5	1.1	.....	.....	3	SW	.....	0.185	4.7	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.45	747.9	29.97	761.3	56.7	13.7	70	SW	1.3	0.6	.....	.....	2	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.90	759.4	29.91	759.7	54.2	12.3	72	NNE	5.5	2.5	.....	.....	10s	.....	.....	0	0	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.80	756.9	30.00	762.0	55.4	13.0	69	N	2.7	1.2	.....	1ck	.....	.....	.....	0	0	Clear.	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.64	752.8	29.71	754.6	51.1	10.6	95	NNW	8.2	3.7	.....	.....	10n	.....	.....	0.780	19.81	Raining	The Staff.
Wakayama	29.77	756.1	29.32	757.4	51.6	10.9	92	ENE	3.0	1.3	.....	.....	10n;s	.....	.....	0.835	21.21	Cloudy	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima																			R. Banda, C. E.
Guadalajara	25.25	641.3	30.58	776.6	34.7	1.5	49	E	.....	.....	2	.....	2	.....	.....	0	0	Clear	Prof. L. Perez.
Leon	24.62	625.3	30.59	777.0	41.0	5.0	78	W	.....	.....	1	0	0	.....	.....	0	0	Blue sky	Prof. M. Leal.
Mazatlan	29.79	756.6	30.05	763.2	71.2	21.8	49	N	.....	.....	2	1c	0	.....	.....	0	0	Clear	I. Guerrero, C. E.
Mexico, Central Observatory	23.22	589.8	30.63	777.9	33.8	1.0	46	W	0.7	0.3	.....	0	0	.....	.....	0	0	.....	The Staff.
Pabellon (Aguascalientes)					36.1	2.3	72	SW	.....	.....	1	0	0	.....	.....	0	0	.....	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.53	597.7	30.60	777.1	37.2	2.9	58	N	7.2	3.2	.....	0	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.39	619.6	30.67	779.1	39.6	4.2	64	E	.....	.....	2	0	0	.....	.....	0	0	Fine	G. Barroeta, M. D.
Tlacotalpam	30.34	770.7	30.35	771.0	59.2	15.1	69	W	.....	.....	2	9	0	N	.....	0	0	Cloudy	Prof. M. M. Châzaro.
Vera-Cruz																			Prof. J. Rossell
Zacatecas	22 62	574.5	30.30	769.7	38.7	3.7	59	Calm	.....	.....	0	0	0	.....	.....	0	0	Very clear	J. C. Castrillon

NOTE.—The elevation of Guadalajara is 1,560.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,931.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column; the instrumental correction —0.88 mm., or —0.035 inch, has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.07	763.8	30.07	763.8	30.6 — 0.8	.....		ENE	.....	.....	5	.....	.....	.....	.....	0	0	.....	
Groningen	30,20	767.1	30.26	768.5	32.7	0.4	.....	E	.....	.....	.....	.....	.....	.....	.....	0	0	.....	
Helder	30.16	766.1	30.16	766.1	32.7	0.4	.....	ENE	.....	.....	6	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.08	764.0	30.08	764.0	30.4 — 0.9	84		E	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Utrecht	30.08	764.0	30.13	765.2	30.2 — 1.0	78		ENE	.....	.....	5	.....	10	.....	.....	0.024	0.6	Dull	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.59	777.0	30.65	778.4	39.2	4.0	90	NNW	0.4	0.2	.....	.....	1	.....	.....	0	0	.....	
Brönö	30.63	778.0	30.67	779.0	45.0	7.2	100	SW	18	8	.....	.....	10	.....	.....	0.079	2.0	Foggy	
Christiana	30.56	776.2	30.72	780.2	33.6	0.9	89	NNW	0	0	.....	.....	10	.....	.....	0	0	Light fog.....	
Tromsö	30.28	769.1	30.32	770.2	42.1	5.6	89	SW	11	5	.....	.....	10	.....	.....	0.256	6.5	Raining.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	29.81	757.1	30.00	762.0	58.3	14.6	80	NW	10.5	4.7	.....	.....	4	.....	.....	0.039	1.0	.....	Dr. J. A. Sampaio.
Campo Major	28.72	729.5	29.76	755.9	53.6	12.0	74	ENE	3.8	1.7	.....	.....	10	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	29.46	748.2	29.54	750.4	60.8	16.0	70	W	6.9	3.1	.....	.....	10	.....	.....	0.917	23.3	Raining	Capt. D. A. de Cunha.
Lisbon Observatory	29.31	744.5	29.67	753.6	58.5	14.7	77	NE	8.7	3.9	.....	.....	9	SSE	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	29.87	758.6	29.94	760.4	63.7	17.6	55	NNW	16.8	7.5	.....	.....	4	.....	.....	0.059	1.5	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.	Sea or swell. Height scale 0-9	Sea or swell. Direction form—		
Bartholomew Dias	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	A. M. de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Matto	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	J. T. d'Oliveria, Com'd't
Rio Lima. Capt. S. C. da Silva Costa, Porto Praya. Cape Verd I'ds.	.....	.....	.....	A. D. de Fonseca Sarurento
Sà da Bandeira	2	E	D. clouds	Louiz Apra, Q. Ma.
Sado, Capt. J. A de Brito Capello, St. Paul de Loando	.....	.....	.....	H. Mecudonco, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	.....	.....	Gloomy.....	J. G. Felgo, 2nd Lieut.
.....	0	.....	Blue sky.....	
.....	.....	.....	.....	

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between upper and lower clouds, and no humidity is given; duration of rain-fall in hours. The Sà da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	30.29	769.3	30.31	769.8	33.6	0.9	98	W	13	6	.....	.....	10	.....	.....	.....	.....	Raining	Capt. Sseliwerstow
Astrakhan	30.52	775.1	30.43	773.0	39.9	4.4	71	SE	7	3	.....	.....	9s	.....	.....	.....	.....	.....	Capt. Wisganow.
Barnaul	29.28	743.7	29.81	757.1	21.4	— 5.9	100	SW	22	10	.....	.....	10	.....	.....	.....	.....	Snowing.....	Meteorological Obs.
Dorpat	30.45	773.5	30.71	780.1	30.6	— 0.8	98	NW	4	2	.....	.....	10n	.....	.....	.....	.....	Foggy	Prof. Dr. Weihrauch.
Ekaterinburg	29.04	737.5	30.04	763.0	28.6	— 1.9	72	W	45	20	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk																			
Kasan	30.21	767.4	30.50	774.7	28.6	— 1.9	73	SW	2	1	.....	.....	7	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch																			Lagorio.
Kieff	29.77	756.2	30.44	773.2	38.5	3.6	97	ENE	4	2	.....	.....	10kain	.....	.....	.....	.....	Light fog.....	Physical Cabinet.
Krotkowo*																			Cand. Fatjanow.
Lugan	30.17	766.2	30.38	771.6	35.2	1.8	93	ENE	13	6	.....	.....	10	.....	.....	Blau-k	Blank	.....	Meteorological Obs
Moscow	30.09	764.3	30.69	779.4	26.2	— 3.2	91	SE	4	2	.....	.....	10s	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	27.59	700.9	30.11	764.9	1.6	—16.9	79	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	30.34	770.5	30.41	772.3	47.3	8.5	94	NE	9	4	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	30.30	769.5	30.54	775.8	34.5	1.4	74	NE	4	2	.....	.....	1k	.....	.....	.....	.....	.....	
Orenberg																			
Pekin (China)	30.18	766.5	30.32	770.1	37.8	3.2	58	SW	4	2	.....	1c	.....	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	30.62	777.7	30.63	778.1	32.0	0.0	100	WNW	9	4	.....	.....	10	.....	.....	.....	.....	Foggy	Central Physical Obs.
Tashkend	28.85	732.9	30.51	775.0	34.9	1.6	78	NW	13	6	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.84	732.6	30.26	768.5	60.4	15.8	54	N	4	2	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock																			
Warsaw	30.03	762.7	30.48	774.1	32.4	0.2	96	NE	4	2	.....	.....	10n	.....	.....	.....	.....	Light rain...	Astronomical Obs.
Wilna	30.15	765.9	30.60	777.2	34.7	1.5	98	NE	4	2	.....	.....	10	.....	.....	.....	.....	Heavy clouds..	Astronomical Obs.
Yenisiesk	29.39	746.5	29.70	754.3	14.9	— 9.5	89	SW	7	3	.....	.....	10	.....	.....	.....	.....	Snowing.....	Marks.
.....																			
.....																			
.....																			

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	29.69	754.0	29.80	756.8	49.1	9.5	78	E	5.3	2.39	.....	.....	10	.....	.....	1.217	30.90	.....	Antonio Rave, Director
Bilbao, Met. Obs'y	29.80	757.0	29.86	758.5	46.4	8.0	90	SE	0.3	0.15	.....	.....	10	.....	.....	0.020	0.5	Covered	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.83	681.4	.....	.....	43.3	6.3	68	N	3.9	1.76	.....	0	9	.....	.....	0	0	Almost cov'd	Domingo Martin y Perez.
Madrid, Royal Observatory	27.52	699.1	29.74	755.4	55.0	12.8	56	S	5.2	2.33	.....	1	0	S	.....	0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	29.62	752.3	29.77	756.1	64.8	18.2	63	SSW	1.0	0.47	.....	2	4	ENE	.....	0	0	Cloudy.....	Olayo Diaz, Director.
Santiago, Met. Obs'y	28.78	730.9	29.66	753.3	56.7	13.7	66	NE	7.4	3.3	.....	.....	0	.....	.....	0	0	Clear.	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I	29.98	761.6	30.05	763.3	69.1	20.6	51	NNW	17.4	7.8	.....	.....	10kaks	.....	N	0.185	4.7	Cloudy.....	Benito Vines, S. J.
Manilla, Phillippine Islands	29.52	749.7	29.57	751.1	78.2	25.7	88	S	29.1	13.0	.....	.....	10	.....	E	4.50	102.6	Stormy.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.65	753.0	29.74	755.5	67.3	19.6	50	SE	4.9	2.2	.....	0	10	.....	SW	0.070	1.8	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I	29.80	757.0	29.89	759.3	77.4	25.2	87	SE	3.6	1.60	.....	3ks	2k	SE	SE	0.532	13.50	Clear.	Enrique Gadea, Chief Eng'r

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.39	772.0	30.43	773.0	34.9	1.6	.....	SW	.....	.....	2	.....	0	.....	.....	0	0	.....	
Umea	30 47	774.0	30.52	775.3	33.1	0.6	96	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	
Hernosand	30.59	776.9	30.64	778.2	37.4	3.0	87	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	
Stockholm	30.57	776.4	30.75	780.9	30.6	— 0.8	96	SW	.....	.....	2	.....	10	.....	.....	0	0	.....	
Wisby	30.54	775.7	30.60	777.2	37.4	3.0	87	E	.....	.....	4	.....	10	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	30.58	776.7	30.67	778.9	27.5	— 2.5	100	SW	3.6	1.6	.....	.....	10	.....	.....	0.001	0.02	Foggy	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.40	721.4	29.90	759.4	32.4	0.2	82	NNE	.....	.....	2	.....	10	.....	.....	0	0	Covered.	The Observatory.
Zurich	28.18	715.7	29.91	759.6	30.6	— 0.8	75	E	.....	.....	2	.....	8	.....	.....	0	0	Cloudy.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —5.1 mm.; Thermometer, —5.8 Cent.; Relative Humidity, +5 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.38	771.6	53.2	11.8	75	NE	9	4.0	.....	.....	7	.....	NE	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.11	764.9	57.7	14.3	.....	SE	.....	.....	3	.....	5	.....	.....	0.31	8.	Cloudy.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	30.06	763.5	30.17	766.3	68.0	20.0	68	N	.....	.....	3	1c	.....	.....	.....	0.37	9.4	D. clouds. ...	Prof. C. V. A. van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	29.63	752.6	29.70	754.4	29.3	— 1.5	94	SE	4	1.8	.....	.....	10s	.....	.....	0.01	0.3	Cloudy.....	G. A. Blair.
Charlottetown, P. E. Island	29.71	754.6	29.75	755.6	32.4	0.2	94	SE	12	5.4	.....	.....	10n	.....	.....	1.22	31.0	Threatening	H. J. Cundall, C. E.
Cornwall, Ontario	29.17	740.9	29.37	746.0	25.9	— 3.4	97	N	.....	.....	1	.....	10n	.....	.....	0.20	5.1	Cloudy.....	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	29	— 1.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	Clear	H. A. Johnson.
Father Point, Quebec	29.56	750.8	29.58	751.3	27.4	— 2.6	76	S	12	5.4	.....	.....	10n	.....	.....	0.01	0.3	Threatening	J. McWilliams.
Fredericton, N. B	29.55	750.6	29.61	752.1	31.0	— 0.6	89	NE	2	0.9	.....	.....	10s	.....	.....	0.42	10.7.	Overcast....	Prof. Harrison.
Fort Garry, Manitoba	29.78	756.4	30.74	780.8	— 9.3	—22.9	88.	S	1	0.4	.....	0	0	.....	.....	0	0	Clear.	James Stewart.
Granton, Ontario	28.71	729.2	29.89	759.2	16	— 8.9	.....	N	.....	.....	3	3cs	0	N	.....	0.10	2.5	Fair.....	James Grant.
Halifax, N. S	29.54	750.3	29.67	753.6	38.0	3.3	89	E	16	7.2	.....	.....	10n	.....	.....	0.01	0.3	Cloudy.....	A. Allison.
Hamilton, Ontario	29.44	747.8	29.83	757.7	19.1	— 7.2	80	NW	.....	.....	2	0	0	.....	.....	0	0	Clear.	Geo. Dickson, B. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.16	740.7	29.51	749.5	23.1	— 4.9	88	NW	14	6.3	.....	.....	10ks	.....	.....	0.46	11.7	Cloudy.....	S. Woods, M. A.
Little Glace Bay, N. S	29.86	758.4	29.89	759.2	33.2	0.7	93	SE	3	1.3	.....	.....	10n	.....	.....	0.40	10.2	Overcast....	C. H. Rigby.
Montreal, Quebec	29.19	741.4	29.40	746.7	29.2	— 1.6	100	S	10	4.5	.....	.....	10n	.....	.....	0.74	18.8	Light snow.	C. H. McLeod, C. E.
Moose Factory, Ontario	29.98	761.5	30.01	762.2	— 2.5	—19.2	92	NW	.....	.....	0	0	1	.....	.....	0.10	2.5	Fine.	J. R. Nason.
Norwood	28.88	733.5	29.02	752.3	16.5	— 8.6	100	NW	.....	.....	3	.....	10s	.....	.....	0.23	5.8	Clearing.	Rev. T. F. Fotheringham, M. A.
Parry Sound, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. R. Mosley.
Peterboro, Ontario	28.87	733.3	29.67	753.6	15.6	— 9.1	64	NW	.....	.....	8	0	8ks	.....	.....	0	0	Fine.....	J. F. Joffers, M. A.
Port Dover, Ontario	29.11	739.4	29.85	758.2	19.1	— 7.2	100	NW	20	8.9	.....	0	0	.....	.....	0.15	3.8	Clear.	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.20	741.7	29.89	759.2	19.4	— 7.0	97	NW	12	5.4	.....	.....	10n	.....	NW	0.38	9.7	Heavy snow	M. Payne.
Quebec, Quebec	29.18	741.1	29.51	749.5	27	— 2.8	100	E	.....	.....	3	.....	10n	.....	.....	0.16	4.1	Heavy snow	Capt. Ashe, R. N.
Rockliffe, Ontario	29.19	741.4	29.68	753.9	15.6	— 9.1	74	N	3	1.3	.....	.....	10s	.....	NE	0.26	6.6	Cloudy.....	W. H. McIntyre.
St. Andrews, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Gove.
St. John, N. B	29.38	746.2	29.55	750.6	36	2.2	80	SE	7	3.1	.....	.....	10n	.....	.....	1.39	35.3	Overcast....	G. Murdock, C. E.
Saugeen, Ontario	29.16	740.7	29.93	760.2	17	— 8.3	81	NW	36	16.1	.....	.....	10s	.....	.....	0.23	5.8	Snowing.....	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.53	724.6	29.90	759.4	13.5	—10.3	98	NW	18	8.0	.....	0	0	.....	.....	0.15	3.8	Clear.	C. J. MacGregor, M. A.
Sydney, C. B	29.87	758.7	29.92	760.0	28.4	— 2.0	88	E	3	1.3	.....	.....	10s	.....	.....	0.56	14.2	Overcast....	T. C. Hill, C. E.
Toronto, Ontario	29.39	746.5	29.80	756.9	17.8	— 7.9	68	NW	22	9.8	.....	0	5ks	.....	NW	0	0	Fair.....	Magnetic Observatory.
Windsor, N. S	29.57	751.1	29.67	753.6	31.5	— 0.3	95	E	8	3.6	.....	.....	10ns	.....	.....	0	0	Overcast....	Prof. John E. Oram, M. A.
Woodstock, Ontario	28.75	730.2	29.89	759.2	16.1	— 8.8	81	W	26	11.6	.....	1k	0	.....	.....	0	0	Fine.....	Prof. J. Montgomery.
Yarmouth, N. S	29.43	747.5	29.49	749.0	34.5	1.4	84	NE	.....	.....	3	.....	10n	.....	.....	.....	.....	Snowing.....	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.83	757.7	30.10	764.5	28.0	— 2.2	100	N	.....	.....	.....	5k	5s	.....	.....	0.60	15.2	Fair.....	John Delany.
St. Pierre, N. F., l'Hopital Maritime	.....	.....	29.94	760.4	30.2	— 1	.....	SE	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	The Commandant.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10, except Yarmouth and St. Johns on scale 0 to 20. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.** UNITED STATES SERIES.

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.22	742.2	29.45	748.0	27	— 2.8	88	NW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Alpena, Michigan	29.41	747.0	30.11	764.8	12	—11.1	80	NW	26	11.6	.....	.....	10s	.....	NW	0	0	Cloudy	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	28.84	732.5	30.02	762.5	37	2.8	54	NW	24	10.7	.....	0	0	.....	.....	0.03	0.8	Clear	
Atlantic City, New Jersey	29.46	748.3	29.48	748.8	31	— 0.6	79	W	10	4.5	.....	10k	0	NW	.....	0.08	2.0	Cloudy	
Augusta, Georgia	29.76	755.9	29.98	761.5	39	3.9	73	NW	4	1.8	.....	0	1s;fog	.....	Calm	0.70	17.8	Clear	
Baltimore, Maryland	29.50	749.3	29.55	750.6	39	3.9	55	W	12	5.4	.....	5ck	0	W	.....	0	0	Fair	
Barnegat, New Jersey	29.44	747.8	29.46	748.3	33	0.6	70	NW	16	7.2	.....	.....	10ks	.....	NW	0	0	Cloudy	
Bismarck, Dakota	28.66	728.0	30.52	775.2	10	—12.2	79	S	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Boerne, Texas	28.99	736.3	30.37	771.4	44	6.7	69	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Boise City, Idaho	27.68	703.1	30.64	778.2	24	— 4.4	74	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Boston, Massachusetts	29.19	741.4	29.35	745.5	35	1.7	100	N	6	2.7	.....	.....	10n	.....	NE	0.13	3.3	Light snow	
Brackettville, Texas	29.28	743.7	30.38	771.6	48	8.9	29	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	29.64	752.8	30.70	779.8	— 1	—18.3	100	Calm	0	0	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Brownsville, Texas	30.36	771.1	30.40	772.1	44	6.7	60	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Buffalo, New York	29.00	736.6	29.72	754.9	23	— 5.0	60	NW	16	7.2	.....	5k	1s	NW	Calm	0.09	2.3	Fair	
Burkes, Arizona	.....	.....	.....	.....	41	5.0	57	NE	.....	.....	1	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.13	739.9	29.42	747.3	30	— 1.1	89	S	7	3.1	.....	.....	10n	.....	S	0.01	0.3	Light snow	
Cairo, Illinois	30.12	765.0	30.54	775.7	28	— 2.2	77	N	22	9.8	.....	0	2s	.....	N	0	0	Fair	
Campo, California	27.60	701.0	30.17	766.3	35	1.7	70	E	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	29.70	754.4	29.71	754.6	40	4.4	65	W	20	8.9	.....	0	0	.....	.....	0.85	21.6	Clear	
Cape Henry, Virginia	29.60	751.8	29.62	752.3	34	1.1	61	N	21	9.4	.....	1k	0	Calm	.....	0.04	1.0	Clear	
Cape Lookout, N. Carolina	29.76	755.9	29.77	756.1	41	5.0	74	NW	32	14.3	.....	0	0	.....	.....	0	0	Clear	
Cape May, New Jersey	29.47	748.5	29.50	749.3	39	3.9	72	W	35	15.6	.....	2k	0	W	.....	0	0	Clear	
Castroville, Texas	29.67	753.6	30.41	772.4	50	10.0	32	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Cedar Keys, Florida	30.10	764.5	30.13	765.3	48	8.9	49	N	24	10.7	.....	0	0	.....	.....	0	0	Clear	
Charleston, South Carolina	29.88	758.9	29.94	760.5	37	2.8	71	NW	9	4.0	.....	0	0	.....	.....	0.10	2.5	Clear	
Charlotte, North Carolina	28.99	736.3	29.83	757.7	33	0.6	79	SW	4	1.8	.....	0	Fog	.....	Calm	2.05	52.1	Clear	
Chattanooga, Tennessee	29.37	746.0	30.21	767.3	34	1.1	70	NW	20	8.9	.....	5k	0	NW	.....	0	0	Foggy	
Cheyenne, Wyoming	24.25	615.9	30.19	766.8	18	— 7.8	53	NW	4	1.8	.....	0	0	.....	.....	0	0	Fair	
Chicago, Illinois	29.65	753.1	30.41	772.4	17	— 8.3	67	N	14	6.3	.....	.....	8s	.....	N	0	0	Clear	
Cincinnati, Ohio	29.56	750.8	30.25	768.3	26	— 3.3	75	NW	14	6.3	.....	2k	7n	N	N	0	0	Cloudy	
Cleveland, Ohio	29.20	741.7	29.96	761.0	24	— 4.4	74	NW	36	16.1	.....	.....	10n	.....	NW	0.07	1.8	Light snow	
Coleman City, Texas	28.74	730.0	30.53	775.4	34	1.1	43	N	12	5.4	.....	0	0	.....	.....	0.09	2.3	Light snow	
Columbus, Ohio	29.22	742.2	30.11	764.8	24	— 4.4	74	NW	18	8.0	.....	.....	10ks	.....	NW	0	0	Clear	
Concho, Texas	28.32	719.3	30.07	763.8	40	4.4	48	Calm	0	0	.....	0	0	.....	.....	0	0	Cloudy	
Corsicana, Texas	30.01	762.2	30.51	774.9	43	6.1	34	N	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Davenport, Iowa	29.85	758.2	30.56	776.2	17	— 8.3	51	NW	13	5.8	.....	0	0	.....	.....	0	0	Clear	
Deadwood, Dakota	25.56	649.2	.....	.....	20	— 6.7	70	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Denison, Texas	29.74	755.4	30.61	777.5	31	— 0.6	48	N	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Denver, Colorado	25.05	636.3	30.27	768.8	22	— 5.6	86	S	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	29.71	754.6	30.70	779.8	12	—11.1	61	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Detroit, Michigan	29.34	745.2	30.05	763.3	19	— 7.2	85	NW	18	8.0	.....	2k	0	Calm	.....	0.03	0.8	Clear	
Dodge City, Kansas	27.97	710.4	30.54	775.7	12	—11.1	8	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.80	756.9	30.59	777.0	13	—10.6	62	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Duluth, Minnesota	29.88	758.9	30.66	778.7	3	—16.1	73	NW	24	10.7	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Eagle Pass, Texas	29.68	753.9	30.46	773.7	38	3.3	72	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	29.43	747.5	29.50	749.3	37	2.8	81	E	19	8.5	.....	.....	10n	.....	.....	0.06	1.5	Light rain	
Edinburg, Texas	.....	.....	.....	.....	38	3.3	81	N	.....	.....	1	0	0	.....	.....	0	0	Clear	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.07	738.4	29.81	757.2	25	— 3.9	64	NW	28	12.5	.....	0	5ks	.....	NW	0.02	0.5	Fair	
Escanaba, Michigan	29.64	752.8	30.37	771.4	8	—13.3	78	NW	20	8.9	.....	0	2s	.....	NW	0.05	1.3	Fair	
Florence, Arizona	28.68	728.5	30.28	769.1	62	16.7	27	NE	20	8.9	.....	0	0	.....	.....	0	0	Clear	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	28.25	717.5	30.23	767.8	20	— 6.7	54	SE	7	3.1	.....	10c	0	SE	.....	0	0	Cloudy	
Fort Custer, Montana	27.11	688.6	.....	.....	26	— 3.3	75	SW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Davis, Texas	25.56	649.2	30.52	775.2	35	1.7	36	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	30.06	763.5	30.66	778.7	25	— 3.9	62	N	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Fort Grant, Arizona	25.42	645.7	30.22	767.6	47	8.3	10	N	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	29.30	744.2	30.67	779.0	36	2.2	53	N	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.66	702.6	.....	.....	20	— 6.7	72	SW	4	1.8	.....	0	2s	.....	Calm	0	0	Fair	
Fort McKavett, Texas	28.21	716.5	30.26	768.6	37	2.8	63	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	29.36	745.7	30.58	776.7	27	— 2.8	64	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	28.61	726.7	.....	.....	10	—12.2	79	SE	10	4.5	.....	5c	2s	SE	SE	0	0	Cloudy	
Fort Verde, Arizona	.....	.....	.....	.....	30	— 1.1	78	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.60	726.4	30.20	767.1	53	11.7	61	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Galveston, Texas	30.34	770.6	30.38	771.6	53	11.7	42	N	25	11.2	.....	0	0	.....	.....	0	0	Clear	
Graham, Texas	29.48	748.8	30.63	778.0	31	— 0.6	69	N	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.57	751.1	30.28	769.1	18	— 7.8	68	NW	30	13.4	.....	0	2s	.....	Calm	0.04	1.0	Fair	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.65	753.1	30.68	779.3	28	— 2.2	77	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Indianapolis, Indiana	29.46	748.3	30.21	767.3	21	— 6.1	57	NW	14	6.3	.....	0	0	.....	.....	0.03	0.8	Clear	
Indianola, Texas	30.39	771.9	30.42	772.7	50	10.0	52	N	32	14.3	.....	0	0	.....	.....	0	0	Clear	
Jacksboro, Texas	29.47	748.5	30.61	777.5	32	0.0	50	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.03	762.7	30.06	763.5	45	7.2	61	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Keokuk, Iowa	29.87	758.7	30.55	776.0	18	— 7.8	68	N	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Key West, Florida	30.06	763.5	30.09	764.3	60	15.6	71	N	25	11.2	.....	2k	0	N	.....	0.02	0.5	Fair	
Kittyhawk, North Carolina	29.67	753.6	29.69	754.1	39	3.9	64	W	18	8.0	.....	0	Haze	.....	Calm	2.53	64.3	Clear	
Knoxville, Tennessee	29.14	740.1	30.19	766.8	31.5	— 0.3	48	NW	20	8.9	.....	Haze	2ks	.....	NW	0	0	Fair	
La Crosse, Wisconsin	29.79	756.7	30.62	777.7	10	—12.2	58	N	14	6.3	.....	0	0	.....	.....	Inap.	Inap.	Clear	
La Mesilla, New Mexico	26.46	672.1	30.61	777.5	25	— 3.9	50	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	30.06	763.5	30.42	772.7	45	7.2	61	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.76	755.9	30.71	780.0	16	— 8.9	66	N	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Little Rock, Arkansas	30.16	766.1	30.54	775.7	35	1.7	80	NW	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Los Angeles, California	29.80	756.9	30.15	765.8	54.0	12.2	32	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.73	755.1	30.34	770.6	24	— 4.4	74	NW	3	1.3	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Lynchburg, Virginia	29.05	737.9	29.74	755.4	36	2.2	53	NW	16	7.2	.....	0	1ks	.....	NW	Inap.	Inap.	Clear	
Madison, Wisconsin	29.39	746.5	30.49	774.4	11	—11.7	60	NW	22	9.8	.....	1k	0	N	.....	0	0	Clear	
Marquette, Michigan	29.59	751.6	30.37	771.4	10	—12.2	100	NW	20	8.9	.....	.....	10n	.....	Calm	0.43	10.9	Heavy snow	
Mason, Texas	28.85	732.8	30.72	780.3	43	6.1	43	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	30.12	765.0	30.48	774.2	30	— 1.1	68	N	20	8.9	.....	Haze	0	Calm	.....	0	0	Clear	
Milwaukee, Wisconsin	29.62	752.3	30.42	772.7	13	—10.6	62	NW	23	10.3	.....	0	1s	.....	Calm	Inap.	Inap.	Clear	
Mobile, Alabama	30.26	768.6	30.30	769.6	42	5.6	66	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Montgomery, Alabama	30.19	766 8	30.44	773.2	31	— 0.6	60	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Morgantown, West Virginia	28.88	733.5	29.89	759.2	38	3.3	63	NW	28	12.5	.....	.....	10ks	.....	NW	0.01	0.3	Cloudy.....	
Mt. Washington, N. H.....	23.13	587.5	29.49	749.0	21	— 6.1	100	SE	27	13.0	.....	.....	10n	.....	SE	0.09	2.3	Light snow.	
Nashville, Tennessee.....	29.77	756.1	30.34	770.6	32	0.0	59	NW	8	3.6	.....	0	1ks	.....	NW	0	0	Clear.	
New Haven, Connecticut.....	29.27	743.4	29.38	746.2	34	1.1	79	N	5	2.2	.....	.....	10s	.....	N	Inap.	Inap.	Threatening	
New London, Connecticut...	29.30	744.2	29.35	745.5	35	1.7	90	N	8	3.6	.....	.....	10n	.....	Calm	0.18	4.6	Heavy snow	
New Orleans, Louisiana.....	30.24	768.1	30.31	769.9	52	11.1	41	N	14	6.3	.....	0	Haze	.....	Calm	0	0	Clear.	
Newport, Rhode Island.....	29.27	743.4	29.32	744.7	38	3.3	100	NW	8	3.6	.....	.....	10n	.....	Calm	0.33	8.4	Heavy rain..	
New York, New York.....	29.28	743.7	29.44	747.8	32	0.0	69	NW	5	2.2	.....	2ck	5s	E	Calm	0	0	Fair.....	
Norfolk, Virginia.....	29.59	751.6	29.65	753.1	36	2.2	61	W	4	1.8	.....	0	5s	.....	Calm	0.02	0.5	Fair.....	
North Platte, Nebraska.....	27.56	700.0	30.45	773.4	10	—12.2	79	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Olympia, Washington Ter...	30.39	771.9	30.43	772.9	33.5	0.8	95	SE	1	0.4	.....	0	Fog	.....	Calm	0	0	Foggy	
Omaha, Nebraska.....	29.48	748.8	30.73	780.5	10	—12.2	58	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear.	
Oswego, New York.....	29.17	740.9	29.49	749.0	30	— 1.1	78	NW	26	11.6	.....	.....	10n	.....	NW	0.06	1.5	Heavy snow	
Pembina, Dakota.....	29.74	755.4	30.70	779.8	— 9	—22.8	100	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Pensacola, Florida.....	30.20	767.1	30.24	768.1	42	5.6	66	N	5	2.2	.....	Haze	0	Calm	.....	0	0	Clear.	
Philadelphia, Pennsylvania	29.43	747.5	29.48	748.8	35	1.7	70	W	16	7.2	.....	.....	10ks	.....	NW	0	0	Cloudy.....	
Phœnix, Arizona.....	29.04	737.6	30.90	784.8	49	9.4	44	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Pike's Peak, Colorado.....	17.96	456.2	30.17	766.3	15	— 9.4	30	NW	22	9.8	.....	0	0	.....	.....	0	0	Clear.	
Pilot Point, Texas.....	29.78	756.4	30.68	779.3	33	0.6	61	N	12	5.4	.....	0	0	.....	.....	0	0	Clear.	
Pioche, Nevada.....	.....	.....	.....	.....	39	3.9	25	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Pittsburg, Pennsylvania.....	29.03	737.3	29.87	758.7	25	— 3.9	75	NW	20	8.9	.....	.....	10n	.....	Calm	0.02	0.5	Light snow.	
Port Huron, Michigan.....	29.27	743.4	29.98	761.5	19	— 7.2	85	NW	30	13.4	.....	0	2ks	.....	Calm	0.02	0.5	Clear.	
Portland, Maine.....	29.40	746.7	29.46	748.3	34	1.1	90	N	12	5.4	.....	.....	10n	.....	Calm	Inap.	Inap.	Light snow.	
Portland, Oregon.....	30.38	771.6	30.45	773.4	38.0	3.3	77	NW	4	1.8	.....	0	2s	.....	Calm	0	0	Clear.	
Portsmouth, N. Hampshire..	.....	.....	.....	.....	42	5.6	66	NW	30	13.4	.....	0	0	.....	.....	1.86	47.2	Clear.	
Prescott, Arizona.....	25.04	636.0	30.40	772.1	26	— 3.3	75	SE	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Punta Rassa, Florida.....	30.09	764.3	30.11	764.8	48	8.9	43	N	12	5.4	.....	0	0	.....	.....	Inap.	Inap.	Clear.	
Red Bluff, California.....	29.97	761.2	30.35	770.9	38	3.3	81	N	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Rio Grande City, Texas.....	30.36	771.1	30.59	777.0	33	0.6	61	N	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Rochester, New York.....	28.99	736.3	29.62	752.3	23	— 5.0	86	NW	16	7.2	.....	.....	10n	.....	Calm	0.03	0.8	Heavy snow	
Roseburg, Oregon.....	29.85	758.2	30.46	773.7	20	— 1.1	89	N	1	0.4	.....	.....	10s;fg	.....	Calm	0	0	Cloudy.....	
Sacramento, California.....	30.22	767.6	30.30	769.6	40	4.4	91	E	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
St. Louis, Missouri.....	29.93	760.2	30.56	776.2	22	— 5.6	48	N	17	7.6	.....	0	0	.....	.....	0	0	Clear.	
St. Paul, Minnesota.....	29.72	754.9	30.65	778.5	12	—11.1	61	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Salt Lake City, Utah.....	26.09	662.7	30.42	772.7	23	— 5.0	47	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
San Antonio, Texas.....	29.75	755.6	30.35	770.9	50	10.0	32	N	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
San Diego, California.....	30.08	764.0	30.15	765.8	48	8.9	49	N	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Sandusky, Ohio.....	29.36	745.7	30.07	763.8	24	— 4.4	74	NW	48	21.5	.....	.....	10s	.....	NW	0.09	2.3	Cloudy.....	
Sandy Hook, New Jersey.....	29.41	747.0	29.44	747.8	35	1.7	70	NW	16	7.2	.....	2k	2ks	W	W	0	0	Fair.....	
San Francisco, California....	30.21	767.3	30.27	768.8	50	10.0	72	N	7	3.1	.....	0	0	.....	.....	0	0	Clear.	
Santa Fé, New Mexico.....	23.65	600.7	30.19	766.8	27	— 2.8	76	E	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Savannah, Georgia.....	29.90	759.4	29.99	761.7	42	5.6	66	W	7	3.1	.....	0	0	.....	.....	1.06	26.9	Clear.	
Shreveport, Louisiana.....	30.21	767.3	30.44	773.2	44	6.7	60	N	10	4.5	.....	0	0	.....	.....	0	0	Clear.	
Silver City, New Mexico.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina..	29.83	757.7	29.87	758.7	30	— 1.1	89	W	5	2.2	.....	0	Fog	.....	.....	1.54	39.1	Clear.	
Socorro, New Mexico.....	25.82	655.8	29.88	758.9	30	— 1.1	57	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Springfield, Illinois.....	29.79	756.7	30.52	775.2	22	— 5.6	58	NW	15	6.7	.....	0	0	.....	.....	0	0	Clear.	
Springfield, Massachusetts..	30.26	768.6	30.40	772.1	31	— 0.6	79	N	7	3.1	.....	.....	10n	.....	N	Inap.	Inap.	Light snow.	
Stockton, Texas.....	27.40	696.0	30.40	772.1	31	— 0.6	9	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Thatcher's Island, Mass.....	29.28	743.7	29.34	745.2	37	2.8	90	NE	19	8.5	.....	.....	10n	.....	NE	0.68	17.3	Heavy rain..	
Toledo, Ohio.....	29.39	746.5	30.12	765.0	24	— 4.4	74	NW	22	9.8	.....	2k	0	NW	.....	0.02	0.5	Clearing.....	
Tucson, Arizona.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon.....	30.33	770.4	30.89	784.6	18.5	— 7.5	92	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Dense fog....	
Uvalde, Texas.....	29.54	750.3	30.37	771.4	50	10.0	39	N	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Vicksburg, Mississippi.....	30.10	764.5	30.37	771.4	43	6.1	59	N	9	4.0	.....	0	0	.....	.....	0	0	Clear.	
Virginia City, Montana.....	24.58	624.3	30.06	763.5	27	— 2.8	64	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Visalia, California.....	29.87	758.7	30.26	768.6	35	1.7	90	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Washington, D. C.....	29.46	748.3	29.58	751.3	34	1.1	79	W	13	5.8	.....	.....	10n	.....	NW	Inap.	Inap.	Light snow.	
Wickenburg, Arizona.....	.....	.....	.....	.....	34	1.1	70	NW	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Wilmington, North Carolina	29.76	755.9	29.84	757.9	31	— 0.6	68	W	6	2.7	.....	0	0	.....	.....	1.09	27.7	Clear.....	
Winnemucca, Nevada.....	26.04	661.4	30.40	772.1	21	— 6.1	86	E	10	4.5	.....	0	0	.....	.....	0	0	Clear.	
Wood's Holl, Massachusetts	29.21	741.9	29.25	742.9	38	3.3	100	N	10	4.5	.....	.....	10n	.....	NE	0.45	11.4	Heavy rain..	
Yankton, Dakota.....	29.38	746.2	30.88	784.3	2	—16.7	44	N	5	2.2	.....	0	0	.....	.....	0	0	Clear.	
Yuma, Arizona.....	30.04	763.0	30.21	767.3	61	16.1	21	E	12	5.4	.....	0	0	.....	.....	0	0	Clear.	
SUB-SERIES.																			
Fayetteville, Arkansas.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.....	29.96	761.0	30.01	762.2	70	21.1	56	N	16.8	7.5	.....	.....	8n	.....	N	0.07	1.8	Cloudy.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I.....	30.07	763.8	30.08	764.0	78	25.6	83	N	2	0.9	.....	.....	2s	.....	.....	0	0	Fair	James Gall.
Medellin, Colombia, S. A..*	25.20	640.1	.....	.....	63.0	17.2	84	Calm	.....	.....	0	1c	1ks	.....	.....	0.61	15.5	.....	Thomas Herran.
Navassa, W. I.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.93	760.2	29.93	760.2	83	28.3	75	E	.....	.....	2	4c	4k	E	.....	0	0	Fair	C. J. Hering.
Santiago de Cuba, W. I.....	29.85	758.2	29.88	758.9	77	25.0	86	Calm	0	0	.....	.....	2s	.....	SW	0	0	.....	Robert Mason.
St. Thomas, W. I.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.....	30.14	765.5	30.20	767.1	—10.0	—23.3	78	W	8	3.6	.....	3c	1s	SW	SW	0.23	5.8	Threatening	J. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Medellin, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 m., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm. *The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.38‡	771.6‡	.....	.....	44	6.7	84	NW	10	4.5	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Navy Yard, Portsmouth, N.H	29.19‡	741.4‡	.....	.....	32	0.0	90	NE	2	0.9	.....	.....	10	.....	.....	.....	.....	.....	.....	Raining	
Naval Hospital, Yokohama, Japan.....	29.74‡	755.4‡	.....	.....	52.6	11.4	96	NNE	.....	.....	3	.....	10n	.....	NE	0.25	6.3	.....	.....	Raining.....	
Adams, Mare I'd., Navy Yard, Cal.	30.27‡	768.8‡	.....	.....	50	10.0	93	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Alaska, Iquique, Peru .....*.	30.02‡	762.5‡	.....	.....	63	17.2	89	Calm	.....	.....	0	.....	2	.....	E	.....	.....	.....	.....	D. clouds.....	
Alliance. N. 19° 06′, W. 40° 03′.....	30.06‡	763.5‡	.....	.....	77	25.0	61	E	.....	.....	5	.....	1	.....	E	.....	.....	Smooth	E	Blue sky.....	
Colorado, New York, N. Y.....	29.42‡	747.3‡	.....	.....	34	1.1	68	WSW	.....	.....	5	.....	8?	.....	SW	0	0	.....	.....	Clear	
Constitution, Navy Yard, Norfolk, Va.	29.66‡	753.4‡	.....	.....	32	0.0	90	W	3	1.3	.....	.....	2	.....	NW	.....	.....	.....	.....	Clear	
Enterprise, Alexandria, Egypt.....	30.10‡	764.5‡	.....	.....	69	20.6	70	NNE	....	.....	2	.....	8	.....	NNE	.....	.....	Smooth	.....	Cloudy.....	
Franklin, Off Navy Yard, Norfolk, Va.	29.66‡	753.4‡	.....	.....	34	1.1	74	W	7.2	3.2	.....	.....	8	.....	.....	0.6	15.	.....	.....	Fair.....	
Ha tford, Boston, Mass.....	29.40‡	746.7‡	.....	.....	40	4.4	91	.....	.....	.....	3	.....	10	.....	N	0.06	1.5	Smooth	.....	Cloudy.....	
Independence, Mare I'd, Navy Yard, Cal.	30.29‡	769.4‡	.....	.....	58	14.4	76	E	0	0	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Kearsage, Savannah, Ga.....	29.98‡	761.5‡	.....	.....	46	7.8	77	WNW	.....	.....	5	.....	2	.....	NW	.....	.....	Mod'ate	NW	Clear	
Lackawana, N. 34° 40′, W. 179° 06′..†.	30.37‡	771.4‡	.....	.....	71	21.7	90	SSW	.....	.....	4	.....	5	.....	SSW	.....	.....	Smooth	SE	Fair.....	
Marion, Off Norfolk, Va.	29.69‡	754.1‡	.....	.....	40	4.4	68	W	.....	.....	3	.....	2	.....	W	.....	.....	Smooth	.....	Clear	
Michigan, Erie, Pa.....	29.81‡	757.2‡	.....	.....	26	—3.3	81	NW	.....	.....	7	.....	8	.....	NW	.....	.....	.....	.....	Cloudy.....	
Monocacy, Shanghai, China..	30.17‡	766.3‡	.....	.....	56	13.3	87	NE	.....	.....	2–4	.....	10	.....	E	.....	.....	.....	.....	Threatening	
New Hampshire, Port Royal, S. C.....	29.96‡	761.0‡	.....	.....	42	5.6	75	NW	16	7.2	.....	.....	1	.....	NW	1.3	33.	.....	.....	Clear	
Onward, Callao, Peru ....†.	29.96‡	761.0‡	.....	.....	65	18.3	89	SSE	.....	.....	3	.....	2	.....	.....	.....	.....	Long	W	Misty	
Palos. Tientsin, China...	30.35‡	770.9‡	.....	.....	35	1.7	90	S	.....	.....	0–1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Passaic, Washington, D. C.....	29.61‡	752.1‡	.....	.....	35	1.7	91	NW	.....	.....	2	.....	8	.....	SE	0	0	.....	.....	Cloudy.....	
Pensacola, Callao, Peru	29.96‡	761.0‡	.....	.....	65	18.3	89	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Smooth	.....	Hazy.....	
Powhatan, Navy Yard, Brooklyn, N.Y.	29.50‡	749.3‡	.....	.....	39	3.9	60	WNW	.....	.....	2	.....	2	.....	Calm	0	0	.....	.....	Fair.....	
Quinnebaug, Leghorn, Italy.....	29.83‡	757.7‡	.....	.....	52	11.1	86	SSE	.....	.....	4	.....	10	.....	E	.....	.....	.....	.....	Raining	
Ranger, N. 39° 10′, E. 166° 35′.....	30.37‡	771.4‡	.....	.....	56	13.3	75	E	.....	... ..	3	.....	10	.....	E	.....	.....	Mod'ate	S	Overcast	
Richmond, Shanghai, China.....	30.20‡	767.1‡	.....	.....	57	13.9	??	NNE	.....	.....	4	.....	5	.....	.....	0	0	Smooth	.....	Squally.....	
Rio Bravo, Brownsville, Texas... †.	30.57‡	776.5‡	.....	.....	44	6.7	84	NNW	2	0.9	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Santee. Annapolis, Md	29.68‡	751.3‡	.....	.....	37	2.8	74	WSW	.....	.....	1	.....	2	.....	NW	0	0	.....	.....	Clear	
Shenandoah, S. 7° 32′, W. 31° 58′.....	29.89‡	759.2‡	.....	.....	81	27.2	78	ESE	.....	.....	4	.....	2	.....	.....	.....	.....	Smooth	.....	Fair	
St. Louis, League Island, Pa.....	29.52‡	749.8‡	.....	.....	34	1.1	82	NW	9	4.0	.....	.....	8	.....	NNW	0	0	.....	.....	Cloudy.....	
Trenton, Gibraltar, Mediterranean	29.80‡	756.9‡	.....	.....	65	18.3	78	NNW	.....	.....	1	.....	8	.....	Calm	0	0	Smooth	.....	Cloudy.....	
Tuscarora, N. 16° 10′, W. 98° 20′.	29.92‡	760.0‡	.....	.....	73	22.8	85	E	.....	.....	2	.....	2	.....	Calm	0	0	Smooth	.....	Fair.....	
Vandalia. Key West, Fla.....†..	30.08‡	764.0‡	.....	.....	64	17.8	83	N	.....	.....	4	.....	5	.....	N	.....	.....	.....	.....	Fair.....	
Wabash, Boston, Mass.....	29.48‡	748.8‡	.....	.....	39	3.9	68	SE	11	4.9	.....	.....	10	.....	.....	.....	.....	.....	.....	Rainy	
Wachusett, N. 4° —′, W 27° —′.....	29.99‡	761.7‡	.....	.....	80	26.7	91	ESE	.....	.....	2	.....	2	.....	ESE	.....	.....	Long	S;W	Fair.....	
Wyoming, Gibraltar, Mediterranean.	29.7 ‡	756.7‡	.....	.....	62	16.7	83	ENE	.....	.....	2	.....	5	.....	E	.....	.....	Smooth	E	Cloudy.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. ‡Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		CHARACTER.	DIRECTION FROM—		

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S. S. Samaria																			Capt. T. Roberts.

NOTE—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitebury.
S. S. Costa Rica																			W. House & R. Lawless.
S. S. Dakota, Capt. H. G. Morse																			Capt. Connolly.
S. S. Georgia																			F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin																			Capt. A. Fuller.
S. S. Wilmington																			R. C. Ghest, 1st Officer.
S. S. Zealandia, S. 34° 17′, E. 166° 05′		29.17‡	740.9‡				NW			6				W		Heavy	NW	Squally	

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The orginals give the barometer as read off; wind-force by the scale 0 to to 12; for the Brittanic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer, N. 36° 05′, E. 128° 24′		29.91‡	759.7‡	68	20.0	79	NNW			5		2		N		Rough	NNW	Squally	D. A. Joyce, 2nd Officer
S. S. Gaelic, Capt. Davidson, N. 39° 34′, W. 125° 31′	†	30.37‡	771.4‡	52	11.1		Var.			3		Mist; fog			Blank	Smooth	SE	Fog and mist	J. A. Thompson, C. O. J. G. Cameron.
S. S. Oceanic, Capt. J. Metcalf																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES

Furnished by the co-operation of A. Schumacher & Co., Agents

S. S. Baltimore																			Capt. H. Andresser.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undutsch.
S. S. Leipzig, Capt. F. Pfeiffer, N. 40° 09′, W. 68° 50′		29.00‡	736.6‡	46.0	7.8	100	ENE			8		10		NE	8 h'rs	Heavy	ENE	Drizzling	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, Bremerhaven, Germany		30.21‡	767.3‡				E			4		5		E				Cloudy?	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Delaware river, U. S		29.43‡	750.0‡	38	3.3	??	NW			8		8		NW	0			Fair	Capt. R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents.

Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

NOTE.—The originals give the barometer as read off; do not distinguish between upper and lower clouds; sea-swell in general terms, as published. ‡Corrections for temperature, instrumental error and elevation applied at this office.

ALLAN LINE MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian, N. 37° 24′, W. 74° 22′		29.62‡	752.3‡	44.5	6.9		NW			6		5		NNW		Rough	N	Fair	J. Powell, 4th Officer.
S. S. Peruvian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES—Miscellaneous.

Furnished by the co-operation of the Observers named.

Schooner Addie Fuller, N. 34° 20′, W. 74° 39′		29.61‡	752.1‡	54	12.2	61	NNW	35	15.6		5k		NW		0.64 in. or 16.3mm	Heavy	Mk		Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George" of Halifax																			N. B. Foss.
Schooner Harry and Fred																			Capt. George Gardner.
Haytian																			
§ Iron Cross																			Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

NOTE.—The originals give the barometer as read off; amount of cloudiness by vario is scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards: those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg'd,) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 21, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			29.79	756.6	66.4	19.1	80	SW			6		8			0.079	2.0	Very cloudy	
Nemours			29.81	757.1	82.4	28.0	24	S			8		10			0	0	Covered	Kesxuche.
Algiers			29.95	760.6	76.3	24.6	26	E			5		0			0	0	Clear.	Touriliere.
La Calle			30.08	764.1	73.6	23.1	64	SE			4		2			0	0	Fair	Foufrede.
Tunis																			Jacques.
Sfax																			Gau.
Saida			30.24	768.1															Herbin.
Tebessa																			Watrin.
Geriville			30.23	767.9	70.0	21.1	61	SW			4		2			0	0	Fair	Brugniuax.
Laghouat					57.7	14.3	41	SSE			7		10			0	0	Covered	Bertrand.
Biskra			30.21	767.4	60.4	15.8	21	NNE			2		2			0	0	Fair	Chanvaux.
			30.15	765.8	65.1	18.4	55	NW			1		0			0	0	Clear.	

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.82	757.4	30.40	772.2	33.1	0.6	83	S			3		10			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.66	753.4	30.48	774.1	32.5	0.3	87	NE	2.5	1.1			0			0	0		Dr. Wierzbicki.
Eperies	29.48	748.9	30.41	772.3	37.8	3.2	76	Calm			0	c	5s			0	0		Julius Mikolik.
Gratz	29.07	738.3	30.39	771.9	32.9	0.5	77	S			2		3			0	0		Andreas Rospini.
Hermannstadt	28.96	735.6	30.47	773.9	36.5	2.5	80	W			1		4			0	0		Prof. A. Gottschling.
Kremsmünster	28.72	729.4	30.12	765.1	32.7	0.4	92	ENE			1		0			0	0		Prof. C. Wagner.
Lemberg	29.40	746.8	30.45	773.3	34.5	1.4	96	SE			1		10			0	0		Dr. T. Stanecki.
Pola	30.19	766.8	30.30	769.6	58.6	14.8	81	SE			1		5			0	0		I.R.Hydrographic Office.
Szathmar	29.99	761.8	30.48	774.1	43.9	6.6	62	E			1		5			0	0		Pet. Pancsics, S. J.
Szegedin	30.12	765.0	30.41	772.4	46.4	8.0	75	S			2		0			0	0		Karl Stancel.
Trieste	30.22	767.5	30.32	770.1	58.8	14.9	71	Calm			0		6			0.118	3.0		P. Busin.
Vienna	29.56	750.7	30.29	769.4	33.6	0.9	87	S			2		10			0	.0		I.R.Central Met. Ob'sy

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.11	764.8	30.21	767.3	43.5	6.4		ENE	36	16.1			10			0.495	12.58	Raining	W. Boswell.
Ardrossan	30.06	763.5	30.08	764.0	42	5.6		NE			5		7					Drizzling	Wm.McNeil &G.Carrick.
Armagh, (Observatory)	29.84	757.9	30.09	764.3	41.9	5.5		NNE	16	7.2			10					Raining	S. Call.
Bidston (Liverpool Obs)			29.84	757.9	39.0	3.9		ENE	18	8.0			10					Misty	John Hartnup.
Bolton (Sharples)	29.27	743.4	29.79	756.7	37.2	2.9		ENE	24	10.7			8					D. clouds	Thomas Mackereth.
Bradford, Yorkshire	29.45	748.0	29.85	758.2	38.1	3.4		NE			4		10			0.31	7.9	Snowing	J McLandsborough.
Bridgetown, Barbadoes	29.82	757.4	29.85	758.2	80	26.7		NE			2		3					D. clouds	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	29.74	755.4	29.84	757.9	35.0	1.7		SE			1		10					Snowing	H. Todd.
Cardington			29.80	756.9	34.6	1.4		NE			0–1		10					Snowing	John McLaren.
Chatham (School M. E.)	29.70	754.4	29.84	757.9	34.2	1.2		Calm			0		8					D. clouds	J. Carmell, Sapper, R.E.
Donaghadee	30.00	762.0	30.03	762.7	46	7.8		NE			7		8					D. clouds	J. Mac Gowan.
Dover	29.85	758.2	29.87	758.7	37	2.8		SSW			4		8					¾ clouded	J. Costello.
Falmouth (Observatory)	29.60	751.8	29.84	757.9	39.7	4.3		N			1		10					Overcast	The Staff.
Fort Napier, Natal	27.63	701.8	29.85	758.2	60.5	15.8		E			1		10					Drizzling	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone																			
Galway (Queen's College)			30.06	763.5	45	7.2		NNE			4		10					Overcast	Prof. A. H. Curtis.
Gibraltar, Mediterranean																			Sergt. Wm. Allen, A. H.
Glasgow, (Observatory)	29.88	758.9	30.09	764.3	41.9	5.5		NNE			6		10			Blank	Blank	Overcast	D. G. Maclean. [C.
Great Yarmouth	29.90	759.4	29.90	759.4	34	1.1		SSW			2		6					Snowing	G. T. Watson.
Greenwich (Royal Obs'y)	29.66	753.4	29.84	757.9	33.8	1.0		SSE			1		7			Blank	Blank	D. clouds	The Staff, for G.B.Airy.
Guernsey	29.56	750.8	29.79	756.7	39.5	4.2		WSW			2		7					D. clouds	Dr. S.E Hoskins, F.R.S.
Helston	29.97	761.2	30.10	764.5	42	5.6		NE			2		10			0.10	2.5	Rainy	M. P. Moyle.
Holyhead	29.81	757.2	29.86	758.4	43	6.1		ENE			6		10					Raining	John Tilston.
Jersey	29.52	749.8	29.82	757.4	41.0	5.0		W			2		8					Showery	J. Fisher.
Kew (Observatory)	29.79	756.7	29.83	757.7	33.5	0.8		SSE	7	3.1			10					Snowing	The Met'g'l Office.
Leicester (Museum)	29.54	750.3	29.80	756.9	34.8	1.6		NE			2		10					Rain & snow	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	30.12	765.0	30.19	766.8	68	20.0		SE			2		0					Blue sky	A. King.
Nairn	30.16	766.1	30.25	768.3	43	6.1		ESE			4		10					Raining	W. D. Penny.
Nassau, Bahamas			30.06	763.5	69.0	20.6		NW			5		8					D. clouds	C. S. Duncombe.
Nottingham (Observatory)	29.63	752.6	29.83	757.7	34.4	1.3		NE			3		10d		NE	0.586	14.88	Snowing	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.27	743.4	29.81	757.2	33.0	0.6		NE			1		10					Snowing	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)			29.81	757.2	34	1.1		E			1		10					Overcast	H. E. Bellamy.
Plymouth	29.72	754.9	29.80	756.9	39.4	4.1		NNE			2		10					Overcast	John Merrifield.
Prince Town																			W. H. Tooker.
*Roche's Point	29.95	760.7	30.03	*762.7	45	7.2		NNE			5		8					¾ clouded	Wm. Kennedy.
St. Ann's Head	29.66	753.4	29.83	757.7	43	6.1		NNE			5		10					Raining	John C. Walker.
Sandwick Manse, Orkneys			30.37	771.4	43.6	6.4		NE	19	8.5			10					Overcast	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	30.28	769.1	30.35	770.9	54.2	12.3		NE			2		9			Blank	Blank	Gloomy	Serg't W. H. Lyne.
Sheffield	29.56	750.8	29.85	758.2	35.1	1.7		NE			2		10			0.17	4.3	Snow. hail&rain.	W. F. Cooper.
Silloth Rectory	29.88	758.9	29.92	760.0	42.6	5.9	90	E			7		4			0.454	11.53	D. clouds	Francis Redford, A. M.
Stonyhurst (Observatory)			29.83	757.7	38.5	3.6		NE	15	6.7			10					Drizzling	Rev. S. J. Perry.
Straffield, Turgiss	29.58	751.3	29.81	757.2	33.6	0.9		SE			1		10					Snowing	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	29.78	756.4	29.85	758.2	43	6.1		NE			2		10					Raining	W. Newcombe.
Valencia Observatory)	30.09	764.3	30.11	764.8	43.9	6.6		NE	21	9.4			10					D. clouds	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	30.93	760.2	29.97	761.2	63.5	17.5	80	W	9.2	4.1		1c	5ks						The Staff, for D. Gill.
Colesberg Bridge, Cape Col.																			Robert Burnet.
Hobart Town, Tasmania			29.45	748.0	57.0	13.9	77	S			1		4k			0.02	0.5		Francis Abbott, F.R.A.S.
Leith, (Restalrig Park)			30.10	764.5	43.0	6.1		E			7		10n			0.65	16.5	Stormy	Andrew Gibb.
Mauritius (Observatory)	29.87	758.7	30.05	763.4	79.1	26.2	60	ENE	15.5	6.9		0	2		E	0	0	Fine	C. Meldrum.
Melbourne (Observatory)	29.63	752.6	29.72	754.9	58.0	14.4	70	WSW	4	1.8			2			0.17	4.3	Fine	R. L. J. Ellery.
Monach Lt-house, Hebrides			30.32	770.1	44	6.7		ENE			4		10			0	0		J. Youngclause.
North Unst, Shetland Is			30.34	*770.6				NE			4		10			Blank	Blank		

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Colesberg Bridge, unknown.

BRITISH MARINE SERIES. VESSELS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. Alert, Off Tapering Pt, Patagonia			29.60‡	751.8‡	48	8.9		Calm			0		9					Overcast	Capt. J.P. Maclear, R.N.
H. M. Sloop Gannet, S. 12° 04′, W. 77° 11′			29.89‡	759.2‡	63	17.2		NW			1		8					D. clouds	Commander E. Bourke, R. N.
H. M. S. Magpie, Shanghai, China			30.20‡	767.1‡	52.5	11.4		E			1		10					Overcast	Capt. R. H. Napier, R.N.
Brig Alliance, N. 35° 30′, W. 53° 30′			29.86‡	758.4‡	71.4	21.9		SSW			6		9					Misty	Capt. W. Scott.
Barque Belle-Isle, N. 18° 15′, W. 75° 05′			29.85	758.2	79	26.1		N			8		6			8	N	Showery	Capt. A. J. Brown.
S. S. German, N. 6° 55′, W. 14° 12′			29.87‡	758.7‡	85	29.4		SE			1		6					D. clouds	Capt. O. D. Coxwell.
Barque Mertole, N. 41° 10′, W. 11° 45′			29.52‡	749.8‡	61.8	16.6		E			5		10					Overcast	Capt. Turner.
S. S. Peruvian N. 56° 00′, W. 29° 25′			30.10	764.5	49	9.4		ENE			6		10			6	N	Squally	Capt. W. H. Smith.
S. S. Strathleven, Sydney, N. S. W.			29.92‡	760.0‡	75.5	24.2		W			3		4					D. clouds	Capt. C. W. Pearson.
S. S. Sunbeam, N. 41° 40′, W. 29° 10′			29.39	746.5	64	17.8		E			5		5			5	WNW	D. clouds	Capt. C. M. Dobson.
Light House Tender Richmond, Man of War Channel, Bahama I'ds.			30.14	765.5	68	20.0		NNE			6		7			7	N	D. clouds	Capt. W. H. Stewart.
S. S. Gordon Castle																			
German Brig "W. von Freeden"																			Capt. H. V. Freeden.
Barque Queen of Cambria,																			Capt. M. Parry.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.27	667.2	29.99	761.7	64.0	17.8	80	NE	.....	.....	7	9s	.....	NE	.....	0	0	.....	Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Copenhagen	30.26	768.6	30.31	769.8	40.6	4.8	96	SE	.....	.....	4	.....	10	.....	.....	.....	.....	Raining	.....
Fanöe	30.18	766.6	30.21	767.1	37.8	3.2	100	ESE	.....	.....	6	.....	10	.....	.....	.....	.....	.....	.....
Godthaab (Greenland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stykkisholm (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thorshavn (Faröe)	30.47	773.9	30.50	774.8	43.2	6.2	87	Calm	.....	.....	0	.....	7	.....	.....	.....	.....	.....	.....
Vestervig	30.17	766.4	30.28	769.2	37.4	3.0	100	NE	.....	.....	6	.....	10	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alençon, Normal School	29.40	746.7	29.95	760.7	32.0	0	70	S	.....	.....	1	.....	8kn	.....	SW	0	0	Very cloudy	Collignon, Director.
Amiens, Normal School	29.74	755.5	29.86	758.5	35.6	2	96	E	.....	.....	1	.....	2	.....	Calm	0	0	Slightly cld'y	Vaillant, Director.
Arras, Engin'r School	29.68	753.8	29.95	760.6	32.7	0.4	100	SSW	.....	.....	2	.....	n	.....	SW	0	0	.....	Klein, Commandant.
Avignon, Normal School	29.91	759.8	29.99	761.8	54.0	12.2	83	E	.....	.....	1	.....	10	.....	SSW	.....	.....	Rainy	Giraud, Director.
Bar-sur-Seine	29.44	747.7	30.02	762.6	32.7	0.4	88	S	.....	.....	1	.....	10	.....	.....	Inap.	Inap.	Snow-flakes.	C. Saillard, Director
Beauvais, Normal School	29.68	753.8	29.95	760.8	34.7	1.5	72	S	.....	.....	1	.....	8	.....	S	0	0	Very cloudy	Frère Eugene Marie
Besançon, Normal School	29.10	739.0	30.02	762.6	35.1	1.7	89	SW	.....	.....	1	.....	5	.....	SW	0	0	Cloudy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.13	740.0	30.04	763.1	33.4	0.8	96	N	.....	.....	2	.....	10n	N	N	0	0	Covered	Marlot, Diretor.
Bourges, Normal School	29.41	747.1	30.00	761.9	32.2	0.1	.....	SW	.....	.....	1	.....	10n	.....	SW	.....	.....	Hailing	M. Gence, Director.
Brest, Naval Observatory	29.63	752.6	29.87	758.7	44.6	7.0	79	W	.....	.....	2	.....	10	.....	W	0.030	0.75	Squally	Ch. de Rermaree, Dir.
Caen, Normal School	29.95	760.8	.....	.....	33.1	0.6	88	SSE	.....	.....	2	.....	10	.....	.....	0	0	Covered	M. Bietrin, Director.
Carcassonne, N. School	29.45	748.1	29.87	758.7	49.1	9.5	81	SE	.....	.....	1	.....	10	SE	SE	0	0	Covered	September, Director.
Châlons-sur-Marne, N. Sch'	29.67	753.6	30.00	762.0	32.0	0.0	96	SSW	.....	.....	1	.....	8	.....	.....	.....	.....	Very cloudy	Jadot, Director.
Chartres, Normal School	29.35	745.6	29.95	760.6	33.8	1	69	SE	.....	.....	1	.....	7	.....	NE	0	0	.....	Vergier, Director.
Clermont-Fd, Puy de D. Obs	28.55	725.2	29.98	761.4	30.9	−0.6	96	N	.....	.....	1	.....	10	.....	.....	0.039	1.0	Light rain	Alluard, Director.
Commercy, Normal School	29.09	738.9	30.00	761.9	32.5	0.3	96	SE	.....	.....	1	.....	10n	SE	SE	0	0	Covered	Dr. Coullet, Director.
Commune de Gréasque*	28.93	734.9	30.08	763.9	50.9	10.5	90	E	.....	.....	2	.....	10	.....	SE	.....	.....	Raining	L. Kina, Director.
Grenoble, Normal School	29.20	741.6	30.00	762.0	36.3	2.4	72	NW	.....	.....	1	.....	8kn	.....	N	0.008	0.2	Very cloudy	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	29.77	756.2	30.00	761.9	36.9	2.7	55	ESE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Mouillot, Director.
Le Mans, Normal School	29.66	753.4	29.98	761.6	33.1	0.6	68	S	.....	.....	4	.....	2	.....	WSW	0	0	Slightly cld'y	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.28	743.6	30.11	764.8	33.3	0.7	85	NNE	.....	.....	1	.....	10	.....	.....	.....	.....	Light rain	A. Baudry, Director
Lorient, Naval Observatory	29.80	756.8	29.91	759.6	42.8	6.0	70	SW	.....	.....	3	.....	.....	.....	SW	0	0	.....	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.32	744.7	29.97	761.1	34.3	1.3	85	N	.....	.....	1	.....	10	.....	SSW	0	0	Covered	Ch. André, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	29.72	754.8	29.98	761.6	56.7	13.7	79	ESE	.....	.....	2	.....	10	.....	SE	0	0	.....	E. Stephan, Director.
Mirecourt, Normal School	28.98	736.0	30.07	763.6	34.0	1.1	96	WSW	.....	.....	1	.....	k	WSW	WSW	0	0	.....	Barbier, Director.
Mont-Louis	24.71	627.6	30.02	762.6	38.3	3.5	84	WSW	24.2	10.8	.....	.....	10	.....	.....	0.142	3.6	.....	M. Cave.
Nice	30.11	764.9	30.15	765.8	52.3	11.3	92	E	.....	.....	1	.....	10	E	E	0.197	5.0	Light rain	M. Boissière, Director.
Nismes, Normal School	29.70	754.4	29.90	759.5	60.1	15.6	62	SW	.....	.....	1	.....	8	.....	SW	0.20	5.	Very cloudy	M. Boyer, Director.
Paris, Montsouris Obs'y	29.68	753.9	.....	.....	35.6	2.0	64	SSW	.....	.....	2	.....	4	.....	SSW	Inap.	Inap.	.....	Marié Davy, Director.
Perpignan	29.77	756.2	29.87	758.8	59.5	15.3	69	SW	20.6	9.2	.....	.....	9	.....	SSW	0	0	.....	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.29	566.1	.....	.....	32.9	0.5	.....	NW	.....	.....	3	.....	10	.....	NW	0.087	2.2	Rain & snow	Gen'l de Nansouty.
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Privas, Normal School	28.78	731.1	29.86	758.5	48.2	9	92	S	.....	.....	3	.....	n	S	N	0.413	10.5	.....	M. Tallieu
Puy de Dome (Summit) Obs	24.93	633.2	.....	.....	29.8	−1.2	100	S	.....	.....	3	.....	10	.....	.....	0.039	1.0	Rain & fog	Alluard, Director.
Rochefort, Naval Obs'y	29.97	761.1	30.00	761.9	38.7	3.7	43	.....	.....	.....	1	.....	2	E	E	0.28	7.	¼ covered	Lt E. Decante, Director
Rouen, Normal School	29.83	757.7	29.92	759.9	34.7	1.5	72	ESE	.....	.....	3	.....	5	.....	SW	0	0	Cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.81	757.2	29.84	757.9	34.0	1.1	95	SSW	.....	.....	4	.....	10	SSW	SSW	.....	.....	Snowing	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.81	757.2	29.98	761.4	35.6	2.0	71	SSW	.....	.....	3	.....	10	.....	SW	0.008	0.2	Snowing	E. Renou, Director.
Tarbes, Normal School	28.99	736.3	30.07	763.7	35.6	2	82	W	.....	.....	3	.....	2	SE	SW	0	0	Slightly cld'y	T. Huguet, Director.
Toulouse, Observatory	29.19	741.3	29.91	759.6	39.6	4.2	93	NW	.....	.....	1	.....	10	.....	.....	0.051	1.3	Covered	M. Julier Mercadier.
Tours	29.79	756.6	29.98	761.6	.....	.....	.....	E	.....	.....	1	.....	5	.....	W	0	0	½ covered	Cousin-Marquet.
Versailles, Observatory	29.45	748.0	29.94	760.5	32.7	0.4	.....	SW	.....	.....	1	.....	.....	.....	.....	0.017	0.43	.....	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.26	743.2	30.01	762.2	32.9	0.5	97	NNW	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.85	758.3	29.88	759.0	78.8	26	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.59	15.	.....	L'Abbé Marchési
Zi-Ka-Wei (near Shanghai)	30.19	766.7	30.21	767.3	50.2	10.1	83	ENE	0.4	0.2	.....	.....	10	.....	.....	0	0	Covered	Marc Dechevrens.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centrigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.19	741.3	30.03	762.7	35.6	2.0	78	E			4	4ck		NW		0	0		Prof. Dr. Hoh.
Berlin	30.01	762.2	30.19	766.8	36.0	2.2	85	SE			2		0						Prof. Dr. Arndt.
Breslau	29.76	755.9	30.30	769.5	35.8	2.1	82	SE			3		0			0	0		Royal University Obs'y.
Carlsruhe	29.57	751.1	30.01	762.3	37.8	3.2	52	S			0		9	SW		0.063	1.6	Raining	Albert Senz.
Cassel	29.44	747.8	30.04	763.1	34.7	1.5	68	N			2		7	NE		0	0		Dr. H. Möhl.
Emden			30.07	763.7	34.3	1.3	90	SE			2		10			0	0		Prof. Dr. Prestel.
Frankfort on the Main	29.70	754.3	30.07	763.8	38.8	3.8	79	SE			1		3			0	0		Physical Society.
Friedrichshafen	28.59	726.2	30.10	764.5	30.2	— 1.0	96	N			2		10	WSW		0	0	Hazy	Chief Telegrapher Wilhelm.
Hamburg	30.09	764.2	30.16	766.1	34.9	1.6	87	E			4		10			0	0	Light fog	Captain F. Hegemann.
Kiel	30.16	766.1	30.18	766.5	38.1	3.4	100	E			3		10			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.41	772.5	30.50	774.7	34.7	1.5	96	E			2		9			Inap.	Inap.		Prof. E. Luther.
Köslin			30.35	770.8	35.8	2.1		SE			2		4			0	0		H. Müller.
Leipsic Observatory	29.71	754.7	30.15	765.9	30.2	— 1.0	73	E			4		7			0	0		Prof. Dr. Bruhns, Privy Counselor
Magdeburg	29.94	760.5	30.17	766.3	36.1	2.3	80	ESE			4		2cs	WSW		0	0		Dr. Assmann.
Memel	30.48	774.2	30.53	775.4	33.8	1.0	92	SE			2		10n						Reinbrecht & Issermann
Munich (München)	28.18	715.7	30.04	763.0	29.3	— 1.5	75	NE			2		2			0	0		Dr. C. Lang.
Neufahrwasser	30.44	773.1	30.45	773.5	37.2	2.9	88	ESE			2		10			0.016	0.4		A. Lothes.
Neustadt (Palatinate)	29.47	748.5	30.00	761.9	35.4	1.9	75						8	N		0	0	Foggy	Reallehrer Dicknether
Posen	30.01	762.2	30.31	769.9	34.7	1.5	91	SE			1		4			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	29.48	748.9	30.07	763.6	33.4	0.8	85	ENE			2		10	SW		0	0		Imp. University Observatory.
Stuttgart	29.04	737.5	30.01	762.3	34.7	1.5	71	SE					2	W		0	0		Prof. Dr. Schoder.
Weissenburg (Bavaria)	28.52	724.3	30.08	764.0	37.4	3.0	72	Calm	0	0		6c		W		0	0		Reallehrer J. Hopfner.
Wustrow	30.24	768.2	30.27	768.8	36.1	2.3	84	ESE			2		10s			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.99	761.8	30.39	771.8	57.2	14.0		NE			0		10					Covered	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	30.02	762.5	30.07	763.9	74.1	23.4	32	W	12	5.4			0			0	0	Blue sky	
Deesa	29.57	751.0	30.05	763.3	73.8	23.2	23	N	8.3	3.7			0			0	0	Blue sky	
Bombay	29.87	758.7	29.91	759.7	78.8	26.0	76	NNW	18	8.0			0			0	0	Blue sky	
Poona (Yerrowda)	28.05	712.4	29.89	759.3	82.7	28.2	41	E	3	1.3			1		S	0	0	D. clouds	
Belgaum	27.37	695.2	29.94	760.6	69.9	21.1	95	WSW	7	3.1			2	SW	E	0	0	D. clouds	
Lahore	29.30	744.2	30.08	763.9	60.6	15.9	31	Calm	1.1	0.5			0			0	0	Blue sky	
Roorkee	29.06	738.1	29.99	761.8	63.6	17.6	30	NW	2.3	1.0						0	0		
Agra	29.45	748.1	30.04	763.0	64.8	18.2	37	NW	5.8	2.6						0	0		
Nagpur	28.90	734.1	29.96	761.0	74.7	23.7	61	ENE	4.5	2.0			2	SW		0	0	D. clouds	
Jubbulpore	28.50	724.0	29.90	759.4	69.7	20.9	35	ENE	3.3	1.5						0	0	Blue sky	
Lucknow	29.60	751.7	29.99	761.7	65.3	18.5	38	NNW	1.1	0.5						0	0	Blue sky	
Allahabad	29.68	753.9	30.01	762.2	66.3	19.1	52	Calm	2.4	1.1			0			0	0	Blue sky	
Patna	29.76	755.8	29.94	760.6	73.9	23.3	43	W	0.6	0.3			0			0	0	Blue sky	
Hazaribagh	27.92	709.0	29.97	761.3	68.8	20.4	52	W	6.3	2.8			3			0	0		
Cuttack	29.86	758.5	29.95	760.6	79.1	26.2	74	ENE	2	0.9			1			0	0	Blue sky	
Calcutta (Alipore)	29.91	759.7	29.93	760.2	74.0	23.3	64	NNW	1.0	0.4			0			0	0	Blue sky	
Goalpara	29.49	749.1	29.89	759.1	73.9	23.3	73	Calm	1.8	0.8			0			0	0	Blue sky	
Chittagong	29.80	757.0	29.90	759.4	77.2	25.1	82	Calm	2.5	1.1			0			0	0	Misty	
Sibsagar	29.57	751.1	29.92	759.9	72.0	22.2	82	ENE	1.3	0.6			2			0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	29.91	759.7	30.34	770.6	47.3	8.5	77	SE	0.7	0.3	.....	.....	8	.....	.....	0.276	7.0	.....	Prof. Giovanni Clodig.
Milan	29.78	756.3	30.32	770.1	36.9	2.7	91	WSW	.....	.....	1	.....	10	.....	.....	0.945	24.0	.....	Prof. Schiaparelli.
Padua	30.19	766.9	30.31	769.8	48.2	9.0	93	N	11.2	5.0	.....	.....	10	.....	.....	0.417	10.6	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.37	745.9	30.29	769.4	40.6	4.8	76	NNW	0.7	0.3	.....	.....	10	.....	.....	0.220	5.6	.....	Prof. P. F. Denza.
Genoa	30.02	762.4	30.21	767.4	44.6	7.0	74	NE	6.9	3.1	.....	.....	10	S	.....	0.894	22.7	.....	Prof. G. M. Garibaldi.
Mondovi	28.32	719.4	30.28	769.1	36.7	2.6	79	W	.....	.....	2	.....	10	.....	.....	0.098	2.5	.....	Prof. D. C. Bruno.
Pesaro	30.23	767.7	30.28	769.0	50.4	10.2	76	N	3.8	1.7	.....	.....	2	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.99	761.8	30.26	768.5	60.8	16.0	64	SE	.....	.....	2	.....	10	.....	.....	0.236	6.0	.....	Cav. F. Meucci.
Leghorn	30.13	765.2	30.21	767.4	60.1	15.6	69	SE	0	0	.....	.....	7	.....	.....	0.079	2.0	.....	Prof. P. Monte.
Rome	30.07	763.6	30.24	768.1	62.4	16.9	57	S	13.0	5.8	.....	.....	5	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	30.05	763.2	30.30	769.7	61.5	16.4	80	ESE	13.0	5.8	.....	.....	4	E	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.39	746.6	30.28	769.2	56.8	13.8	71	NW	1.3	0.6	.....	.....	3	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.88	759.0	30.04	762.9	64.8	18.2	65	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.91	759.7	30.17	766.2	62.6	17.0	66	NE	7.4	3.3	.....	.....	1	.....	.....	0	0	.....	Prof. G. Ciacciatore.
Syracuse	30.22	767.5	30.29	769.3	62.1	16.7	79	NE	2.5	1.1	.....	.....	5	S	.....	0	0	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.73	755.1	30.26	768.5	61.2	16.2	67	WSW	1.3	0.6	.....	.....	5	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.08	764.0	30.10	764.5	45.6	7.6	85	NNE	5.5	2.5	.....	4ck;cs	ck	.....	.....	0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.94	760.5	30.15	765.8	43.0	6.1	87	NNE	0.2	0.1	.....	6ck	cs	.....	.....	0	0	Cloudy	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.98	761.5	30.04	763.0	44.9	7.2	60	N	5.4	2.4	.....	.....	10s	.....	.....	0	0	Cloudy	The Staff.
Wakayama	30.06	763.5	30.11	764.8	42.5	5.8	81	E	3.1	1.4	.....	.....	0	.....	.....	0	0	Clear	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	25.22	640.5	30.57	776.4	32.4	0.2	45	Calm	.....	.....	0	.....	2	.....	.....	0	0	Clear	Prof. L. Perez.
Leon	24.58	624.2	30.54	775.7	41.0	5.0	79	NW	.....	.....	1	1c	0	NW	.....	0	0	Blue sky	Prof. M. Leal.
Mazatlan	29.77	756.1	30.03	762.8	71.1	21.7	36	NE	.....	.....	1	8c	0	.....	.....	0	0	Cloudy	I. Guerrero, C. E.
Mexico, Central Observatory	23.16	588.3	30.52	775.1	35.6	2.0	54	Calm	0	0	.....	5c	0	.....	.....	0	0	Fair	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	39.2	4.0	60	NW	.....	.....	1	2c	0	W	.....	0	0	.....	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.52	597.5	30.69	779.4	32.0	0.0	60	N	4.5	2.0	.....	1c	0	SE	.....	0	0	Clear	Prof. P. Spina.
San Luis Potosi	24.32	617.6	30.69	779.5	32.0	0.0	43	E	.....	.....	1	3	0	W	.....	0	0	Clear	G. Barroeta, M. D.
Tlacotalpam	30.25	768.4	30.26	768.7	67.7	16.5	71	W	.....	.....	2	9	0	NE	.....	0	0	Cloudy	Prof. M. M. Chazaro.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell
Zacatecas	22.60	574.1	30.39	771.9	39.7	4.3	56	Calm	.....	.....	0	1s	0	.....	.....	0	0	Clear	J. C. Castrillon

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,708.6 m., or 5,604.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column; the instrumental correction —0.88 mm., or —0.035 inch, has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.96	760.9	29.96	760.9	34.9	1.6	.....	SE	.....	.....	4	.....	.....	.....	.....	0.173	4.4	.....	
Groningen	30.01	762.3	30.07	763.7	.....	.....	.....	ENE	.....	.....	.....	.....	.....	.....	.....	0	0	.....	
Helder	30.00	762.0	30.00	762.0	34.0	1.1	.....	E	.....	.....	3	.....	.....	.....	.....	0.079	2.6	.....	
Hellevoetsluis	29.96	760.9	29.96	760.9	34.0	1.1	78	E	.....	.....	3	.....	.....	.....	.....	0	0	.....	
Utrecht	29.97	761.2	30.02	762.4	32.9	0.5	81	ESE	.....	.....	3	.....	10	.....	.....	0.031	0.8	Dull	H. v. d. Bruk.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.31	769.8	30.36	771.2	44.2	6.8	63	SE	1.8	0.8	.....	.....	4	.....	.....	0	0	.....	
Brönö	30.50	774.7	30.54	775.7	39.2	4.0	87	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	
Christiana	30.39	771.8	30.54	775.7	40.5	4.7	92	NE	0	0	.....	.....	10	.....	.....	0	0	.....	
Tromsö	30.43	772.8	30.47	773.9	40.8	4.9	87	SW	9	4	.....	.....	7	.....	.....	0	0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	29.30	744.3	29.50	749.2	60.1	15.6	85	W	8.7	3.9	.....	.....	5	.....	.....	0.059	1.5	.....	Dr. J. A. Sampaio.
Campo Major	28.62	727.0	29.65	753.0	63.0	17.2	74	ESE	4.9	2.2	.....	.....	9	.....	.....	0.248	6.3	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	29.48	748.7	29.60	751.9	66.9	19.4	81	W	6.3	2.8	.....	.....	8	.....	.....	0.894	22.7	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.15	740.5	29.51	749.6	63.1	17.3	78	E	19.9	8.9	.....	.....	10	SSE	.....	0.043	1.1	.....	The Staff.
Ponta Delgada (Azores)	29.45	748.1	29.52	749.9	66.6	19.2	61	W	3.1	1.4	.....	.....	4	.....	.....	0.264	6.7	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	A. M. de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	J. T. d'Oliveria, Com'd't
Rio Lima. Capt. S. C. da Silva Costa. Porto Praya. Cape Verd I'ds.	2	NE	D. clouds	A. D. de Fouseca Sarurento
Sá da Bandeira	.....	.....	.....	Louiz Apra, Q. Ma.
Sado, Capt. J. A de Brito Capello. St. Paul de Loando	.....	.....	D. Clouds, 30 minutes rain-fall.]	H. Mecudonco, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	0	.....	Overcast	J. G. Felgo, 2nd Lieut.
	.....	.....	.....	
	.....	.....	.....	

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between upper and lower clouds, and no humidity is given; duration of rain-fall in hours. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	30.60	777.1	30.61	777.6	29.8	— 1.2	88	NW	13	6	.....	.....	3ks	.....	.....	.....	.....	.....	Capt. Sseliwerstow
Astrakhan	30.48	774.1	30.39	772.0	44.8	7.1	70	SSE	2	1	.....	.....	4ks	.....	.....	.....	.....	.....	Capt. Wisganow.
Barnaul	29.00	736.6	29.52	749.9	22.8	— 5.1	100	SW	22	10	.....	.....	10	.....	.....	.....	.....	Snowing.	Meteorological Obs.
Dorpat	30.47	773.8	30.73	780.5	22.8	— 5.1	100	E	4	2	.....	.....	5kn	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	28.78	730.9	29.78	756.3	26.8	— 2.9	89	W	13	6	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	30.02	762.6	30.31	769.8	27.9	— 2.3	100	WSW	4	2	.....	.....	10	.....	.....	.....	.....	Light snow.	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.87	758.8	30.55	775.9	34.5	1.4	94	ENE	4	2	.....	.....	10ks,n	.....	.....	.....	.....	Foggy	Physical Cabinet.
Krotkowo*	29.83	757.6	30.32	770.1	36.3	2.4	71	W	0	0	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	30.19	766.8	30.40	772.2	36.0	2.2	85	NE	4	2	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs
Moscow	30.04	763.0	30.63	778.0	26.1	— 3.3	94	NW	4	2	.....	.....	7ks	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	27.48	698.0	30.00	762.1	— 0.9	—18.3	86	Calm	0	0	.....	.....	9	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	30.41	772.3	30.48	774.1	41.5	5.3	78	N	13	6	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	30.18	766.6	30.43	772.8	39.0	3.9	40	Calm	0	0	.....	.....	3ks	.....	.....	.....	.....	.....	.....
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	29.86	758.5	30.00	762.1	36.3	2.4	82	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	30.68	779.2	30.69	779.6	30.9	— 0.6	100	NNE	4	2	.....	.....	10n	.....	.....	.....	.....	Light fog	Central Physical Obs.
Tashkend	28.82	732.0	30.48	774.3	33.8	1	72	.....	.....	.....	.....	.....	3	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.87	733.4	30.30	769.6	57.0	13.9	65	Calm	0	0	.....	.....	10ks	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	30.00	761.9	30.44	773.2	36.9	2.7	87	SE	13	6	.....	.....	8ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	30.19	766.7	30.63	778.0	33.8	1.0	92	SE	2	1	.....	.....	10	.....	.....	.....	.....	Heavy clouds.	Astronomical Obs.
Yenisiesk	29.13	739.9	29.43	747.6	17.8	— 7.9	93	SW	4	2	.....	.....	10	.....	.....	.....	.....	Snowing.	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	29.81	757.2	29.91	759.8	60.8	16	78	ENE	3.4	1.50	.....	.....	3	.....	.....	0.493	12.52	.....	Antonio Rave, Director
Bilbao, Met. Obs'y	29.85	758.1	29.91	759.6	41.0	5.0	94	SE	0.5	0.22	.....	.....	10	.....	.....	0.098	2.5	Raining	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.83	681.5	.....	.....	43.2	6.2	80	N	1.0	0.46	.....	0	9	.....	.....	0.492	12.5	Almost cov'd	Domingo Martin y Perez.
Madrid, Royal Observatory	27.57	700.2	29.84	757.8	51.8	11.0	98	S	3.0	1.33	.....	0	10	.....	.....	0.327	8.3	Rainy	The Staff.
Murcia, Met. Obs'y	29.65	753.0	29.80	756.8	64.4	18.0	75	WSW	1.4	0.61	.....	5	5	WNW	.....	0	0	Covered	Olayo Diaz, Director.
Santiago, Met. Obs'y	28.77	730.7	29.67	753.5	50.9	10.5	74	NE	17.4	7.8	.....	.....	9	.....	.....	0	0	Almost cov'd	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.10	764.4	30.16	766.1	65.7	18.7	50	N	8.3	3.7	.....	1c	2k	SW	NNE	0	0	Fair	Benito Vines S. J.
Manilla, Phillippine Islands	29.75	755.7	29.81	757.1	80.4	26.9	85	SE	2.2	1.0	.....	.....	8ck	.....	W	0.28	7.0	Very cloudy	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.52	749.8	29.62	752.3	65.8	18.8	75	ESE	19.0	8.5	.....	0	9	.....	ESE	1.535	39.0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I	29.80	756.8	29.89	759.1	78.4	25.8	87	SE	0	0	.....	3cs	2k	SE	SE	0.020	0.50	Clear	Enrique Gadea, Chief Eng'r

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8.19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.70	779.8	30.74	780.8	17.6	— 8.0	.....	Calm	.....	.....	0	.....	5	.....	.....	0	0	.....	
Umea	30.62	777.7	30.67	779.0	31.6	— 0.2	74	S	.....	.....	2	.....	10	.....	.....	0	0	.....	
Hernosand	30.62	777.6	30.67	778.9	31.3	— 0.4	89	NNE	.....	.....	2	.....	7	.....	.....	0	0	.....	
Stockholm	30.46	773.6	30.63	778.1	32.0	0.0	92	NNE	.....	.....	2	.....	10	.....	.....	0	0	.....	
Wisby	30.39	772.0	30.45	773.5	38.5	3.6	97	SE	.....	.....	6	.....	10	.....	.....	0.035	0.9	.....	
Sub-Series.																			
Upsala	30.70	774.8	30.59	777.0	25.2	— 3.8	100	NE	1.8	0.8	.....	.....	10	.....	.....	0.045	1.15	Foggy	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.58	726.0	30.07	763.7	35.4	1.9	68	ENE	.....	.....	1	.....	10	.....	.....	0	0	Covered.....	The Observatory.
Zurich	28.39	721.0	30.11	764.9	30.6	— 0.8	86	W	.....	.....	1	.....	9	.....	.....	0	0	Foggy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, —0.6 mm.; Thermometer, —3.8 Cent.; Relative Humidity, —10 per cent.
NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.41	772.4	53.8	12.1	78	NNE	11	5.0	.....	.....	10	.....	NE	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.38	771.6	63.0	17.2	.....	S	.....	.....	1	.....	5	.....	.....	0.20	5.	Cloudy.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.97	761.2	30.09	764.2	68.0	20.0	66	N	.....	.....	2	.....	7ks	.....	NE	0	0	D. clouds.....	Prof. C. V. A. van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B.	29.05	737.9	29.11	739.4	28.2	— 2.1	94	W	5	2.2	.....	10ck	0	W	.....	0.89	22.6	Cloudy.....	G. A. Blair.
Charlottetown, P. E. Island	29.05	737.9	29.09	738.9	32.2	0.1	95	W	4	1.8	.....	.....	8s	.....	.....	0	0	Clearing.	H. J. Cundall, C. E.
Cornwall, Ontario	29.73	755.1	29.94	760.5	4.0	—15.6	95	NW	.....	.....	3	0	1s	.....	.....	0	0	Clear.	James Smith, M. A.
Dalhousie, N. B.	29.15	740.4	29.32	744.7	24.2	— 4.3	.....	W	.....	.....	4	.....	10ks	.....	.....	0.20	5.1	Gloomy.....	H. A. Johnson.
Father Point, Quebec	29.26	743.2	29.28	743.7	17.9	— 7.8	84	NW	35	15.6	.....	.....	10n	.....	.....	0.74	18.8	Light snow.	J. McWilliams.
Fredericton, N. B.	29.18	741.1	30.25	768.3	21.5	— 5.8	79	NW	20	8.9	.....	cs	6s	.....	NW	0	0	Cloudy.....	Prof. Harrison.
Fort Garry, Manitoba	29.26	743.2	30.17	766.3	6.4	—14.2	90	Calm	0	0	.....	Mist	Mist	W	.....	0.04	1.0	Hazy.....	James Stewart.
Granton, Ontario	29.02	737.1	30.22	767.6	12	—11.1	.....	NW	.....	.....	1	.....	10n	.....	.....	0.20	5.1	Light snow.	James Grant.
Halifax, N. S.	28.99	736.3	29.12	739.6	33.4	0.8	96	NW	3	1.3	.....	.....	10n	.....	.....	0.97	24.6	Light snow.	A. Allison.
Hamilton, Ontario	29.77	756.1	30.18	766.6	11.3	—11.5	82	NW	.....	.....	1	0	0	.....	.....	0	0	Clear.	Geo. Dickson, B. A.
Heart's Content, N. F.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.73	755.1	30.10	764.5	4.5	—15.3	75	NW	18	8.0	.....	0	0	.....	.....	Inap.	Inap.	Clear.	S. Woods, M. A.
Little Glace Bay, N. S.	29.12	739.6	29.16	740.7	35.0	1.7	87	S	3	1.3	.....	.....	10n	.....	.....	1.12	28.4	Overcast.....	C. H. Rigby.
Montreal, Quebec	29.63	752.6	29.85	758.2	8.1	—13.3	78	NW	19	8.5	.....	10	Haze	.....	.....	0	0	Overcast.....	C. H. McLeod, C. E.
Moose Factory, Ontario	29.93	760.2	29.97	761.2	— 6.7	—21.5	100	SW	.....	.....	2	0	2	.....	.....	0	0	Fine.	J. R. Nason.
Norwood	29.37	746.0	30.15	765.8	1.3	—17.1	100	NW	.....	.....	1	0	0	.....	.....	Inap.	Inap.	Clear.	Rev. T. F. Fotheringham, M. A.
Parry Sound, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. R. Mosley.
Peterboro, Ontario	29.34	745.2	30.16	766.1	9.9	—12.3	25	N	.....	.....	3	0	0	.....	.....	0	0	Fine.....	J. F. Jeffers, M. A.
Port Dover, Ontario	29.48	748.8	30.25	768.3	11.1	—11.6	100	W	3	1.3	.....	2k	0	W	.....	0	0	Fair.	H. Morgan.
Port Hastings, N. S.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.52	749.8	30.24	768.1	10.5	—11.9	94	NW	8	3.6	.....	5k	0	NW	.....	1.65	41.9	Clear.	M. Payne.
Quebec, Quebec	29.23	742.4	29.58	751.3	10	—12.2	79	N	.....	.....	5	.....	10s	.....	.....	0.90	22.9	Clearing.....	Capt. Ashe, R. N.
Rockliffe, Ontario	29.59	751.6	30.10	764.5	1.1	—17.2	48	NW	20	8.9	.....	0	4s	.....	NW	0	0	Fair.....	W. H. McIntyre.
St. Andrews, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Gove.
St. John, N. B.	29.06	738.1	29.23	742.4	26	— 3.3	81	NW	23	10.3	.....	0	7ks	.....	.....	0	0	Cloudy.....	G. Murdock, C. E.
Saugeen, Ontario	29.42	747.3	30.20	767.1	12	—11.1	81	N	14	6.3	.....	.....	10s	.....	.....	0.10	2.5	Overcast.....	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	29.82	757.4	30.26	768.6	— 2.2	—19.0	97	Calm	0	0	.....	1c	1s	.....	.....	0.05	1.3	Fair.....	C. J. MacGregor, M. A.
Sydney, C. B.	29.11	739.4	29.15	740.4	35.0	1.7	86	SW	4	1.8	.....	9cs	1ks	.....	.....	1.23	31.2	Cloudy.....	T. C. Hill, C. E.
Toronto, Ontario	29.80	756.9	30.23	767.8	5.8	—14.6	90	NW	2	0.9	.....	0	2s	.....	.....	0.03	0.8	Clear.	Magnetic Observatory.
Windsor, N. S.	29.00	736.6	29.10	739.1	32.5	0.3	94	SW	3	1.3	.....	0	8kn	.....	.....	0.98	24.9	Fair.....	Prof. John E. Oram, M. A.
Woodstock, Ontario	29.06	738.1	30.25	768.3	5.2	—14.9	100	W	6	2.7	.....	3k	0	NW	.....	0.01	0.3	Fine.....	Prof. J. Montgomery.
Yarmouth, N. S.	29.10?	739.1?	29.17?	740.9?	30.5	— 0.8	94	NW	.....	.....	5	.....	10	.....	.....	0.38	9.7	Overcast.....	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.20	741.7	29.46	748.3	42.0	5.6	100	SW	.....	.....	.....	10k	10s	.....	.....	0.50	12.7	Cloudy.....	John Delany.
St. Pierre, N. F., l'Hopital Maritime.	.....	.....	29.22	742.2	42.1	5.6	.....	SW	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	The Commandant.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10, except Yarmouth and St. Johns on scale 0 to 20. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.** UNITED STATES SERIES.

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.72	754.9	29.97	761.2	10	—12.2	79	NW	17	7.6	.....	0	0	.....	.....	0.12	3.0	Clear.	.....
Alpena, Michigan	29.55	750.6	30.26	768.6	10	—12.2	79	W	8	3.6	.....	0	5s	.....	W	0.10	2.5	Fair...	.....
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Atlanta, Georgia	29.11	739.4	30.35	770.9	24	— 4.4	74	NW	12	5.4	.....	2k	2s	NW	NW	0	0	Fair...	.....
Atlantic City, New Jersey	30.12	765.0	30.13	765.3	20	— 6.7	70	NW	15	6.7	.....	0	0	.....	.....	0	0	Clear.	.....
Augusta, Georgia	30.19	766.8	30.40	772.1	29	— 1.7	67	Calm	0	0	.....	0	1s	.....	Calm	0	0	Clear.	.....
Baltimore, Maryland	30.18	766.6	30.24	768.1	24	— 4.4	61	W	6	2.7	.....	2c	0	NW	.....	Inap.	Inap.	Clear.	.....
Barnegat, New Jersey	30.08	764.0	30.10	764.5	20	— 6.7	56	NW	23	10.3	.....	0	0	.....	.....	0.03	0.8	Clear.	.....
Bismarck, Dakota	28.29	718.6	30.15	765.8	27	- 2.8	88	NW	16	7.2	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	.....
Boerne, Texas	28.88	733.5	30.31	769.9	27	— 2.8	64	N	6	2.7	.....	0	0	.....	.....	0	0	Clear.	.....
Boise City, Idaho	27.56	700.0	30.52	775.2	24	— 4.4	74	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear.	.....
Boston, Massachusetts	29.54	750.3	29.71	754.6	12	—11.1	61	W	28	12.5	.....	2k	0	W	.....	0.18	4.6	Fair...	.....
Brackettville, Texas	29.16	740.7	30.27	768.8	36	2.2	45	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	.....
Breckenridge, Minnesota	29.00	736.6	30.06	763.5	24	— 4.4	100	S	8	3.6	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	.....
Brownsville, Texas	30.30	769.6	30.34	770.6	44	6.7	37	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	.....
Buffalo, New York	29.44	747.8	30.21	767.3	10	—12.2	90	W	12	5.4	.....	0	2s	.....	NW	0.05	1.3	Clear.	.....
Burkes, Arizona	.....	.....	.....	.....	49	9.4	18	E	.....	.....	1	0	0	.....	.....	0	0	Clear.	.....
Burlington, Vermont	29.58	751.3	29.89	759.2	9	—12.8	78	NW	17	7.6	.....	5cs	5ks	NW	NW	0.08	2.0	Cloudy	.....
Cairo, Illinois	29.99	761.7	30.41	772.4	30	— 1.1	78	S	2	0.9	.....	.....	10s	.....	W	0	0	Cloudy	.....
Campo, California	27.54	699.5	30.11	764.8	34	1.1	61	E	3	1.3	.....	0	0	.....	.....	0	0	Clear.	.....
Cape Hatteras, N. Carolina	30.29	769.4	30.30	769.6	29	— 1.7	56	N	20	8.9	.....	0	0	.....	.....	0	0	Clear.	.....
Cape Henry, Virginia	30.25	768 3	30.27	768.8	27	— 2.8	76	NW	26	11.6	.....	2k	1ks	W	.....	0	0	Fair...	.....
Cape Lookout, N. Carolina	30.31	769.9	30.32	770.1	27	— 2.8	53	N	24	10.7	.....	0	0	.....	.....	0	0	Clear.	.....
Cape May, New Jersey	30.13	765.3	30.16	766.1	25	— 3.9	62	NW	46	20.6	.....	0	10ks	.....	NW	0.01	0.3	Cloudy	.....
Castroville, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cedar Keys, Florida	30.30	769.6	30.32	770.1	36	2.2	53	N	14	6.3	.....	0	0	.....	.....	0	0	Clear.	.....
Charleston, South Carolina	30.31	769.9	30.37	771.4	32	0.0	79	NE	11	4.9	.....	0	0	.....	.....	0	0	Clear.	.....
Charlotte, North Carolina	29.42	747.3	30.30	769.6	26	— 3.3	52	NW	1	0.4	.....	2c	Sm'e	Calm	Calm	0	0	Fair...	.....
Chattanooga, Tennessee	29.54	750.3	30.42	772.7	24	— 4.4	61	NW	5	2.2	.....	8cs	0	W	.....	0	0	Fair...	.....
Cheyenne, Wyoming	24.24	615.7	30.18	766.6	29	— 1.7	56	W	2	0.9	.....	0	0	.....	.....	0	0	Fair...	.....
Chicago, Illinois	29.60	751.8	30.35	770.9	19	— 7.2	69	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	.....
Cincinnati, Ohio	29.72	754.9	30.43	772.9	23	— 5.0	73	NW	2	0.9	.....	.....	10s	.....	NW	Inap.	Inap.	Cloudy	.....
Cleveland, Ohio	29.50	749.3	30.28	769.1	22	— 5.6	72	W	14	6.3	.....	.....	10ks	.....	W	0.06	1.5	Cloudy	.....
Coleman City, Texas	28.54	724.9	30.35	770.9	24	— 4.4	48	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	.....
Columbus, Ohio	29.44	747.8	30.34	770.6	22	— 5.6	58	W	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy	.....
Concho, Texas	28.42	721.9	30.24	768.1	26	— 3.3	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	.....
Corsicana, Texas	29.90	759.4	30.40	772.1	33	0.6	61	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear.	.....
Davenport, Iowa	29.65	753.1	30.34	770.6	22	— 5.6	72	E	2	0.9	.....	1cs	0	Calm	.....	0	0	Clear.	.....
Deadwood, Dakota	25.53	648.4	.....	.....	35	1.7	53	S	4	1.8	.....	0	0	.....	.....	Inap.	Inap.	Clear.	.....
Decatur, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Denison, Texas	29.53	750.0	30.38	771.6	30	— 1.1	68	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear.	.....
Denver, Colorado	25.00	635.0	30.22	767.6	30	— 1.1	57	S	9	4.0	.....	0	0	.....	.....	0	0	Clear.	.....
Des Moines, Iowa	29.33	745.0	30.28	769.1	23	— 5.6	73	Calm	0	0	.....	0	2s	.....	NW	0	0	Fair...	.....
Detroit, Michigan	29.57	751.1	30.30	769.6	13	—10.6	81	W	3	1.3	.....	2k	Fog	Calm	Calm	Inap.	Inap.	Clear.	.....
Dodge City, Kansas	27.68	703.1	30.14	765.5	24	— 4.4	74	NW	18	8.0	.....	0	0	.....	.....	0	0	Clerr.	.....
Dubuque, Iowa	29.58	751.3	30.34	770.6	18	— 7.8	68	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	.....
Duluth, Minnesota	29.50	749.3	30.23	767.8	17	— 8.3	83	W	2	0.9	.....	0	5s	.....	Calm	0	0	Fair...	.....
Eagle Pass, Texas	29.59	751.6	30.37	771.4	36	2.2	71	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	.....
Eastport, Maine	29.24	742.7	29.30	744.2	21	— 6.1	71	NW	23	10.3	.....	Haze	5s	NW	NW	0.87	22.1	Fair...	.....
Edinburg, Texas	.....	.....	.....	.....	43	6.1	83	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear.	.....
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Erie, Pennsylvania	29.43	747.5	30.19	766.8	20	— 6.7	85	NW	11	4.9	.....	.....	10n	.....	Calm	0.05	1.3	Heavy snow	.....
Escanaba, Michigan	29.54	750.3	30.26	768.6	12	—11.1	61	NW	9	4.0	.....	0	2s	.....	NW	0	0	Fair...	.....
Florence, Arizona	28.64	727.4	30.24	768.1	50	10.0	58	E	1	0.4	.....	0	0	.....	.....	0	0	Clear.	.....
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fort Buford, Dakota	28.12	714.2	30.07	763.8	22	— 5.6	86	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear.	.....
Fort Custer, Montana	27.04	686.4	.....	.....	26	— 3.3	63	S	4	1.8	.....	0	0	.....	.....	0	0	Clear.	.....
Fort Davis, Texas	25.39	644.9	30.35	770.9	27	— 2.8	64	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	.....
Fort Gibson, Indian Ter	29.74	755.4	30.32	770.1	25	— 3.9	75	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear.	.....
Fort Grant, Arizona	25.38	644.6	30.18	766.6	35	1.7	29	N	7	3.1	.....	0	0	.....	.....	0	0	Clear.	.....
Fort Griffin, Texas	29.03	737.3	30.40	772.1	29	— 1.7	67	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	.....
Fort Keogh, Montana	27.63	701.8	.....	.....	18	— 7.8	39	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	.....
Fort McKavett, Texas	28.01	711.4	30.06	763.5	31	— 0.6	58	W	2	0.9	.....	0	0	.....	.....	0	0	Clear.	.....
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fort Sill, Indian Territory	29.08	738.6	30.27	768.8	27	— 2.8	53	N	10	4.5	.....	0	0	.....	.....	0	0	Clear.	.....
Fort Stevenson, Dakota	28.28	718.3	.....	.....	25	— 3.9	87	NW	8	3.6	.....	.....	10s	.....	NW	0	0	Cloudy	.....
Fort Verde, Arizona	.....	.....	.....	.....	30	— 1.1	57	NW	.....	.....	1	0	0	.....	.....	0	0	Clear.	.....
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fredericksburg, Texas	28.50	723.9	30.11	764.8	45	7.2	61	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear.	.....
Galveston, Texas	30.32	770.1	30.37	771.4	53	11.7	67	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear.	.....
Graham, Texas	29.24	742.7	30.39	771.9	23	— 5.0	86	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	.....
Grand Haven, Michigan	29.60	751.8	30.30	769.6	20	— 6.7	85	NE	4	1.8	.....	.....	10s	.....	Calm	0.29	7.4	Cloudy	.....
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Henrietta, Texas	29.42	747.3	30.43	772.9	28	— 2.2	77	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear.	.....
Indianapolis, Indiana	29.52	749.8	30.27	768.8	21	— 6.1	86	NW	2	0.9	.....	0	5s	.....	SW	0	0	Fair ..	.....
Indianola, Texas	30.36	771.1	30.39	771.9	46	7.8	61	NE	10	4.5	.....	0	0	.....	.....	0	0	Clear.	.....
Jacksboro, Texas	29.20	741.7	30.41	772.4	35	1.7	53	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.	.....
Jacksonville, Florida	30.32	770.1	30.35	770.9	37	2.8	45	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear.	.....
Keokuk, Iowa	29.62	752.3	30.28	769.1	25	— 3.9	75	S	2	0.9	.....	2cs	2s	Calm	Calm	0	0	Fair...	.....
Key West, Florida	30.12	765.0	30.16	766.1	62	16.7	67	N	21	9.4	.....	0	0	.....	.....	0	0	Clear.	.....
Kittyhawk, North Carolina	30.30	769.6	30.33	770.4	25	— 3.9	50	NW	24	10.7	.....	0	0	.....	.....	0	0	Clear.	.....
Knoxville, Tennessee	29.36	745.7	30.45	773.4	21.5	— 5.8	58	N	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	.....
La Crosse, Wisconsin	29.50	749.3	30.30	769 6	17	— 8.3	83	SE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	.....
La Mesilla, New Mexico	26.33	688.8	30.48	774.2	27	— 2.8	53	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	.....
Laredo, Texas	29.92	760.0	30.28	769.1	48	8.9	63	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	.....
Leavenworth, Kansas	29.32	744.7	30. 2	767.6	27	— 2.8	76	S	6	2.7	.....	0	1s	.....	.....	0	0	Clear.	.....
Little Rock, Arkansas	30.03	762.7	30.42	772.7	31	— 0.6	79	Calm	0	0	.....	0	Sm'e	.....	Calm	0	0	Clear.	.....
Los Angeles, California	29.75	755.6	30.09	764.3	56.0	13.3	21	N	7	3.1	.....	0	0	.....	.....	0	0	Clear.	.....
Louisville, Kentucky	29.81	757.2	30.42	772.7	26	— 3.3	63	W	2	0.9	.....	5ck	1s	W	Calm	0	0	Cloudy	.....
Lynchburg, Virginia	29.60	751.8	30.34	770.6	23	— 5.0	86	Calm	0	0	.....	2cs	0	NW	.....	0	0	Fair...	.....
Madison, Wisconsin	29.24	742.7	30.31	769.9	17	— 8.3	67	W	3	1.3	.....	10cs	0	NW	.....	0	0	Fair...	.....
Marquette, Michigan	29.47	748.5	30.23	767.8	16	— 8.9	83	W	8	3.6	.....	.....	10s	.....	W	0.24	6.1	Cloudy	.....
Mason, Texas	25.68	728.5	30.59	777.0	27	— 2.8	64	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear.	.....
Memphis, Tennessee	30.03	762.7	30.40	772.1	27	— 2.8	77	E	4	1.8	.....	0	S o'e	.....	Calm	0	0	Clear.	.....
Milwaukee, Wisconsin	29.53	750.0	30.34	770.6	13	—10.6	81	W	6	2.7	.....	0	1s	.....	Calm	0	0	Clear.	.....
Mobile, Alabama	30.37	771.4	30.42	772.7	34	1.1	70	N	3	1.3	.....	0	Sm'e	.....	.....	0	0	Clear.	.....
Montgomery, Alabama	30.19	766.8	30.44	773.2	31	— 0.6	60	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear.	.....

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Morgantown, West Virginia	29.26	743.2	30.33	770.4	23	— 5.0	73	W	6	2.7	.....	5k	0	NW	.....	0	0	Fair	
Mt. Washington, N. H.	22.90	581.6	29.26	743.2	—16	—26.7	100	NW	72	32.2	.....	.....	Fog	.....	NW	1.21	30.7	Foggy	
Nashville, Tennessee	29.86	758.4	29.43	747.5	28	— 2.2	77	N	2	0.9	.....	0	5ks	.....	N	0	0	Fair	
New Haven, Connecticut	29.80	756.9	29.92	760.0	17	— 8.3	67	NW	9	4.0	.....	0	0	.....	.....	0.02	0.5	Clear	
New London, Connecticut	29.79	756.7	29.84	757.9	16	— 8.9	57	NW	24	10.7	.....	1k	0	NW	.....	Inap.	Inap.	Clear	
New Orleans, Louisiana	30.34	770.6	30.41	772.4	44	6.7	52	NE	10	4.5	.....	0	Haze	.....	Calm	0	0	Clear	
Newport, Rhode Island	29.75	755.6	29.80	756.9	17	— 8.3	83	W	26	11.6	.....	0	0	.....	.....	0.31	7.9	Clear	
New York, New York	29.85	758.2	30.04	763.0	18	— 7.8	68	NW	24	10.7	.....	2ck	5s	Calm	Calm	0	0	Fair	
Norfolk, Virginia	30.22	767.6	30.29	769.4	28	— 2.2	54	NW	16	7.2	.....	0	0	.....	.....	0	0	Clear	
North Platte, Nebraska	27.30	693.4	30.04	763.0	25	— 3.9	68	NW	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter.	30.25	768.3	30.30	769.6	32.0	0.0	94	S	2	0.9	.....	.....	Fog	.....	Calm	0	0	Foggy	
Omaha, Nebraska	29.03	737.3	30.21	767.3	23	— 5.0	60	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Oswego, New York	29.76	755.9	30.10	764.5	16	— 8.9	83	N	22	9.8	.....	0	8ks	.....	NW	0.24	6.1	Fair	
Pembina, Dakota	29.20	741.7	30.10	764.5	15	— 9.4	100	Calm	0	0	.....	.....	10s	.....	Calm	0.09	2.3	Cloudy	
Pensacola, Florida	30.40	772.1	30.43	772.9	32	0.0	79	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Philadelphia, Pennsylvania	30.08	764.0	30.13	765.3	20	— 6.7	56	NW	28	12.5	.....	0	0	.....	.....	0.07	1.8	Clear	
Phœnix, Arizona	28.98	736.1	30.84	783.3	46	7.8	54	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.91	454.9	30.12	765.0	14	—10.0	28	N	28	12.5	.....	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	29.56	750.8	30.44	773.2	39	3.9	39	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Pioche, Nevada	.....	.....	.....	.....	38	3.3	31	NW	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.41	747.0	30.29	769.4	17	— 8.3	83	W	12	5.4	.....	.....	10s	.....	NW	0.04	1.0	Cloudy	
Port Huron, Michigan	29.54	750.3	30.27	768.8	14	—10.0	82	W	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Portland, Maine	29.57	751.1	29.62	752.3	21	— 6.1	71	NW	9	4.0	.....	.....	10s	.....	Calm	0.23	5.8	Cloudy	
Portland, Oregon	30.26	768.6	30.33	770.4	35.0	1.7	85	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Portsmouth, N. Hampshire	.....	.....	.....	.....	27	— 2.8	42	NW	27	12.1	.....	0	0	.....	.....	0	0	Clear	
Prescott, Arizona	24.97	634.2	30.33	770.4	25	— 3.9	75	E	.....	.....	1	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.22	767.6	30.24	768.1	48	8.9	56	N	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Red Bluff, California	29.89	759.2	30.27	768.8	40	4.4	78	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	30.20	767.1	30.43	772.9	39	3.9	64	Calm	0	0	.....	5cs	0	W	.....	0	0	Fair	
Rochester, New York	29.49	749.0	30.16	766.1	14	—10.0	82	W	13	5.8	.....	.....	10s	.....	W	0.23	5.8	Cloudy	
Roseburg, Oregon	29.73	755.1	30.33	770.4	33	0.6	95	N	2	0.9	.....	.....	Fog	.....	Calm	0	0	Foggy	
Sacramento, California	30.14	765.5	30.22	767.6	38	3.3	91	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.75	755.6	30.37	771.4	25	— 3.9	75	S	4	1.8	.....	2ck	8s	Calm	Calm	0	0	Cloudy	
St. Paul, Minnesota	29.30	744.2	30.19	766.8	20	— 6.7	56	SE	6	2.7	.....	.....	10s	.....	Calm	0.01	0.3	Threatening	
Salt Lake City, Utah	26.01	660.6	30.34	770.6	25	— 3.9	38	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.68	753.9	30.30	769.6	39	3.9	46	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
San Diego, California	30.04	763.0	30.11	764.8	49	9.4	64	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sandusky, Ohio	29.59	751.6	30.32	770.1	22	— 5.6	72	W	14	6.3	.....	.....	10ks	.....	W	Inap.	Inap.	Cloudy	
Sandy Hook, New Jersey	30.02	762.5	30.06	763.5	19	— 7.2	69	NW	30	13.4	.....	5k	0	W	.....	0.01	0.3	Fair	
San Francisco, California	30.12	765.0	30.19	766.8	50	10.0	72	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Santa Fé, New Mexico	23.52	597.4	30.06	763.5	24	— 4.4	61	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.28	769.1	30.38	771.6	35	1.7	61	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Shreveport, Louisiana	30.17	766.3	30.40	772.1	34	1.1	70	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.32	770.1	30.36	771.1	26	— 3.3	63	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Socorro, New Mexico	25.71	653.0	29.77	756.1	29	— 1.7	56	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois	29.65	753.1	30.37	771.4	23.5	— 4.7	60	S	1	0.4	.....	.....	10s	.....	W	0	0	Cloudy	
Springfield, Massachusetts	29.74	755.4	29.88	758.9	13	—10.6	62	NW	12	5.4	.....	0	0	.....	.....	0.02	0.5	Clear	
Stockton, Texas	27.32	693.9	30.32	770.1	34	1.1	25	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass.	29.61	752.1	29.66	753.4	16	— 8.9	83	NW	30	13.4	.....	5k	0	NW	.....	0.57	14.5	Fair	
Toledo, Ohio	29.57	751.1	30.30	769.6	24	— 4.4	74	W	6	2.7	.....	.....	10s	.....	W	0	0	Cloudy	
Tucson, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon	30.16	766.1	30.70	779.8	18.0	— 7.8	100	SE	1	0.4	.....	.....	Fog	.....	Calm	0	0	Dense fog	
Uvalde, Texas	29.46	748.3	30.34	770.6	37	2.8	38	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	30.15	765.8	30.43	772.9	32	0.0	59	E	4	1.8	.....	0	5s	.....	SW	0	0	Fair	
Virginia City, Montana	24.52	622.8	30.00	762.0	24	— 4.4	61	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.78	756.4	30.17	766.3	35	1.7	90	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	30.13	765.3	30.26	768.6	21	— 6.1	57	W	12	5.4	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Wickenburg, Arizona	.....	.....	.....	.....	36	2.2	45	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, North Carolina	30.29	769.4	30.38	771.6	26	— 3.3	51	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Winnemucca, Nevada	25.95	659.1	30.31	769.9	15	— 9.4	82	E	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Massachusetts	29.71	754.6	29.75	755.6	17	— 8.3	83	NW	30	13.4	.....	0	5ks	.....	NW	0.18	4.6	Fair	
Yankton, Dakota	28.88	733.5	30.27	768.8	20	— 6.7	70	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Yuma, Arizona	29.99	761.7	30.16	766.1	60	15.6	15	NE	9	4.0	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	30.04	763.0	30.09	764.3	69	20.6	49	N	4.8	2.1	.....	4k	0	N	.....	0	0	Fair	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.09	764.3	30.10	764.5	75	23.9	86	N	6	2.7	.....	8c	2s	N	.....	0	0	Fair	James Gall.
Medellin, Colombia, S. A.*	25.18	639.6	.....	.....	66.0	18.9	85	Calm	.....	.....	0	.....	10n	.....	.....	0	0	.....	Thomas Herran.
Navassa, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.91	759.7	29.91	759.7	82	27.8	75	E	.....	.....	3	3c	5k	E	.....	0	0	Fair	C. J. Hering.
Santiago de Cuba, W. I.	29.93	760.2	29.96	761.0	72	22.2	75	NW	12	5.4	.....	2cs	2ks	.....	N	0	0	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	29.79	756.7	29.85	758.2	—15.5	—26.4	71	SW	5	2.2	.....	2ck	1s	S	SW	0	0	Fair	J. Fortescue & W. Wood
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NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Medellin, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,289 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m., Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 m., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm. *The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.34‡	770.6‡	.....	.....	34	1.1	90	NNW	9	4.0	.....	.....	0	.....	.....	0	0	.....	.....	Clear	.....
Navy Yard, Portsmouth, N.H	29.56‡	750.8‡	.....	.....	27	—2.8	90	W	5	2.2	.....	.....	0	.....	.....	0	0	.....	.....	Pleasant	.....
Naval Hospital, Yokohama, Japan	30.02‡	762.5‡	.....	.....	45.5	7.5	54	NNE	.....	.....	2	8ck	.....	.....	SW	0.68	17.3	.....	.....	Cloudy	.....
Adams, Mare I'd., Navy Yard, Cal.	30.20‡	767.1‡	.....	.....	49	9.4	93	W	.....	.....	1–2	.....	0	.....	.....	.....	.....	.....	.....	Clear	.....
Alaska, Iquique, Peru *.	29.97‡	761.2‡	.....	.....	64	17.8	78	SSE	.....	.....	1	.....	5	.....	E	.....	.....	.....	.....	D. clouds	.....
Alliance, N. 19° 08′, W. 42° 47′	30.03‡	762.7‡	.....	.....	79	26.1	70	E	.....	.....	5	.....	9	.....	E	.....	.....	Mod'ate	E	D. clouds	.....
Colorado, New York, N. Y.	29.98‡	761.5‡	.....	.....	19	—7.2	81	NW	17	7.6	.....	.....	8	.....	NW	0	0	.....	.....	Squally	.....
Constitution, Navy Yard, Norfolk, Va.	30.35‡	770.9‡	.....	.....	25	—3.9	100	WNW	12	5.4	.....	.....	1	.....	Calm	.....	.....	.....	.....	Clear	.....
Enterprise, Alexandria, Egypt	30.10‡	764.5‡	.....	.....	69	20.6	70	N	.....	.....	4	.....	7	.....	N	.....	.....	Smooth	.....	Cloudy	.....
Franklin, Off Navy Yard, Norfolk, Va.	30.28‡	769.1‡	.....	.....	25	—3.9	100	NW	20.4	9.1	.....	.....	0	.....	.....	0	0	.....	.....	Clear	.....
Hartford, Boston, Mass.	29.66‡	753.4‡	.....	.....	18	—7.8	89	NW	.....	.....	6	.....	8	.....	NW	0	0	Smooth	.....	Clear?	.....
Independence, Mare I'd, Navy Yard, Cal.	30.17‡	766.3‡	.....	.....	58	14.4	76	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	.....	Clear	.....
Kearsage, Savannah, Ga.	30.38‡	771.6‡	.....	.....	42	5.6	75	NE	.....	.....	2	.....	0	.....	.....	.....	.....	Smooth	.....	Clear	.....
Lackawana, N. 34° 45′. W. 177° 40′..†	30.51‡	774.9‡	.....	.....	66	18.9	94	E	.....	.....	3–5	.....	10	.....	E	.....	.....	Mod'ate	E	Cloudy	.....
Marion, Hampton Roads, Va.	30.30‡	769.6‡	.....	.....	30	—1.1	66	WNW	.....	.....	4	.....	2	.....	NW	.....	.....	Smooth	.....	Clear	.....
Michigan, Erie, Pa.	30.16‡	766.1‡	.....	.....	21	- 6.1	100	NW	.....	.....	4	.....	10	.....	.....	.....	.....	.....	.....	Snowing	.....
Monocacy, Shanghai, China..	30.23‡	767.8‡	.....	.....	52	11.1	86	NE	.....	.....	0–1	.....	10	.....	NE	.....	.....	.....	.....	Cloudy	.....
New Hampshire, Port Royal, S. C.	30.35‡	770.9‡	.....	.....	35	1.7	74	NNE	15	6.7	.....	.....	1	.....	NE	0	0	.....	.....	Clear	.....
Onward, Callao, Peru ....†	29.93‡	760.2‡	.....	.....	65	18.3	89	NW	.....	.....	2	.....	10	.....	.....	.....	.....	Long	W	Misty	.....
Palos, Tientsin, China..	30.13‡	765.3‡	.....	.....	38	3.3	100	S	.....	.....	1	.....	2	.....	.....	.....	.....	.....	.....	Clear	.....
Passaic, Washington, D. C.	30.25‡	768.3‡	.....	.....	26	—3.3	82	NW	.....	.....	4	.....	0	.....	.....	0	0	.....	.....	Clear	.....
Pensacola, Callao, Peru	29.93‡	760.2‡	.....	.....	64	17.8	89	SSW	.....	.....	2	.....	10	.....	.....	.....	.....	Smoo'	.....	Hazy	.....
Powhatan, Navy Yard, Brooklyn, N.Y.	29.96‡	761.0‡	.....	.....	23	—5.0	68	NW	.....	.....	6	.....	5	.....	NW	0	0	.....	.....	Fair	.....
Quinnebaug, Leghorn, Italy	30.19‡	766.8‡	.....	.....	62	16.7	66	SSE	.....	.....	5	.....	5	.....	S;E	.....	.....	.....	.....	Fair	.....
Ranger, N. 39° 35′, E. 168° 00′	29.80‡	756.9‡	.....	.....	66	18.9	94	S	.....	.....	6	.....	10	.....	S	.....	.....	Heavy	SW	Overcast	.....
Richmond, Shanghai, China	30.21‡	767.3‡	.....	.....	54	12.2	74	E	.....	.....	0–1	.....	10	.....	.....	0	0	Smooth	.....	Cloudy	.....
Rio Bravo, Brownsville, Texas... †	30.51‡	774.9‡	.....	.....	45	7.2	84	NNW	4	1.8	.....	.....	2	.....	Calm	0	0	.....	.....	Fair	.....
Santee, Annapolis, Md	30.22‡	767.6‡	.....	.....	25	—3.9	.....	W	.....	.....	4	.....	2	.....	WNW	0	0	.....	.....	Clear	.....
Shenandoah, S. 9° 29′. W. 32° 51′	29.86‡	758.4‡	.....	.....	82	27.8	79	E	.....	.....	3	.....	5	.....	E	.....	.....	Smooth	.....	Fair	.....
St. Louis, League Island, Pa.	30.15‡	765.8‡	.....	.....	22	—5.6	.....	NW	16	7.2	.....	.....	2	.....	NW	0	0	.....	.....	Clear	.....
Trenton, Gibraltar, Mediterranean	29.71‡	754.6‡	.....	.....	65	18.3	78	E	.....	.....	2	.....	10	.....	E	0.01	0.3	Smooth	.....	Cloudy	.....
Tuscarora, N. 16° 15′, W. 98° 25′.	29.94‡	760.5‡	.....	.....	72	22.2	67	ENE	.....	.....	4	.....	2	.....	Calm	0	0	Smooth	.....	Fair	.....
Vandalia, Key West, Fla.†.	30.16‡	766.1‡	.....	.....	64	17.8	62	N	.....	.....	4	.....	8?	.....	N	.....	.....	.....	.....	Clear	.....
Wabash, Boston, Mass.	29.62‡	752.3‡	.....	.....	12	—11.1	100	NW	34	15.2	.....	.....	2	.....	.....	0.01	0.3	.....	.....	Fair	.....
Wachusett, N. 5° —′, W 26° —′	29.93‡	760.2‡	.....	.....	80	26.7	91	SSE	.....	.....	2–4	.....	8	.....	SSE	.....	.....	Long	NNW	Squally	.....
Wyoming, Gibraltar, Mediterranean.	29.72‡	754.9‡	.....	.....	62	16.7	83	NE	.....	.....	2–3	.....	10	.....	NE	.....	.....	Smooth	NE	Cloudy	.....

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		CHARACTER.	DIRECTION FROM—		

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S. S. Samaria																			Capt. T. Roberts.

NOTE—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitebury.
S. S. Costa Rica																			W. House & R. Lawless.
S. S. Dakota, Capt. H. G. Morse																			Capt. Connolly.
S. S. Georgia																			F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin																			Capt. A. Fuller.
S. S. Wilmington																			R. C. Ghest, 1st Officer.
S. S. Zealandia, S. 34° 12′, E. 160° 29′		29.48‡	748.8‡				SW			7			W		Heavy	NW	Squally		

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The orginals give the barometer as read off; wind-force by the scale 0 to to 12; for the Brittanic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer, N. 27° 30′, E. 123° 29′..†		30.00‡	762.0‡	64	17.8	88	ENE			4		8		ENE		Mod'at	ENE	D. clouds	D. A. Joyce, 2nd Officer
S. S. Gaelic, Capt. Davidson, San Francisco, Cal....†		30.20‡	767.1‡	52	11.1		Var.			2		8			0	Smooth		D. clouds	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andresser
S. S. Berlin																			Capt. T. H. Lamke
S. S. Braunschweig																			Capt. C. Undutsch.
S. S. Leipzig, Capt. F. Pfaffler, N. 38° 55′, W. 72° 08′		30.03‡	762.7‡	32.0	0.0		NNW			8		10		WNW	0	Heavy	NW	Cloudy	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, Bremerhaven, Germany		30.10‡	764.5‡				SSE			3		5		SE				Cloudy†	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0–10.	Up'er 0–10.	Lo'er 0–10.	Upper. From—	Lower. From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa		29.54‡	750.3‡	38	3.3	100	NW			5		6		NW	0			Fair	Capt. R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents.

Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

NOTE.—The originals give the barometer as read off; do not distinguish between upper and lower clouds; sea-swell in general terms, as published. ‡Corrections for temperature, instrumental error and elevation applied at this office.

ALLAN LINE MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Austrian																			Capt. W. Richardson, J. Powell, 4th Officer.
S. S. Hibernian, N. 38° 59′, W. 69° 26′		29.84‡	757.9‡	34	1.1		WNW			8		10				Heavy	WNW	Hailing	
S. S. Peruvian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES—Miscellaneous.

Furnished by the co-operation of the Observers named.

Schooner Addie Fuller, N. 34° 06′, W. 73° 45′		30.11‡	764.8‡	46	7.8	84	NW	16	7.2		8k		NW		0	Heavy	NW	Cloudy	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George" of Halifax																			N. B. Foss.
Schooner Harry and Fred																			Capt. George Gardner.
Haytian																			
§ Iron Cross																			Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

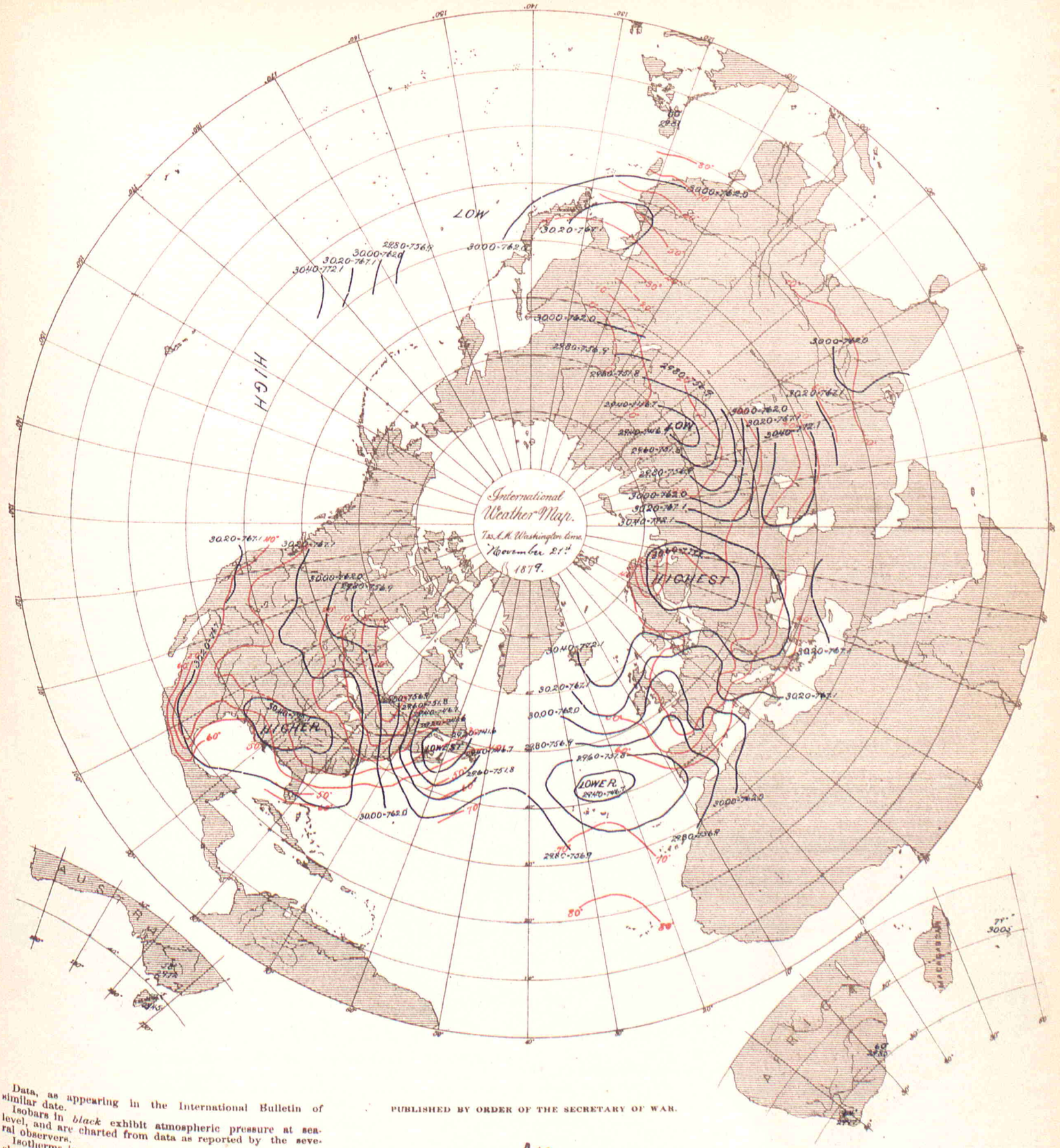
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^{d},) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrowes, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 22, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:40 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			29.96	760.9	67.3	19.6	83	SW			1		2			0	0	Fair	
Nemours			29.98	761.6	70.2	21.2	43	WNW			1		5			0	0	Cloudy	Kesxuche.
Algiers			30.06	763.4	79.5	26.4	22	SE			1		0			0	0	Clear.	Tourilière.
La Calle			30.13	765.3	77.0	25.0	55	S			5		5			0	0	Cloudy	Foufrede.
Tunis																			Jacques.
Sfax			30.30	769.6															Gau.
Saida																			Herbin.
Tebessa			30.28	769.1	69.3	20.7	55	SSW			4		8			0	0	Very cloudy	Watrin.
Geriville					58.1	14.5	55	SE			4		5			0	0	Cloudy	Brugniuax.
Laghouat			30.28	769.2	64.0	17.8	30	SE			1		5			0	0	Cloudy	Bertrand.
Biskra			30.20	767.0	73.8	23.2	40	NW			1		0			0	0	Clear.	Chanvaux

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.87	758.8	30.46	773.7	33.9	0.5	90	E			1		10			0	0	Foggy	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.69	754.1	30.51	774.9	29.8	— 1.2	96	N	2.7	1.2			10			0	0		Dr. Wierzbicki.
Eperies	29.52	749.8	30.45	773.3	37.0	2.8	79	Calm			0		0			0	0		Julius Mikolik.
Gratz	29.09	738.8	30.41	772.4	33.4	0.8	85	S			2		10			0	0		Andreas Rospini.
Hermannstadt	29.01	736.9	30.51	775.0	37.4	3.0	78	W			2		0			0	0		Prof. A. Gottschling.
Kremsmünster	28.87	733.2	30.28	769.2	31.6	— 0.2	96	ENE			2		10			0	0		Prof. C. Wagner.
Lemberg	29.45	748.1	30.51	774.9	32.7	0.4	92	SE			1		10			0	0		Dr. T. Stanecki.
Pola	30.31	769.8	30.42	772.7	52.9	11.6	86	W			1		10			0.079	2.0		I.R.Hydrographic Office.
Szathmar	30.03	762.7	30.51	775.0	41.9	5.5	70	E			1		0			0	0		Pet. Panesics, S. J.
Szegedin	30.17	766.3	30.46	773.7	44.6	7.0	71	S			1		0			0	0		Karl Stancel.
Trieste	30.32	770.2	30.43	772.8	55.4	13.0	94	Calm			0		10			Inap.	Inap.	Cloudy	P. Busin.
Vienna	29.61	752.1	30.37	771.3	32.0	0.0	100	SSE			2		10			0	0		I.R.Central Met. Ob'sy

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	OBSERVER.
Arlon	Prof. M. Passau.
Brussels	Royal Observatory.
Furnes	M. E. de Cae.
Maesoyck	M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maesoyck, 1:0, instead of 1:6 p. m., local time.

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BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S,, Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.83	757.7	29.93	760.2	41.7	5.4	.....	SSE	7	3.1	.....	.....	5	.....	.....	0.080	20.3	Blue sky	W. Boswell.
Ardrossan	29.88	758.9	29.90	759.4	44	6.7	.....	NW	.....	.....	3	.....	7	.....	.....	.....	.....	D. clouds....	Wm.McNeil & G.Carrick
Armagh, (Observatory)	29.74	755.4	29.99	761.7	44.7	7.1	.....	NW	7	3.1	.....	.....	7	.....	.....	.....	.....	D. clouds....	S. Call.
Bidston (Liverpool Obs)	.....	.....	29.87	758.7	37.3	2.9	.....	SW	9	4.0	.....	.....	3	.....	.....	.....	.....	Blue sky.....	John Hartnup.
Bolton (Sharples)	29.33	745.0	29.85	758.2	20.0	— 1.7	.....	SSE	24	10.7	.....	.....	10	.....	.....	.....	.....	Overcast.....	Thomas Mackereth.
Bradford, Yorkshire	29.47	748.5	29.86	758.4	33.4	0.8	.....	E	.....	.....	5	.....	10	.....	.....	0.25	6.3	Overcast.....	J McLandsborough.
Bridgetown, Barbadoes	29.84	757.9	29.86	758.4	81	27.2	.....	E	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds....	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	29.88	758.9	29.98	761.5	30.0	— 1.1	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	H. Todd.
Cardington	.....	.....	29.97	761.2	30.0	— 1.1	.....	NW	.....	.....	0-1	.....	10	.....	.....	.....	.....	Overcast.....	John McLaren.
Chatham (School M. E.)	29.84	757.9	29.98	761.5	34.2	1.2	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Overcast.....	J. Carmell, Sapper, R.E.
Donaghadee	29.89	759.2	29.93	760.2	47	8.3	.....	NNE	.....	.....	5	.....	5	.....	.....	.....	.....	D. clouds....	J. Mac Gowan.
Dover	29.93	760.2	29.95	760.7	43	6.1	.....	SW	.....	.....	4	.....	4	.....	.....	.....	.....	½ clouded...	J. Costello.
Falmouth (Observatory)	29.84	757.9	30.08	764.0	41.4	5.2	.....	WNW	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	The Staff.
Fort Napier, Natal	27.55	699.8	29.77	756.1	81.4	27.4	.....	SW	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	Pvt. G. Salmon, A.H.C
Free Town, Sierra Leone	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Galway (Queen's College)	.....	.....	30.02	762.5	48	8.9	.....	NNW	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds....	Prof. A. H. Curtis.
Gibraltar, Mediterranean	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Sergt.Wm. Allen, A. H.
Glasgow, (Observatory)	29.69	754.1	29.89	759.2	42.0	5.6	.....	NNE	.....	.....	3	.....	7	.....	.....	Blank	Blank	D. clouds....	D. G. Maclean. [C.
Great Yarmouth	29.94	760.5	29.95	760.7	35	1.7	.....	SW	.....	.....	2	.....	10	.....	.....	.....	.....	Rain & snow	G. T. Watson.
Greenwich (Royal Obs'y)	29.82	757.4	30.09	762.0	31.9	— 0.1	.....	WSW	.....	.....	1	.....	10	.....	.....	Blank	Blank	Overcast.....	The Staff, for G.B.Airy.
Guernsey	29.79	756.7	30.01	762.2	41 5	5.3	.....	NW	.....	.....	1	.....	0	.....	.....	Blank	Blank	Blue sky.....	Dr.S.E Hoskins, F.R.S.
Helston	30.20	767.1	30.32	770.1	44	6.7	.....	NW	.....	.....	2	3c	.....	.....	.....	0.20	5.1	Fine.....	M. P. Moyle.
Holyhead	29.86	758.4	29.92	760.0	44	6.7	.....	N	.....	.....	4	.....	10	.....	.....	.....	.....	Raining	John Tilston.
Jersey	29.75	755.6	30.05	763.3	43.6	6.4	.....	N	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds....	J. Fisher.
Kew (Observatory)	29.97	761.2	30.00	762.0	32.1	0.1	.....	WSW	9	4.0	.....	.....	10	.....	.....	.....	.....	Misty.....	The Met'g'l Office.
Leicester (Museum)	29.69	754.1	29.96	761.0	28.2	— 2.1	.....	SW	.....	.....	4	.....	10	.....	.....	.....	.....	Snowing.....	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	30.18	766.6	30.26	768.6	66	18.9	.....	SE	.....	.....	2	.....	6k	.....	.....	.....	.....	D. clouds....	A. King.
Nairn	29.84	757.9	29.94	760.5	42	5.6	.....	NE	.....	.....	3	.....	10	.....	.....	.....	.....	Raining	W. D. Penny.
Nassau, Bahamas	.....	.....	30.10	764.5	69.0	20.6	.....	NE	.....	.....	3	.....	6	.....	.....	.....	.....	D. clouds....	C. S. Duncombe.
Nottingham (Observatory)	29.76	755.9	29.96	761.0	29.9	— 1.2	.....	SSW	.....	.....	1	.....	10n	.....	SSW	0.071	1.81	Snowing.....	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.40	746.7	29.95	760.7	28.8	— 1.8	.....	S	.....	.....	2	.....	10	.....	.....	.....	.....	Snowing.....	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)	.....	.....	30.00	762.0	29	— 1.7	.....	NNW	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds....	H. E. Bellamy.
Plymouth	29.96	761.0	30.04	763.0	39.8	4.3	.....	NW	.....	.....	2	.....	0	.....	.....	.....	.....	Misty.....	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	29.99	761.7	30.08	764.0	48	8.9	.....	N	.....	.....	4	.....	5	.....	.....	.....	.....	½ clouded...	Wm. Kennedy.
St. Ann's Head	29.82	757.4	29.99	761.7	45	7.2	.....	NW	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast.....	John C. Walker.
Sandwick Manse, Orkneys	.....	.....	30.00	762.0	41.6	5.3	.....	E	7	3.1	.....	.....	10	.....	.....	.....	.....	Overcast.....	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	30.32	770.1	30.38	771.6	51.2	10.7	.....	NE	.....	.....	2	.....	7	.....	.....	Blank	Blank	D. clouds....	Serg't W. H. Lyne.
Sheffield	29.63	752.6	29.92	760.0	32.5	0.3	.....	SW	.....	.....	1	.....	7	.....	.....	0.01	0.3	Overcast.....	W. F. Cooper.
Silloth Rectory	29.82	757.4	29.85	758.2	41.0	5.0	92	NW	.....	.....	2	.....	10	.....	.....	0.150	3.81	Overcast.....	Francis Redford, A. M.
Stonyhurst (Observatory)	.....	.....	29.85	758.2	31.7	— 0.2	.....	S	0	0	.....	.....	10	.....	.....	Blank	Blank	Misty.....	Rev. S. J. Perry.
Stratfield, Turgiss	29.78	756.4	30.01	762.2	31.9	— 0.1	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	30.01	762.2	30.08	764.0	47	8.3	.....	N	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds....	W. Newcombe.
Valencia Observatory)	30.09	764.3	30.11	764.8	48.1	8.9	.....	NNW	18	8.0	.....	.....	8	.....	.....	Blank	Blank	D. clouds....	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	29.95	760.7	29.99	761.7	75	23.9	67	NW	10.3	4.6	.....	8	8ks	.....	.....	.....	.....	.....	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
Hobart Town, Tasmania	.....	.....	29.62	752.3	50.0	10.0	81	NW	.....	.....	2	.....	7k	.....	.....	0.40	10.2	Hazy.....	Francis Abbott, F.R.A.S
Leith, (Restalrig Park)	.....	.....	29.92	760.0	40.0	4.4	.....	E	.....	.....	2	.....	10k	.....	.....	0.05	1.3	Cloudy.....	Andrew Gibb.
Mauritius (Observatory)	29.84	757.9	30.03	762.8	79.0	26.1	61	NE	13.5	6.0	.....	1	3	.....	E	0	0	Fine.....	C. Meldrum.
Melbourne (Observatory)	29.68	753.9	29.78	756.4	54.9	12.7	75	W	14	6.3	.....	.....	8	.....	.....	0.24	6.1	Fine.....	R. L. J. Ellery.
Monach Lt-house, Hebrides	.....	.....	30.04	763.0	46	7.8	.....	NE	.....	.....	6	5	5	NE	.....	0.1	2.	.....	J. Youngclause.
North Unst, Shetland Is	.....	.....	29.97	761.2	.....	.....	.....	NE	.....	.....	4	4	7	SW	.....	0	0	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Colesberg Bridge, unknown.

British Marine Series. Vessels.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. 0—10.	Clouds. Direction. From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. Alert, Monteith Bay, Patagonia	29.89‡	759.2‡	52	11.1	.....	WSW	.....	.....	1	8	.....	.....	.....	D. clouds....	Capt.J.P. Maclear, R.N.
H. M. Sloop Gannet, S. 12° 04′, W. 77° 11′	29.92‡	760.0‡	63.5	17.5	.....	Calm	.....	.....	0	9	.....	.....	.....	Misty.....	Commander E. Bourke, R. N.
H. M. S. Magpie, Drinkwater P't,near Shanghai,China	30.15‡	765.8‡	58.5	14.7	.....	SE	.....	.....	2	10	.....	.....	.....	Misty.....	Capt. R. H. Napier, R.N.
Brig Alliance, N. 36° 35′, W. 51° 50′	30.17	766.3‡	66	18.9	.....	N	.....	.....	3	10	.....	.....	.....	Overcast.....	Capt. W. Scott.
Barque Belle-Isle, N. 18° 10′, W. 74° 45′	29.86	758.4	88	31.1	.....	NNE	.....	.....	7	10	.....	8	N	Drizzling.....	Capt. A. J. Brown
S. S. German, N. 11° 15′, W. 17° 15.′	29.85‡	758.2‡	76	24.4	.....	NE	.....	.....	3	3	.....	.....	.....	D. clouds....	Capt. O. D. Coxwell.
Barque Mertole, N. 39° 05′, W. 10° 35′	29.79‡	756.7‡	63.7	17.6	.....	N	.....	.....	3	7	.....	.....	.....	D. clouds....	Capt. Turner.
S. S. Peruvian N. 56° 10′, W. 20° 20′	30.55	776.0	52	11.1	.....	WSW	.....	.....	3	8	.....	3	.....	D. clouds....	Capt. W. H. Smith.
S. S. Strathleven, Sydney, N. S. W.	29.98‡	761.5‡	70.5	21.4	.....	S	.....	.....	3	6	.....	.....	.....	D clouds....	Capt. C. W. Pearson.
S. S. Sunbeam, N. 42° 2′, W. 33° 00′	30.14	765.5	68	20.0	.....	SE	.....	.....	5	8	.....	4	Con-fused	D. clouds....	Capt. C. M. Dobson.
Light House Tender Richmond. N. 26° 32′, W. 76° 59′	30.17	766.3	70	21.1	.....	NE	.....	.....	4	8	.....	.....	.....	D. clouds....	Capt. W. H. Stewart.
S. S. Gordon Castle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. V. Freeden.
German Brig "W. von Freeden"	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. Parry.
Barque Queen of Cambria,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.26	667.0	29.98	761.5	62.6	17.0	84	NE			5	1c	3d		NE	0	0		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.15	765.9	30.20	767.1	38.8	3.8	90	S			2		10						
Faröe	30.12	765.1	30.14	765.6	30.7	—0.7	100	S			4		10						Foggy
Godthaab (Greenland)																			
Stykkisholm (Iceland)																			
Thorshavn (Faröe)	30.11	764.8	30.15	765.7	39.6	4.2	80	N			4		10						
Vestervig	30.02	762.5	30.13	765.3	31.6	—0.2	100	SE			4		7						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.49	749.0	30.04	763.0	37.4	3	83	S			1		10n		Calm	0	0	Covered	Collignon, Director.
Amiens, Normal School	29.80	757.0	29.92	760.0	38.8	3.8	90	ESE			1		8			0	0	Very cloudy	Vaillant, Director.
Arras, Engin'r School	29.75	755.6	30.02	762.4	34.5	1.4	85	S			3	c	s			0	0		Klein, Commandant.
Avignon, Normal School	30.03	762.8	30.11	764.8	63.3	17.4	52	SE			4		5		SSW	0.04	1.	Cloudy	Giraud, Director.
Bar-sur-Seine	29.43	747.4	29.99	761.8	46.2	7.9	80	S			1		10		S	0.181	4.6	Covered	C. Saillard, Director
Beauvais, Normal School	29.72	754.8	29.99	761.8	38.1	3.4	80	SSE			1		10			0	0	Covered	Frère Eugene Marie
Besançon, Normal School	29.17	740.8	30.08	764.0	44.8	7.1	85	NE			1		10		SW	0	0	Covered	A. Carré, Director.
Bourg-en-Bresse, N. School	29.02	737.0	29.96	760.9	53.6	12	83	S			4		10n	SW	SW	0.256	6.5	Covered	Marlot, Director.
Bourges, Normal School	29.52	749.8	30.05	763.2	41.4	5.2	97	N			1		10n		N	0.335	8.5	Raining	M. Gence, Director.
Brest, Naval Observatory	29.80	757.0	30.05	763.2	45.7	7.6	74	N			2		8		N	0.118	3.00		Ch. de Rermaree, Dir.
Caen, Normal School	30.01	762.3			44.6	7	33	S					10			0	0	Covered	M. Bietrin, Director.
Carcassonne, N. School	29.54	750.3	29.95	760.7	61.9	16.6	80	SE			4		10	SE	SE	0.087	2.2	Covered	September, Director.
Châlons-sur-Marne, N. Sch	29.71	754.6	30.04	763.0	37.4	3.0	81	Calm			0		10					Covered	Jadot, Director.
Chartres, Normal School	29.40	746.8	29.99	761.8	34.2	1.2	63	NE			1		10		NE			Light rain	Vergier, Director.
Clermont-Fd, Puy de D. Obs	28.55	725.2	29.89	759.2	59.0	15.0	55	S			7		8		S	0.787	20.0		Alluard, Director.
Commercy, Normal School	29.13	740.0	30.02	762.6	37.8	3.2	87	SE			1		10n	SE	SE	0.31	8.	Covered	Dr. Coullet, Director.
Commune de Gréasque*	29.07	738.3	30.21	767.3	59.2	15.1	60	SE			4		8		SE	0.063	1.6		L. Kina, Director.
Grenoble, Normal School	29.32	744.7	30.10	764.5	50.0	10	62	ENE			1		8kn		W	0.008	0.2	Very cloudy	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	29.81	757.2	30.04	762.9	39.9	4.4	93	ENE			1		10					Covered	Moullot, Director.
Le Mans, Normal School	29.72	754.8	30.04	763.0	34.2	1.2	79	N			1		10			0	0	Covered	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.14	740.2	30.09	764.3	52.7	11.5	68	SSE			1		5n	S	W	0	0	Cloudy	A. Baudry, Director.
Lorient, Naval Observatory	29.93	760.1	30.04	762.9	43.5	6.4	85	N			2				N	0	0		Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.39	746.6	30.02	762.6	47.8	8.8	86	NW			1					0.232	5.9		Ch. André, Director.
Mâcon, Normal School																			Gaizin, Director.
Marseilles, Observatory	29.84	757.9	30.11	764.7	63.1	17.3	70	ESE			4		7		SW	0	0		E. Stephan, Director.
Mirecourt, Normal School	29.04	737.7	30.13	765.2	37.8	3.2	80	W			1		k	W	W	0	0		Barbier, Director.
Mont-Louis	24.82	630.3	30.13	765.3	50.4	10.2	57	S	31.8	14.2			8			0	0		M. Cave.
Nice	30.25	768.3	30.28	769.2	64.8	18.2	54	E			6		5	W	E	0.197	5.0	Cloudy	M. Boissière, Director.
Nismes, Normal School	29.91	759.7	30.11	764.8	59.0	15	61	SW			1		8		SW	0.04	1.	Very cloudy	M. Boyer, Director.
Paris, Montsouris Obs'y	29.74	755.4			33.1	0.6	100	WNW			1		10			0.114	2.9	Rain & fog	Marié Davy, Director.
Perpignan	29.92	760.0	30.02	762.6	59.0	15.0	88	SW	26.2	11.7			10		SE	0	0		Dr. Fines.
Pic du Midi (Plantade) H. P.	22.39	568.7			34.7	1.5		SW			2		10	NNW	SW	0.102	2.6	Rain & snow	Gen'l de Nansouty.
Pic du Midi (Summit) H. P.																			M. Baylac.
Privas, Normal School	28.90	734.0	30.00	762.1	55.4	13	78	S			1		kn	S	S	0.28	7.		M. Tallieu
Puy de Dome (Summit) Obs	24.98	634.4			41.0	5.0	95	S			7		8			0.409	10.4	¾ covered	Alluard, Director.
Rochefort, Naval Obs'y	29.93	760.1	29.96	760.9	38.8	3.8	100	NE			3		10	NE	NE	0.106	2.7	Raining	Lt E. Decante, Director
Rouen, Normal School	29.95	760.7	30.04	762.9	36.5	2.5	70	SSE			1		10			0	0	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.98	761.5	30.01	762.3	42.8	6.0	79	ESE			1		5	SE	SE	0.031	0.80	Cloudy	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.86	758.4	30.02	762.6	33.6	0.9	100	NE			1		10			0.398	10.1	Snow-fog	E. Renou, Director.
Tarbes, Normal School	28.84	732.6	29.93	760.1	36.5	2.5	72	SW			3			W	SSW	0.16	4.		T. Huguet, Director.
Toulouse, Observatory	29.15	740.4	29.87	758.7	60.4	15.8	83	SSE			4		5			0	0	Cloudy	M. Juher Mercadier.
Tours	29.79	756.7	29.99	761.7	38.1	3.4	93	SE			1		10			0.252	6.4	Rainy	Cousin-Marquet.
Versailles, Observatory	29.51	749.6	30.01	762.2	33.8	1.0	96	S			1					0.294	7.47		Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.34	745.1	30.07	763.7	44.6	7	92	SSW			1		5		S	0	0	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.85	758.3	29.88	759.0	78.8	26										0.20	5.		L'Abbé Marchési
Zi-Ka-Wei (near Shanghai)	30.12	765.0	30.15	765.7	54.9	12.7	90	NE	3.6	1.6		10ck		W		6	0	Covered	Marc Dechevrens.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,082.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,360 m., or 7,743 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centrigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.32	744.6	30.16	766.1	39.0	3.9	82	SW			2		9k	W		0	0	Foggy	Prof. Dr. Hoh.
Berlin	30.04	763.0	30.22	767.6	39.9	4.4	80	SE			2		10			0	0		Prof. Dr. Arndt.
Breslau	29.79	756.6	30.32	770.2	41.7	5.4	84	SSE			3		2			0	0		Royal University Obs'y.
Carlsruhe	29.67	753.5	30.11	764.8	38.3	3.5	88	W			0		10	SW		0	0		Albert Senz.
Cassel	29.52	749.8	30.13	765.3	41.7	5.4	77	ESE			2		8	SE		0	0		Dr. H. Möhl.
Emden			30.07	763.7	35.2	1.8	96	E			2		9			0	0		Prof. Dr. Prestel.
Frankfort on the Main	29.78	756.5	30.16	766.0	40.8	4.9	88	NE			0		9			0.102	2.6		Physical Society.
Friedrichshafen	28.70	729.0	30.19	766.8	38.8	3.8	83	W			3		8	W		0	0		Chief Telegrapher Wilhelm.
Hamburg	30.09	764.2	30.16	766.1	36.3	2.4	85	ESE			3		6			0	0	Light fog	Captain F. Hegemann.
Kiel	30.13	765.4	30.15	765.9	39.0	3.9	83	ESE			2		8			0.029	0.73		Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.37	771.4	30.46	773.6	36.5	2.5	89	SE			2		8			0	0		Prof. E. Luther.
Köslin			30.29	769.3	34.9	1.6		SE			2		8			0	0		H. Müller.
Leipsic Observatory	29.81	757.1	30.24	768.2	39.9	4.4	76	SSE			1		9	SW		0	0		Prof. Dr. Bruhns, Privy Counselor
Magdeburg	29.98	761.4	30.21	767.2	37.8	3.2	81	SSE			2		10ks	SW		0	0		Dr. Assmann.
Memel	30.41	772.4	30.46	773.6	34.3	1.3	92	SSE			3–4		10n						Reinbrecht & Issermann
Munich (München)	28.34	719.7	30.21	767.3	34.2	1.2	69	N			1		8	N		0	0		Dr. C. Lang.
Neufahrwasser	30.36	771.1	30.37	771.5	35.4	1.9	95	SE			5		10			0	0		A. Lothes.
Neustadt (Palatinate)	29.59	751.6	30.12	765.0	40.8	4.9	81	NNW			3		2	N		0.193	4.9		Reallehrer Dicknether
Posen	30.01	762.3	30.32	770.0	36.0	2.2	89	SE			2		4			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	29.59	751.5	30.16	766.0	36.5	2.5	91	SW			2		10	WSW		0.150	3.81		Imp. University Observatory.
Stuttgart	29.15	740.4	30.12	765.0	40.5	4.7	78	E					10			0.016	0.4	Hazy	Prof. Dr. Schoder.
Weissenburg (Bavaria)	28.67	728.1	30.23	767.9	39.6	4.2	71	NE	2	1		7ck		W		0	0	Foggy	Reallehrer J. Hopfner
Wustrow	30.18	766.6	30.21	767.2	36.7	2.6	89	SE			2		10s			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.98	761.5	30.37	771.5	57.9	14.4		NE			4.0		2k					Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	30.08	764.0	30.13	765.3	71.4	21.9	39	SSW	22	9.8			0			0	0	Blue sky	
Deesa	29.57	751.0	30.05	763.3	74.7	23.7	20	NNW	8.8	3.9			0			0	0	Blue sky	
Bombay	29.90	759.5	29.94	760.5	78.4	25.8	72	NNW	19	8.5			5	NW		0	0	D. clouds	
Poona (Yerrowda)	28.07	712.9	29.92	760.0	80.5	26.9	37	NNW	8	3.6			5		SSW	0	0	D. clouds	
Belgaum	27.38	695.5	29.91	759.8	78.7	25.9	55	ENE	2	0.9			6	SE	E	0	0	D. clouds	
Lahore	29.26	743.3	30.04	763.1	59.4	15.2	36	Calm	1.1	0.5			0			0	0	Blue sky	
Roorkee	29.05	737.8	29.98	761.6	61.8	16.6	27	NW	4.8	2.2						0	0		
Agra	29.43	747.6	30.02	762.5	65.8	18.8	32	W	6.1	2.7						0	0		
Nagpur	28.91	734.2	29.97	761.2	73.5	23.1	33	N	3.7	1.7						0	0	Blue sky	
Jubbulpore	28.60	726.5	30.00	762.0	69.7	20.9	34	W	2.1	0.9						0	0	Blue sky	
Lucknow	29.58	751.4	29.98	761.4	62.5	16.9	35	NNW	1.6	0.7						0	0	Blue sky	
Allahabad	29.67	753.6	30.00	762.0	59.7	15.4	55	Calm	3.4	1.5			0			0	0	Blue sky	
Patna	29.76	756.0	29.95	760.8	74.3	23.5	31	W	1.1	0.5			0			0	0	Blue sky	
Hazaribagh	27.91	708.9	29.99	761.7	62.8	17.1	62	WNW	8.6	3.8			2			0	0		
Cuttack	29.86	758.4	29.94	760.4	78.1	25.6	74	ENE	0.5	0.2			3			0	0	D. clouds	
Calcutta (Alipore)	29.91	759.6	29.93	760.2	71.6	22.0	71	NNW	1.0	0.4			0			0	0	Blue sky	
Goalpara	29.48	748.8	29.88	758.8	72.8	22.7	78	SW	1.1	0.5			0			0	0	Blue sky	
Chittagong	29.81	757.1	29.90	759.5	75.0	23.9	75	Calm	2.7	1.2			0			0	0	Misty	
Sibsagar	29.55	750.6	29.90	759.3	71.0	21.7	84	ENE	1.6	0.7			0			0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	30.00	762.0	30.42	772.7	53.1	11.7	66	Calm	0	0	.....	.....	9	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.91	759.6	30.45	773.4	38.5	3.6	85	W	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	30.33	770.3	30.44	773.2	48.6	9.2	99	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.50	749.3	30.43	772.8	41.9	5.5	95	SW	0.7	0.3	.....	.....	10	.....	.....	0.118	3.0	.....	Prof. P. F. Denza.
Genoa	30.17	766.3	30.37	771.3	53.8	12.1	54	NE	7.4	3.3	.....	.....	10	S	.....	0.472	12.0	.....	Prof. G. M. Garibaldi.
Mondovi	28.48	723.4	30.44	773.1	41.4	5.2	89	W	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.38	771.6	30.43	772.8	46.6	8.1	90	NW	8.1	3.6	.....	.....	10	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	30.11	764.8	30.37	771.5	56.3	13.5	62	E	.....	.....	2	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	30.26	768.5	30.34	770.7	59.4	15.2	66	ENE	7.4	3.3	.....	.....	4	.....	.....	0	0	.....	Prof. P. Monte.
Rome	30.16	766.0	30.34	770.5	62.2	16.8	47	N	5.6	2.5	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	30.12	765.0	30.37	771.5	58.5	14.7	87	NNW	3.1	1.4	.....	.....	2	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.48	748.9	30.37	771.5	55.0	12.8	72	NE	0	0	.....	.....	4	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.99	761.7	30.18	766.6	64.8	18.2	70	SE	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	30.02	762.6	30.28	769.0	64.2	17.9	54	ENE	1.8	0.8	.....	.....	1	.....	.....	0	0	.....	Prof. G. Ciacciatore.
Syracuse	30.28	769.1	30.35	771.0	62.8	17.1	84	NE	8.7	3.9	.....	.....	5	NW	.....	0	0	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.80	756.9	30.32	770.1	62.6	17.0	57	S	0	0	.....	.....	4	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.13	765.3	30.15	765.8	43.6	6.4	87	NNE	8.3	3.7	.....	1cs	8	.....	.....	0	0	Clear.	K. Sasaki.
Nagasaki, I. M. Obs'y	29.97	761.2	30.18	766.6	47.8	8.8	82	N	0.2	0.1	.....	9ck	.....	.....	.....	0	0	Cloudy	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.98	761.5	30.05	763.3	42.5	5.8	92	ESE	4.9	2.2	.....	0	0	.....	.....	0	0	Clear	The Staff.
Wakayama	30.08	764.0	30.13	765.3	45.1	7.3	87	E	4.5	2.0	.....	.....	1cs	.....	.....	0	0	Fair	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bârcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	25.18	639.5	30.45	773.4	37.8	3.2	46	E	.....	.....	1	.....	4	.....	.....	0	0	Fair	Prof. L. Perez.
Leon	24.56	623.8	30.50	774.6	42.6	5.9	81	NW	.....	.....	1	1c	0	SW	.....	0	0	Clear	Prof. M. Leal.
Mazatlan	29.78	756.5	30.05	763.2	69.3	20.7	40	SE	.....	.....	2	9c	0	SW	.....	0	0	Cloudy	I. Guerrero, C. E.
Mexico, Central Observatory	23.15	588.1	30.54	775.7	33.8	1.0	72	Calm	0	0	.....	0	0	.....	.....	0	0	Very fine	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	41.5	5.3	54	NW	.....	.....	2	1cs	0	.....	.....	0	0	Clear	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.56	598.4	30.67	779.0	34.9	1.6	62	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.34	618.1	30.03	777.9	37.6	3.1	49	E	.....	.....	1	1	0	W	.....	0	0	Clear	G. Barroeta, M. D.
Tlacotalpam	30.23	767.9	30.24	768.2	62.6	17.0	90	SW	.....	.....	2	.....	10	.....	N	0.36	9.2	Raining	Prof. M. M. Châzaro.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell
Zacatecas	22 59	573.9	30.40	772.1	37.8	3.2	59	Calm	.....	.....	0	1s	0	.....	.....	0	0	Clear	J. C. Castrillon

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column; the instrumental correction —0.88 mm., or —0.035 inch, has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.04	763.0	30.04	763.0	35.6	2.0	.....	SSE	.....	.....	4	.....	.....	.....	.....	0.020	0.5	.....	
Groningen	30.05	763.2	30.10	764.6	34.5	1.4	.....	SE	.....	.....	.....	.....	.....	.....	.....	0.035	0.9	.....	
Helder	30.03	762.8	30.03	762.8	32.9	0.5	.....	SE	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.03	762.8	30.03	762.8	35.6	2.0	67	ESE	.....	.....	3	.....	.....	.....	.....	0	0	.....	
Utrecht	30.02	762.6	30.07	763.8	34.0	1.1	78	SSE	.....	.....	2	.....	8	.....	.....	0	0	Very cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.02	762.5	30.08	763.9	37.8	3.2	80	SSE	1.8	0.8	.....	.....	4	.....	.....	0.020	0.5	.....	
Brönö	29.89	759.2	29.93	760.2	41.0	5.0	60	S	25	11	.....	.....	9	.....	.....	0.350	8.9	.....	
Christiana	30.02	762.6	30.18	766.5	36.0	2.2	94	NE	0	0	.....	.....	10	.....	.....	0.031	0.8	Light fog.....	
Tromsö	29.74	755.5	29.79	756.6	38.7	3.7	80	SW	7	3	.....	.....	10	.....	.....	0.386	9.8	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	29.75	755.6	29.94	760.4	64.8	18.2	77	ENE	22.4	10.0	.....	.....	5	.....	.....	0.433	11.0	.....	Dr. J. A. Sampaio.
Campo Major	28.80	731.5	29.82	757.5	62.6	17.0	78	SSW	6.3	2.8	.....	.....	9	.....	.....	0.165	4.2	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	29.57	751.1	29.66	753.3	67.6	19.8	81	S	11.9	5.3	.....	.....	10	.....	.....	0.425	10.8	Raining	Capt. D. A. de Cunha.
Lisbon Observatory	29.44	747.8	29.80	756.8	63.5	17.5	82	SW	13.7	6.1	.....	.....	4	.....	.....	0.244	6.2	.....	The Staff.
Ponta Delgada (Azores)	29.80	757.0	29.87	758.8	63.7	17.6	76	ENE	21.0	9.4	.....	.....	3	.....	.....	0.039	1.0	Light rain...	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.																Sea or swell. Height scale 0–9	Sea or swell. Direction form—		
Bartholomew Dias																			A. G. da Silva Costa, Com'd't.
D. Fernando																			A. M. de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.																			J. C. M. Cabrate, 1st Lt
Mindello																			J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Matto																			H. de C. C. e Athayde.
Rio Duro																			J. T. d'Oliveria, Com'd't
Rio Lima. Capt. S. C. da Silva Costa, Porto Praya, Cape Verd I'ds.					77.7	25.4	.....	ESE	.....	.....	1	.....	4	.....	ESE	1	ESE	D. clouds	A. D. de Fonseca Sarurento....
Sá da Bandeira																			Louiz Apra, Q. Ma.
Sado, Capt. J. A de Brito Capello, St. Paul de Loando			29.82	757.4	84.6	29.2	.....	WNW	.....	.....	3	.....	2	.....	WNW	.....	.....	D. clouds. ...	H. Mecudonco, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes, Macao, China			29.81	757.1	77.7	25.4	.....	NE	.....	.....	5	.....	10	.....	NE	3	NNE	Raining, 8 hr's rain-fall.]	J. G. Felgo, 2nd Lieut

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between upper and lower clouds, and no humidity is given; duration of rain-fall in hours. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	30.34	770.5	30.35	771.0	23.0	— 5.0	93	SSW	9	4	.....	.....	0	.....	.....	.....	.....	.....	Capt. Sseliwerstow
Astrakhan	30.67	779.0	30.59	776.9	32.2	0.1	87	ENE	9	4	.....	10cp	.....	.....	.....	.....	.....	.....	Capt. Wisganow.
Barnaul	28.93	734.7	29.45	748.1	14.0	—10.0	100	NW	9	4	.....	.....	10	.....	.....	.....	.....	Snowing.....	Meteorological Obs.
Dorpat	30.34	770.5	30.60	777.2	21.6	— 5.8	100	ESE	7	3	.....	.....	10n	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	29.42	747.2	30.49	774.5	3.4	—15.9	75	NW	7	3	.....	.....	2	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk																			
Kasan	30.45	773.5	30.74	780.9	22.5	— 5.3	74	NNW	2	1	.....	.....	3	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch																			Lagorio.
Kieff	29.98	761.5	30.66	778.8	28.2	— 2.1	98	ENE	2	1	.....	.....	.....	.....	.....	.....	.....	.....	Physical Cabinet.
Krotkowo*	30.28	769.2	30.80	782.4	21.6	— 5.8	72	W	0	0	.....	.....	10n	.....	.....	.....	.....	Heavy fog...	Cand. Fatjanow.
Lugan	30.42	772.6	30.63	778.1	36.1	2.3	74	NE	13	6	.....	.....	2s	.....	.....	.....	.....	.....	Meteorological Obs
Moscow	30.27	768.9	30.48	774.1	24.8	— 4.0	91	SW	4	2	.....	.....	4	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	27.47	697.8	29.98	761.6	0.7	—17.4	86	Calm	0	0	.....	.....	10s	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	30.43	772.9	30.50	774.7	36.1	2.3	91	NNE	13	6	.....	.....	3	.....	.....	[illegible]	[illegible]	Light clouds	Meteorological Obs.
Nukuss	30.02	762.4	30.26	768.5	37.9	3.3	55	WSW	2	1	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Orenberg													1ks						
Pekin (China)	29.86	758.4	30.00	762.0	41.5	5.3	60	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	30.56	776.3	30.58	776.7	25.9	— 3.4	98	SSE	13	6	.....	.....	10n	.....	.....	.....	.....	.....	Central Physical Obs.
Tashkend	28.69	728.6	30.34	770.7	33.1	0.6	82	.....	.....	.....	.....	.....	4	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.97	735.9	30.41	772.5	53.2	11.8	75	E	4	2	.....	.....	8k	.....	.....	.....	.....	Heavy clouds...	Physical Observatory.
Vladivostock																			
Warsaw	30.02	762.6	30.47	774.0	33.1	0.6	96	SSE	16	7	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	30.18	766.5	30.63	777.9	31.5	— 0.3	89	SE	4	2	.....	.....	10	.....	.....	.....	.....	Heavy clouds...	Astronomical Obs.
Yenisiesk	29.42	747.3	29.74	755.5	—11.0	—23.9	72	W	2	1	.....	.....	0?	.....	.....	.....	.....	Snowing.....	Marks.

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	29.90	759.4	30.00	762.1	64.8	18.2	71	ENE	3.0	1.33	.....	.....	2	.....	.....	0	0	.....	Antonio Rave, Director
Bilbao, Met. Obs'y	29.81	757.2	29.87	758.7	49.3	9.6	95	NW	0.8	0.34	.....	.....	10	.....	.....	0.295	7.5	Raining	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.89	682.9	.....	.....	55.8	13.2	80	S	3.6	1.63	.....	0	7	.....	.....	0.157	4.0	Cloudy.....	Domingo Martin y Perez.
Madrid, Royal Observatory	27.65	702.3	29.85	758.2	59.7	15.4	81	S	19.9	8.89	.....	0	8	.....	.....	0.469	11.9	Almost cov'd	The Staff.
Murcia, Met. Obs'y	29.79	756.6	29.93	760.3	73.2	22.9	61	WSW	1.7	0.78	.....	4	5	SE	.....	0	0	Almost cov'd	Olayo Diaz, Director.
Santiago, Met. Obs'y	28.92	734.6	29.83	757.6	48.4	9.1	78	NNE	26.2	11.7	.....	.....	10	.....	.....	0.063	1.6	Covered	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.10	764.5	30.17	766.2	70.0	21.1	59	N	13.4	6.0	.....	1ck	3k	WSW	NNW	0	0	Fair.....	Benito Vines S. J.
Manilla, Phillippine Islands	29.78	756.3	29.83	757.6	83.6	28.7	81	SW	4.5	2.0	.....	.....	5ck	.....	S	0	0	Partlycloudy	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.81	757.2	29.91	759.7	65.7	18.7	75	SSE	14.8	6.6	.....	0	10	.....	S	0.271	6.9	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I	29.81	657.2	29.90	759.5	76.6	24.8	87	SE	0	0	.....	0	2k	.....	SE	0	0	Clear.	Enrique Gadea, Chief Eng'r

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.18	766.5	30.22	767.5	33.1	0.6	.....	SW	.....	.....	4	.....	9	.....	.....	0	0	.....	
Umea	30.19	766.7	30.24	768.0	35.2	1.8	96	SW	.....	.....	4	.....	10	.....	.....	0.079	2.0	.....	
Hernosand	30.21	767.2	30.26	768.5	34.5	1.4	89	SSW	.....	.....	4	.....	8	.....	.....	0.047	1.2	.....	
Stockholm	30.12	765.1	30.30	769.6	37.4	3.0	96	S	.....	.....	2	.....	10	.....	.....	0.039	1.0	.....	
Wisby	30.21	767.3	30.27	768.8	39.9	4.4	97	SSW	.....	.....	6	.....	10	.....	.....	0.016	0.4	Light rain...	
Sub-Series.																			
Upsala	30.19	766.8	30.28	769.0	35.8	2.1	100	S	9.6	4.3	.....	.....	10	.....	S	0.291	7.40	Raining.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	28.71	729.1	30.17	766.3	41.9	5.5	72	N	.....	.....	1	.....	9	.....	.....	0.114	2.9	Foggy	The Observatory.
Zurich	28.50	723.9	30.20	767.1	36.3	2.4	80	NW	.....	.....	2	.....	8	.....	.....	0	0	Cloudy.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, +2.5 mm.; Thermometer, —1.0 Cent.; Relative Humidity, —6 per cent.
NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Constantinople	.....	.....	30 46	773.6	51.3	10.7	84	NE	11	5.0	.....	.....	10	.....	NE	0.197	5.0	Raining.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.40	772.2	58.8	14.9	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear.	A. Bertrand.
Sub-series.																			
Beirut, (Syria) Lee Obs'y	29.93	760.2	30.05	763.2	68.5	20.3	55	N	.....	.....	1	.....	1ks	.....	NE	0	0	D. clouds.....	Prof. C. V. A. van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bathurst, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B.	30.11	764.8	30.18	766.6	6.2	—14.3	88	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	G. A. Blair.
Charlottetown, P. E. Island	30.08	764.0	30.13	765.3	13.9	—10.1	80	W	15	6.7	.....	0	0	.....	.....	0	0	Clear.	H. J. Cundall, C. E.
Cornwall, Ontario	29.93	760.2	30.14	765.5	11.2	—11.6	83	SW	.....	.....	1	.....	10s	.....	.....	0	0	Cloudy.....	James Smith, M. A.
Dalhousie, N. B.	29.89	759.2	30.08	764.0	8.7	—12.9	.....	W	.....	.....	2	0	4s	.....	.....	0	0	Fair.....	H. A. Johnson.
Father Point, Quebec	30.01	762.2	30.08	764.0	18.8	— 7.3	69	SW	24	10.7	.....	.....	10n	.....	.....	.....	.....	Light snow.	J. McWilliams.
Fredericton, N. B.	30.20	767.1	30.27	768.8	8.1	—13.3	76	W	6	2.7	.....	0	0	.....	.....	0	0	Clear.	Prof. Harrison.
Fort Garry, Manitoba	28.78	731.0	29.64	752.8	25.4	— 3.7	95	N	14	6.3	.....	4k	6n	N	.....	0.01	0.3	Cloudy.....	James Stewart.
Granton, Ontario	28.91	734.3	30.10	764.5	15	— 9.4	.....	SW	.....	.....	1	1cs	0	SW	.....	0.20	5.1	Clear	James Grant.
Halifax, N. S.	30.12	765.0	30.26	768.6	15.9	— 8.9	85	W	7	3.1	.....	0	5ks	.....	.....	0.17	4.3	Fair.....	A. Allison.
Hamilton, Ontario	29.69	754.1	30.08	764.0	24.1	— 4.4	93	NW	.....	.....	1	.....	10cs	.....	NW	0	0	Cloudy.....	Geo. Dickson, B. A.
Heart's Content, N. F.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.77	756.1	30.12	765.0	26.1	— 3.3	94	SW	10	4.5	.....	.....	10ks	.....	.....	Inap.	Inap.	Cloudy.....	S. Woods, M. A.
Little Glace Bay, N. S.	30.03	762.7	30.06	763.5	25.7	— 3.5	72	NW	10	4.5	.....	7k	0	NW	.....	0	0	Cloudy.....	C. H. Rigby.
Montreal, Quebec	29.98	761.5	30.20	767.1	7.2	—13.8	73	S	14	6.3	.....	6ck	0	W	.....	Inap.	Inap.	Fair.....	C. H. McLeod, C. E.
Moose Factory, Ontario	29.42	747.3	29.45	748.0	20.2	— 6.6	94	SW	.....	.....	5	.....	10	.....	.....	.....	.....	Snowing.....	J. R. Nason.
Norwood	29.33	745.0	30.08	764.0	20.1	— 6.6	99	SW	.....	.....	1	7k	0	SW	.....	0	0	Fair.....	Rev. T. F. Fotheringham, M. A.
Parry Sound, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. R. Mosley.
Peterboro, Ontario	29.30	744.2	30.10	764.5	22.4	— 5.3	79	W	.....	.....	1	.....	10s	.....	.....	0	0	Overcast....	J. F. Jeffers, M. A.
Port Dover, Ontario	29.39	746.5	30.12	765.0	27.0	— 2.8	76	S	30	13.4	.....	10k	0	S	.....	0.02	0.5	Cloudy.....	H. Morgan.
Port Hastings, N. S.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.42	747.3	30.10	764.5	28.3	— 2.1	88	SW	20	8.9	.....	.....	10n	.....	SW	0	0	Cloudy.....	M. Payne.
Quebec, Quebec	29.84	757.9	30.17	766.3	5	—15.0	75	W	.....	.....	3	5ck	0	W	.....	0	0	Fair.....	Capt. Ashe, R. N.
Rockliffe, Ontario	29.47	748.5	29.97	761.2	12.1	—11.1	77	SE	2	0.9	.....	.....	10s	.....	SW	0	0	Cloudy.....	W. H. McIntyre.
St. Andrews, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Gove.
St. John, N. B.	30.09	764.3	30.27	768.8	10	—12.2	100	W	11	4.9	.....	0	0	.....	.....	0	0	Clear.	G. Murdock, C. E.
Saugeen, Ontario	29.21	741.9	29.97	761.2	24.2	— 4.3	97	S	26	11.6	.....	.....	10ks	.....	.....	0.48	12.2	Snowing.....	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.72	729.5	30.10	764.5	15.6	— 9.1	91	SW	8	3.6	.....	2ck	4s	W	.....	0.20	5.1	Fair.....	C. J. MacGregor, M. A.
Sydney, C. B.	30.00	762.0	30.04	763.0	23.3	— 4.8	72	W	16	7.2	.....	5k	5ks	.....	.....	0.02	0.5	Cloudy.....	T. C. Hill, C. E.
Toronto, Ontario	29.71	754.6	30.12	765.0	24.1	— 4.4	75	SW	13	5.8	.....	.....	10ks	.....	SW	0	0	Cloudy.....	Magnetic Observatory.
Windsor, N. S.	30.12	765.0	30.22	767.6	15.0	— 9.4	82	W	3	1.3	.....	0	10n;k	.....	.....	0	0	Overcast.....	Prof. John E. Oram, M. A.
Woodstock, Ontario	28.96	735.6	30.09	764.3	21.6	— 5.8	93	SW	11	4.9	.....	.....	10s	.....	.....	0.20	5.1	Overcast.....	Prof. J. Montgomery.
Yarmouth, N. S.	30.20	767.1	30.27	768.8	21.5	— 5.8	63	W	.....	.....	2	.....	9ks	.....	.....	0.15	3.8	Snowing.....	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.69	754.1	29.95	760.7	32.0	0.0	94	SW	.....	.....	.....	0	5s	.....	.....	0	0	Fair.....	John Delany.
St. Pierre, M. F., l'Hopital Maritime.	.....	.....	29.84	757.8	34.9	1.6	.....	W	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	The Commandant.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10, except Yarmouth and St. Johns on scale 0 to 20. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.**

UNITED STATES SERIES.

Furnished by the co-operation of BVT. BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0–10.	CLOUDS. Amount. Up'er 0–10.	CLOUDS. Amount. Lo'er 0–10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	30.11	764.8	30.36	771.1	15	— 9.4	82	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Alpena, Michigan	29.15	740.4	29.83	757.7	23	— 5.0	73	S	20	8.9	.....	.....	10s	.....	Calm	0.05	1.3	Cloudy	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	29.07	738.4	30.29	769.4	31	— 0.6	68	NW	5	2.2	.....	0	Sm'e	.....	Calm	0	0	Clear.	
Atlantic City, New Jersey	30.40	772.1	30.42	772.7	21	— 6.1	86	W	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Augusta, Georgia	30.16	766.1	30.38	771.6	31	— 0.6	69	Calm	0	0	.....	Haze	Fog	Calm	Calm	0	0	Fair.	
Baltimore, Maryland	30.37	771.4	30.42	772.7	23	— 5.0	60	N	1	0.4	.....	0	Fog	.....	Calm	0	0	Clear.	
Barnegat, New Jersey	30.38	771.6	30.40	772.1	25	— 3.9	62	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear.	
Bismarck, Dakota	28.62	711.7	29.87	758.7	32	0.0	79	NW	16	7.2	.....	0	0	.....	.....	0	0	Clear.	
Boerne, Texas	28.78	731.0	30.19	766.8	32	0.0	79	N	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Boise City, Idaho	27.42	696.5	30.38	771.6	25	— 3.9	75	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Boston, Massachusetts	30.21	767.3	30.38	771.6	16	— 7.2	66	W	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Brackettville, Texas	29.06	738.1	30.16	766.1	38	3.3	54	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Breckenridge, Minnesota	28.66	728.0	29.68	753.9	28	— 2.2	88	NW	16	7.2	.....	0	0	.....	.....	0	0	Clear.	
Brownsville, Texas	30.24	768.1	30.28	769.1	52	11.1	93	NE	2	0.9	.....	0	0	.....	.....	Inap.	Inap.	Clear.	
Buffalo, New York	29.40	746.7	30.15	765.8	23.5	— 4.7	67	S	17	7.6	.....	2k	5s	SW	SW	0	0	Clear.	
Burkes, Arizona	.....	.....	.....	.....	40	4.4	56	E	.....	.....	1	2c	0	Calm	.....	0.20	5.1	Fair.	
Burlington, Vermont	29.96	761.0	30.28	769.1	12	—11.1	61	S	9	4.0	.....	2cs	0	W	.....	0	0	Clear.	
Cairo, Illinois	29.78	756.4	30.20	767.1	34	1.1	61	SW	5	2.2	.....	0	0	.....	.....	0	0	Fair.	
Campo, California	27.49	698.2	30.06	763.5	24	— 4.4	74	E	4	1.8	.....	0	5ks	.....	.....	0	0	Clear.	
Cape Hatteras, N. Carolina	30.39	771.9	30.40	772.1	35	1.7	70	N	5	2.2	.....	0	0	.....	.....	0	0	Fair.	
Cape Henry, Virginia	30.38	771.6	30.40	772.1	32	0.0	79	N	8	3.6	.....	0	5ks	.....	Calm	0	0	Clear.	
Cape Lookout, N. Carolina	30.25	768.3	30.27	768.8	34	1.1	79	N	12	5.4	.....	0	0	.....	.....	0	0	Fair.	
Cape May, New Jersey	30.37	771.4	30.40	772.1	25	— 3.9	62	NE	8	3.6	.....	0	2ks	.....	Calm	0	0	Clear.	
Castroville, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Cedar Keys, Florida	30.30	769.6	30.32	770.1	41	5.0	57	N	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Charleston, South Carolina	30.26	768.6	30.32	770.1	38	3.3	72	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Charlotte, North Carolina	29.47	748.5	30.34	770.6	23	— 5.0	73	NE	3	1.3	.....	0	Sm'e	.....	Calm	0	0	Clear.	
Chattanooga, Tennessee	29.45	748.0	30.32	770.1	25	— 3.9	75	Calm	0	0	.....	1cs	Sm'e	Calm	Calm	0	0	D. smoke	
Cheyenne, Wyoming	24.00	609.6	29.94	760.5	44	6.7	16	W	20	8.9	.....	0	0	.....	.....	0	0	Clear.	
Chicago, Illinois	29.24	742.7	29.95	760.7	31	— 0.6	79	S	11	4.9	.....	.....	10s	.....	S	0	0	Cloudy	
Cincinnati, Ohio	29.52	749.8	30.21	767.3	29	— 1.7	67	S	5	2.2	.....	0	1s	.....	Calm	0	0	Clear.	
Cleveland, Ohio	29.40	746.7	30.19	766.8	18	— 7.8	68	SE	10	4.5	.....	1cs	0	S	.....	0.04	1.0	Clear.	
Coleman City, Texas	28.38	720.8	30.12	765.0	37	2.8	45	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Columbus, Ohio	29.29	744.0	30.18	766.6	23	— 5.0	60	S	6	2.7	.....	5ck	Sm'e	Calm	Calm	0	0	Fair.	
Concho, Texas	28.31	719.1	30.10	764.5	30	— 1.1	47	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Corsicana, Texas	29.75	755.6	30.24	768.1	42	5.6	66	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Davenport, Iowa	29.25	742.9	29.91	759.7	28	— 2.2	77	SW	8	3.6	.....	.....	10s	.....	SW	0	0	Cloudy	
Deadwood, Dakota	25.36	644.1	.....	.....	33	0.6	89	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Decatur, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Denison, Texas	29.39	744.2	30.21	767.3	43	6.1	72	SW	10	4.5	.....	0	0	.....	.....	0	0	Clear.	
Denver, Colorado	24.77	629.2	29.99	761.7	42	5.6	34	NW	5	2.2	.....	0	2s	.....	Calm	0	0	Fair.	
Des Moines, Iowa	28.91	734.3	29.81	757.2	31	— 0.6	79	SW	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Detroit, Michigan	29.35	745.5	30.06	763.5	24	— 4.4	74	SW	12	5.4	.....	8ck	0	W	.....	0.01	0.3	Fair.	
Dodge City, Kansas	27.36	694.9	29.72	754.9	30	— 1.1	57	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear.	
Dubuque, Iowa	29.12	739.6	29.84	757.9	28	— 2.2	77	SW	1	0.4	.....	.....	10s	.....	SW	Inap.	Inap.	Cloudy	
Duluth, Minnesota	28.86	733.0	29.55	750.6	26	— 3.3	88	W	8	3.6	.....	.....	10s	.....	W	0.05	1.3	Cloudy	
Eagle Pass, Texas	29.48	748.8	30.26	768.6	35	1.7	70	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Eastport, Maine	30.21	767.3	30.28	769.1	12	—11.1	61	W	11	4.9	.....	0	0	.....	.....	0	0	Clear.	
Edinburg, Texas	.....	.....	.....	.....	47	8.3	79	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear.	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.39	746.5	30.16	766.1	20	— 6.7	70	S	12	5.4	.....	5c	0	Calm	.....	0.06	1.5	Fair.	
Escanaba, Michigan	28.96	735.6	29.64	752.8	22	— 5.6	72	SW	18	8.0	.....	.....	10s	.....	SW	0	0	Cloudy	
Florence, Arizona	28.56	725.4	30.16	766.1	52	11.1	47	E	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.91	708.9	29.98	761.5	31	— 0.6	89	NW	17	7.6	.....	0	0	.....	.....	0	0	Clear.	
Fort Custer, Montana	26.97	685.0	.....	.....	31	— 0.6	68	SW	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Davis, Texas	25.33	643.4	30.29	769.4	31	— 0.6	38	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Fort Gibson, Indian Ter	29.56	750.8	30.12	765.0	36	2.2	71	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Fort Grant, Arizona	25.32	643.1	30.12	765.0	36	2.2	31	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	28.86	733.0	30.20	767.1	36	2.2	56	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.49	698.2	.....	.....	36	2.2	61	W	4	1.8	.....	0	8ks	.....	Calm	0	0	Fair.	
Fort McKavett, Texas	27.90	708.6	29.92	760.0	35	1.7	61	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.89	733.8	30.05	763.3	34	1.1	52	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	28.01	711.4	.....	.....	26	— 3.3	75	W	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Fort Verde, Arizona	.....	.....	.....	.....	29	— 1.7	89	W	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.42	721.9	30.02	762.5	48	8.9	85	N	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Galveston, Texas	30.25	768.3	30.30	769.6	52	11.1	73	N	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Graham, Texas	29.06	738.1	30.18	766.6	27	— 2.8	64	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.20	741.7	29.86	758.4	36	2.2	80	S	24	10.7	.....	.....	10s	.....	S	0.17	4.3	Cloudy	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.18	741.1	30.16	766.1	36	2.2	61	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Indianapolis, Indiana	29.25	742.9	30.07	763.8	28	— 2.2	66	SE	6	2.7	.....	0	5ks	.....	S	0	0	Fair.	
Indianola, Texas	30.28	769.1	30.31	769.9	48	8.9	70	N	3	1.3	.....	0	Haze	.....	Calm	0	0	Clear	
Jacksboro, Texas	29.06	738.1	30.23	767.8	40	4.4	31	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.30	769.6	30.32	770.1	42	5.6	66	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Keokuk, Iowa	29.24	742.7	29.88	758.9	33	0.6	70	SW	7	3.1	.....	.....	10s	.....	W	0	0	Cloudy	
Key West, Florida	30.15	765.8	30.18	766.6	65	18.3	68	NE	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Kittyhawk, North Carolina	30.38	771.6	30.40	772.1	31	— 0.6	58	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Knoxville, Tennessee	29.25	742.9	30.34	770.6	21	— 6.1	86	NE	1	0.4	.....	0	Haze	.....	.....	0	0	Hazy	
La Crosse, Wisconsin	28.99	736.3	29.74	755.4	31	— 0.6	79	S	9	4.0	.....	.....	10s	.....	Clam	Inap.	Inap.	Cloudy	
La Mesilla, New Mexico	26.24	666.5	30.39	771.9	26	— 3.3	52	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.84	757.9	30.19	766.8	55	12.8	62	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	28.99	736.3	29.85	758.2	34	1.1	90	SE	2	0.9	.....	1cs	1s	NW	.....	0	0	Fair.	
Little Rock, Arkansas	29.87	758.7	30.25	768.3	35	1.7	80	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Los Angeles, California	29.70	754.4	30.04	763.0	53.5	11.9	29	N	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.61	752.1	30.20	767.1	32	0.0	69	SE	4	1.8	.....	2c	1s	Calm	Calm	0	0	Fair.	
Lynchburg, Virginia	29.69	754.1	30.44	773.2	19	— 7.2	84	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Clear	
Madison, Wisconsin	28.75	730.2	29.76	755.9	30	— 1.1	68	S	15	6.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Marquette, Michigan	28.86	733.0	29.56	750.8	33	0.6	78	SW	8	3.6	.....	.....	10s	.....	W	0	0	Cloudy	
Mason, Texas	28.57	725.7	30.42	772.7	36	2.2	53	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	28.88	733.5	30.24	768.1	34	1.1	61	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Milwaukee, Wisconsin	29.06	738.1	29.82	757.4	27	— 2.8	88	SW	18	8.0	.....	.....	10s	.....	S	0	0	Cloudy	
Mobile, Alabama	30.28	769.1	30.33	770.4	35.5	1.9	95	N	2	0.9	.....	0	Sm'e	.....	.....	0	0	Smoky	
Montgomery, Alabama	30.09	764.3	30.34	770.6	33	0.6	89	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Dense fog	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Morgantown, West Virginia	29.22	742.2	30.30	769.6	18	— 7.8	84	Calm	0	0	.....	5ck	0	NW	.....	0	0	Fair.....	
Mt. Washington, N. H.....	23.46	595.9	29.82	757.4	—12	—24.4	50	NW	30	13.4	.....	0	0	.....	.....	0	0	Clear.	
Nashville, Tennessee.....	29.70	754.4	30.27	768.8	29	— 1.7	67	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
New Haven, Connecticut.....	30.27	768.8	30.40	772.1	21	— 6.1	71	Calm	0	0	.....	0	Haze	.....	.....	0	0	Clear.	
New London, Connecticut...	30.37	771.4	30.42	772.7	21	— 6.1	64	NW	2	0.9	.....	1k	0	NW	.....	0	0	Clear.	
New Orleans, Louisiana.....	30.25	768.3	30.32	770.1	50	10.0	72	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Dense fog....	
Newport, Rhode Island.....	30.35	770.9	30.40	772.1	23	— 5.0	60	W	10	4.5	.....	0	0	.....	.....	0	0	Clear.	
New York, New York.....	30.22	767.6	30.42	772.7	24	— 4.4	48	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Norfolk, Virginia.....	30.35	770.9	30.41	772.4	31	— 0.6	79	N	12	5.4	.....	0	0	.....	.....	0	0	Clear.	
North Platte, Nebraska.....	27.01	686.0	29.68	753.9	27	— 2.8	64	NW	14	6.3	.....	2c	0	NW	.....	0	0	Clear.	
Olympia, Washington Ter...	30.18	766.6	30.22	767.6	37.0	2.8	100	E	2	0.9	.....	.....	Fog	.....	Calm	0	0	Foggy	
Omaha, Nebraska.....	28.62	726.9	29.74	755.4	33	0.6	79	S	5	2.2	.....	2c	5s	Calm	Calm	0	0	Fair.....	
Oswego, New York.....	29.88	758.9	30.22	767.6	28	— 2.2	77	S	12	5.4	.....	.....	10s	.....	Calm	0.16	4.1	Cloudy.....	
Pembina, Dakota.....	28.70	729.0	30.55	776.0	31	— 0.6	100	NW	19	8.5	.....	.....	10n	.....	Calm	0.01	0.3	Light snow.	
Pensacola, Florida.....	30.32	770.1	30.35	770.9	37	2.8	71	E	5	2.2	.....	0	0	.....	.....	0	0	Clear.	
Philadelphia, Pennsylvania	30.35	770.9	30.40	772.1	24	— 4.4	61	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Phœnix, Arizona.....	28.89	733.8	30.74	780.8	47	8.3	55	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Pike's Peak, Colorado.....	17.84	453.1	30.05	763.3	18	— 7.8	7	NW	36	16.1	.....	2cs	0	.....	.....	0	0	Clear.	
Pilot Point, Texas.....	29.40	746.7	30.26	768.6	40	4.4	48	S	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Pioche, Nevada.....	.....	.....	.....	.....	36	2.2	45	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Pittsburg, Pennsylvania.....	29.41	747.0	30.28	769.1	18	— 7.8	84	SW	10	4.5	.....	2cs	0	Calm	.....	0	0	Fair.....	
Port Huron, Michigan.....	29.34	745.2	30.04	763.0	23	— 5.0	86	SW	14	6.3	.....	2cs	0	Calm	.....	0	0	Clear.	
Portland, Maine.....	30.26	768.6	30.31	769.9	17	— 8.3	67	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Portland, Oregon.....	30.16	766.1	30.24	768.1	33.0	0.6	95	N	5	2.2	.....	0	Fog	.....	Calm	0	0	Clear.	
Portsmouth, N. Hampshire..	.....	.....	.....	.....	37	2.8	63	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Prescott, Arizona.....	24.88	631.9	30.24	768.1	24	— 4.4	74	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear.	
Punta Rassa, Florida.....	30.23	767.8	30.25	768.3	52	11.1	73	N	15	6.7	.....	1ck	0	Calm	.....	0	0	Clear.	
Red Bluff, California.....	29.79	756.7	30.16	766.1	40	4.4	82	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Rio Grande City, Texas.....	30.12	765.0	30.35	770.9	40	4.4	82	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Rochester, New York.....	29.54	750.3	30.20	767.1	23	— 5.0	73	SW	10	4.5	.....	.....	10s	.....	SW	Inap.	Inap.	Cloudy.....	
Roseburg, Oregon.....	29.65	753.1	30.25	768.3	33	0.6	95	NE	2	0.9	.....	.....	Fog	.....	Calm	0	0	Foggy	
Sacramento, California.....	30.04	763.0	30.13	765.3	41	5.0	91	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
St. Louis, Missouri.....	29.46	748.3	30.06	763.5	31	— 0.6	48	S	14	6.3	.....	5ck	0	Calm	.....	0	0	Fair.....	
St. Paul, Minnesota.....	28.79	731.3	29.63	752.6	28	— 2.2	77	S	5	2.2	.....	0	8ks	.....	NW	0.15	3.3	Cloudy.....	
Salt Lake City, Utah.....	25.86	656.8	30.20	767.1	25	— 3.9	50	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
San Antonio, Texas.....	29.57	751.1	30.19	766.8	38	3.3	54	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
San Diego, California.....	29.99	761.7	30.06	763.5	47	8.3	70	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Sandusky, Ohio.....	29.43	747.5	30.15	765.8	23	— 5.0	86	S	14	6.3	.....	0	0	.....	.....	0	0	Clear.	
Sandy Hook, New Jersey.....	30.37	771.4	30.40	772.1	26	— 3.3	63	SW	5	2.2	.....	0	0	.....	.....	0	0	Clear.	
San Francisco, California....	30.04	763.0	30.11	764.8	51	10.6	75	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Santa Fé, New Mexico.....	23.38	593.8	29.92	760.0	28	— 2.2	54	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Savannah, Georgia.....	30.24	768.1	30.34	770.6	37	2.8	71	N	1	0.4	.....	0	Haze	.....	Calm	0	0	Clear.	
Shreveport, Louisiana.....	30.04	763.0	30.27	768.8	37	2.8	71	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Foggy	
Silver City, New Mexico.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina..	30.33	770.4	30.37	771.4	32	0.0	79	N	10	4.5	.....	1k	0	Calm	.....	0	0	Clear.	
Socorro, New Mexico.....	25.59	650.0	29.65	753.1	26	— 3.3	63	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Springfield, Illinois.....	29.30	744.2	30.00	762.0	30	— 1.1	78	S	9	4.0	.....	0	5s	.....	NW	0	0	Fair	
Springfield, Massachusetts..	30.25	768.3	30.39	771.9	15	— 9.4	65	S	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Stockton, Texas.....	27.28	692.9	30.28	769.1	35	1.7	10	E	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Thatcher's Island, Mass.....	30.34	770.6	30.40	772.1	18	— 7.8	68	W	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Toledo, Ohio.....	29.36	745.7	30.10	764.5	22	— 5.6	72	SE	14	6.3	.....	5c	0	SW	.....	Inap.	Inap.	Fair	
Tucson, Arizona.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon.....	30.07	763.8	30.61	777.5	20.0	— 6.7	100	SE	4	1.8	.....	.....	Fog	.....	Calm	0	0	Dense fog....	
Uvalde, Texas.....	29.33	745.0	30.19	766.8	40	4.4	36	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Vicksburg, Mississippi.....	30.03	762.7	30.31	769.9	35	1.7	70	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Virginia City, Montana.....	24.38	619.2	29.86	758.4	29	— 1.7	56	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Visalia, California.....	29.71	754.6	30.10	764.5	36	2.2	90	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Washington, D. C.....	30.29	769.4	30.42	772.7	18	— 7.8	84	NW	1	0.4	.....	0	Sm'e	.....	Calm	0	0	Clear.	
Wickenburg, Arizona.....	.....	.....	.....	.....	35	1.7	61	NW	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Wilmington, North Carolina	30.29	769.4	30.37	771.4	29	— 1.7	66	NE	5	2.2	.....	0	0	.....	.....	0	0	Clear.	
Winnemucca, Nevada.....	25.85	656.6	30.21	767.3	16	— 8.9	83	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Wood's Holl, Massachusetts	30.36	771.1	30.40	772.1	23	— 5.0	73	NW	16	7.2	.....	0	0	.....	.....	0	0	Clear.	
Yankton, Dakota.....	28.48	723.4	29.89	759.2	36	2.2	45	W	16	7.2	.....	0	0	.....	.....	0	0	Clear.	
Yuma, Arizona.....	29.88	758.9	30.05	763.3	49	9.4	57	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
SUB-SERIES.																			
Fayetteville, Arkansas.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.....	30.07	763.8	30.12	765.0	71	21.7	63	N	3.6	1.6	.....	4k	1ks	N	Calm	0	0	Fair.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I.....	30.08	764.0	30.09	764.3	78	25.6	83	N	4	1.8	.....	8c	2s	N	.....	0	0	Hazy.....	James Gall.
Medellin, Colombia, S. A..*..	25.17	639.3	.....	.....	63.8	17.7	82	Calm	.....	.....	0	4cs	5n	.....	.....	0	0	.....	Thomas Herran.
Navassa, W. I.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.92	760.0	29.92	760.0	82	27.8	75	E	.....	.....	3	0	4k	.....	.....	0	0	Fair	C. J. Hering.
Santiago de Cuba, W. I.....	29.96	761.0	29.98	761.5	75	23.9	76	N	13.2	5.9	.....	.....	8s	.....	N	0	0	.....	Robert Mason.
St. Thomas, W. I.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.....	29.89	759.2	29.95	760.7	— 8.0	—22.2	79	N	12	5.4	.....	3c	0	N	.....	0	0	Fair	J. Fortescue & W. Wood
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Medellin, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m., Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm. *The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.29‡	769.4‡	.....	.....	40	4.4	83	NNW	5	2.2	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Navy Yard, Portsmouth, N.H	30.18‡	766.6‡	.....	.....	15	—9.4	89	WNW	2	0.9	.....	.....	2	.....	.....	0	0	.....	.....	Pleasant.....	
Naval Hospital, Yokohama, Japan.....	30.06‡	763.5‡	.....	.....	44.2	6.8	92	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	.....	Clear.	
Adams, Mare I'd., Navy Yard, Cal.	30.11‡	764.8‡	.....	.....	50	10.0	93	E	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Alaska, Iquique, Peru .....*	29.95‡	760.7‡	.....	.....	62	16.7	88	Calm	.....	.....	0	.....	8	.....	.....	.....	.....	.....	.....	D. clouds.....	
Alliance. N. 19° 10′, W. 45° 30′.....	30.06‡	763.5‡	.....	.....	78	25.6	78	E	.....	.....	4	.....	5	.....	E	.....	.....	Mod'ate	E	D. clouds ...	
Colorado, New York, N. Y.....	30.37‡	771.4‡	.....	.....	26	—3.3	90	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	.....	Hazy.....	
Constitution, Navy Yard, Norfolk, Va.	30.44‡	773.2‡	.....	.....	28	—2.2	??	Calm	0	0	.....	.....	2	.....	Calm	.....	.....	.....	.....	Clear	
Enterprise, Alexandria, Egypt.....	30.14‡	765.5‡	.....	.....	69	20.6	70	`	.....	.....	2	.....	6	.....	N	.....	.....	Smooth	.....	Cloudy.....	
Franklin, Off Navy Yard, Norfolk, Va.	30.41‡	772.4‡	.....	.....	29	—1.7	100	NNW	2	0.9	.....	.....	2	.....	NNW	0	0	.....	.....	Clear	
Hartford, Boston, Mass.....	30.30‡	769.6‡	.....	.....	21	—6.1	73	WSW	.....	.....	3	.....	0	.....	.....	0	0	.....	.....	Clear	
Independence, Mare I'd, Navy Yard, Cal.	30.12‡	765.0‡	.....	.....	57	13.9	75	ESE	1.2	0.5	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Kearsage, Savannah, Ga.....	30.33‡	770.4‡	.....	.....	41	5.0	83	NE	.....	.....	1	.....	2	.....	.....	.....	.....	Smooth	.....	Clear	
Lackawana, N. 35° 50′ W. 176° 45′..†	30.49‡	774.4‡	.....	.....	67	19.4	74	SSW	.....	.....	4	.....	0	.....	.....	.....	.....	Smooth	SE	Clear	
Marion, N. 38° 54′, W. 74° 13′.....	30.39‡	771.9‡	.....	.....	34	1.1	67	N	.....	.....	2	.....	2	.....	NE	.....	.....	Smooth	NE	Clear	
Michigan, Erie, Pa.....	30.14‡	765.5‡	.....	.....	23.5	—4.7	100	SW	.....	.....	6	.....	2	.....	.....	.....	.....	.....	.....	Fair.....	
Monocacy, Shanghai, China..	30.13‡	765.3‡	.....	.....	56	13.3	94	ENE	.....	.....	1	.....	10	.....	E	.....	.....	.....	.....	Cloudy.....	
New Hampshire, Port Royal, S. C.....	30.33‡	770.4‡	.....	.....	42	5.6	68	NE	13	5.8	.....	.....	1	.....	NE	0	0	.....	.....	Clear	
Onward, Callao, Peru ....†.	29.95‡	760.7‡	.....	.....	64	17.8	94	NW	.....	.....	1	.....	10	.....	.....	.....	.....	Long	W	Misty.....	
Palos, Tientsin, China...	30.03‡	762.7‡	.....	.....	42	5.6	91	SSW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Passaic, Washington, D. C.....	30.39‡	771.9‡	.....	.....	19	—7.2	80	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	.....	Clear	
Pensacola, Callao, Peru	29.92‡	760.0‡	.....	.....	64	17.8	94	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Smooth	.....	Misty.....	
Powhatan, Navy Yard, Brooklyn, N.Y.	30.37‡	771.4‡	.....	.....	28	—2.2	90	WNW	.....	.....	1	.....	2	.....	Calm	0	0	.....	.....	Fair.....	
Quinnebaug, Spezia, Italy.....	30.33‡	770.4‡	.....	.....	62	16.7	61	N	.....	.....	1	.....	8	.....	E	.....	.....	.....	.....	Cloudy.....	
Ranger, N. 39° 50′, E. 169° 30′.....	30.16‡	766.1‡	.....	.....	60	15.6	94	NW	.....	.....	1	.....	8	.....	NW	.....	.....	Long	E	Cloudy.....	
Richmond, Shanghai, China.....	30.14‡	765.5‡	.....	.....	57	13.9	94	Calm	.....	.....	0	.....	10	.....	.....	0	0	Smooth	.....	Cloudy.....	
Rio Bravo, Brownsville, Texas... †.	30.47‡	773.9‡	.....	.....	52	11.1	93	NNW	3	1.3	.....	.....	0	.....	.....	0	0	.....	.....	Hazy.....	
Santee. Annapolis, Md.....	30.41‡	772.4‡	.....	.....	25	—3.9	.....	W	.....	.....	2	.....	2	.....	N;W	0	0	.....	.....	Clear	
Shenandoah, S. 10° 38′, W. 33° 18′..... .	29.88‡	758.9‡	.....	.....	82	27.8	79	ESE	.....	.....	3	.....	2	.....	.....	.....	.....	Smooth	.....	Fair.....	
St. Louis, League Island, Pa.....	30.39‡	771.9‡	.....	.....	23	—5.0	.....	W	3	1.3	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Trenton, Gibraltar, Mediterranean	29.94‡	760.5‡	.....	.....	70	21.1	70	E	.....	.....	2	.....	8	.....	E	0.02	0.5	Smooth	.....	Fair.....	
Tuscarora, Chacaqua Bay, Mexico.	29.96‡	761.0‡	.....	.....	69	20.6	85	NW	.....	.....	2	.....	2	.....	Calm	0	0	Smooth	.....	Fair.....	
Vandalia, N. 23° 25′, W. 82° 20′.....	30.17‡	766.3‡	.....	.....	70	21.1	95	N	.....	.....	2	.....	5	.....	N	.....	.....	Mod'ate	NE	Fair.....	
Wabash, Boston, Mass.....	30.29‡	769.4‡	.....	.....	12	—11.1	100	W	6	2.7	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Wachusett, N. 5° —′, W 25° —′.....	29.92‡	760.0‡	.....	.....	82	27.8	91	SE	.....	.....	3	.....	8	.....	SE	.....	.....	Long	NNW	Fair.....	
Wyoming, Gibraltar, Mediterranean.	29.93‡	760.2‡	.....	.....	67	19.4	74	NE	.....	.....	1	.....	10	.....	NE	.....	.....	Smooth	NE	Cloudy.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohamais 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S. S. Samaria																			Capt. T. Roberts.
NOTE—†Aneroid. *The error of the barometer is not known.																			
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitebury.
S. S. Costa Rica																			W. House & R. Lawless.
S. S. Dakota, Capt. H. G. Morse																			Capt. Connolly.
S. S. Georgia																			F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin																			Capt. A. Fuller.
S. S. Wilmington																			R. C. Ghest, 1st Officer.
S. S. Zealandia, S. 34° 07′, E. 155° 16′		29.61‡	752.1‡				SW			6				W		Heavy	NW	Squally	
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
NOTE.—The orginals give the barometer as read off; wind-force by the scale 0 to to 12; for the Brittanic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer, N. 24° 59′, E. 119° 25′		29.80‡	759.2‡	70	21.1	80	NNE			4		8		NNE		Mod'at	NNE	D. clouds	D. A. Joyce, 2nd Officer
S. S. Gaelic, Capt. Davidson																			J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undutsch.
S. S. Leipzig, Capt. F. Pfeiffer																			
S. S. Nürnberg																			S. Risius, 3rd Officer.
S. S. Ohio, Bremerhaven, Germany		30.08‡	764.0‡				S			3		10		SSE				Foggy	Capt. A. Jaeger.
																			Capt. G. Meyer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'er 0—10.	Upper. From—	Lower. From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa.		29.42‡	747.3‡	34	1.1	93	WNW			4		2		NW	0			Clear.	Capt. R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.
RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents.																			
Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian, N. 41° 39', W. 65° 49'		30.32‡	770.1‡	30	— 1.1		NW			6		10		WNW		Mists	WNW	Cloudy	J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES—Miscellaneous.																			
Furnished by the co-operation of the Observers named.																			
Schooner Addie Fuller, N. 33° 51', W. 73° 36'		30.30‡	769.6‡	55	12.8	62	Calm	0	0		5k		W		0	Smoke		D. clouds	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George" of Halifax																			N. B. Foss.
Schooner Harry and Fred																			Capt. George Gardner.
Haytian																			
§ Iron Cross																			Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; do not distinguish between upper and lower clouds; sea-swell in general terms, as published. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

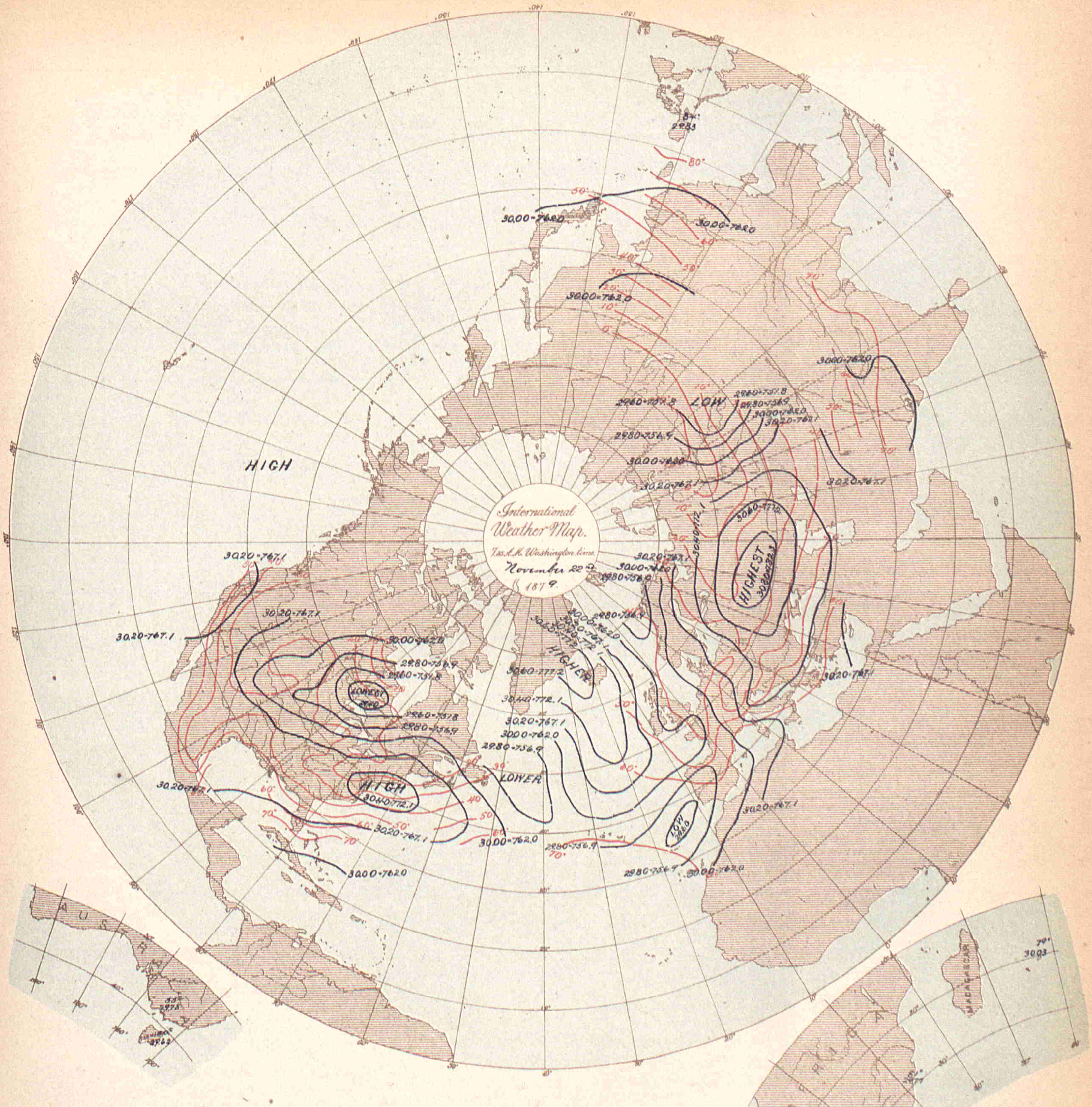
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 23, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0·48 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	29.95	760.6	69.3	20.7	54	SE	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	
Nemours	.....	.....	30.08	764.0	68.4	20.2	83	Calm	.....	.....	0	.....	0	.....	.....	0	0	Clear.	Kesxuche.
Algiers	.....	.....	30.10	764.4	72.7	22.6	81	SW	.....	.....	2	.....	0	.....	.....	0	0	Clear.	Tourillere.
La Calle	.....	.....	30.09	764.2	72.3	22.4	54	SSW	.....	.....	3	.....	2	.....	.....	0	0	Fair	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.24	768.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Herbin.
Tebessa	.....	.....	30.24	768.1	69.8	21.0	54	NW	.....	.....	3	.....	8	.....	.....	0	0	Very cloudy	Warrin.
Geriville	.....	.....	.....	.....	59.4	15.2	60	NW	.....	.....	2	.....	0	.....	.....	0	0	Clear	Brugniuax.
Laghount	.....	.....	30.28	769.1	65.5	18.6	18	WNW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	30.20	767.0	77.0	25.0	51	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.60	751.7	30.17	766.4	33.3	0.7	85	E	.....	.....	1	.....	10	.....	.....	0.016	0.4	Dense fog	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.59	746.5	30.20	767.1	29.8	—1.2	97	NNE	0	0	.....	.....	10	.....	.....	0	0	.....	Dr. Wierzbicki.
Eperies	29.29	743.9	30.21	767.3	37.2	2.9	80	S	.....	.....	3	.....	0	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.84	732.5	30.15	765.9	33.4	0.8	85	S	.....	.....	2	.....	10	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.79	731.3	30.24	768.2	38.1	3.4	80	J	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.70	728.9	30.11	764.7	31.6	—0.2	98	ENE	.....	.....	1	.....	10	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	29.17	740.8	30.20	767.1	33.4	0.8	92	SE	.....	.....	2	.....	10	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	30.14	765.5	30.25	768.4	50.4	10.2	90	N	.....	.....	1	.....	10	.....	.....	0	0	.....	I.R.Hydrographic Office.
Szathmar	29.75	755.6	30 23	767.9	37.4	3.0	83	NE	.....	.....	1	.....	0	.....	.....	0	0	.....	Pet. Pancsics, S. J.
Szegedin	29.93	760.3	30.23	767.7	42.8	6.0	72	S	.....	.....	4	.....	0	.....	.....	0	0	.....	Karl Stancel.
Trieste	30.17	766.2	30.27	768.8	48.7	9.3	86	Calm	.....	.....	0	.....	10	.....	.....	Inap.	Inap.	Cloudy	P. Busin.
Vienna	29.42	747.3	30.17	766.2	33.1	0.6	100	SSE	.....	.....	1	.....	10	.....	.....	0.031	0.8	.....	I.R.Central Met. Ob'sy
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyek	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S,, Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.91	759.7	30.01	762.2	42.9	6.1		NW	13	5.8			2			0.060	1.52	Blue sky	W. Boswell.
Ardrossan																			Wm.McNeil & G.Carrick.
Armagh, (Observatory)	29.79	756.7	30.04	763.0	42.6	5.9		N	7	3.1									S. Call.
Bidston (Liverpool Obs)			29.95	760.7	40.1	4.5		SE	5	2.2			10					Raining	John Hartnup.
Bolton (Sharples)	29.42	747.3	29.94	760.5	34.6	1.4		ENE	6	2.7			10					Raining	Thomas Mackereth.
Bradford, Yorkshire																0.18	4.6		J McLandsborough.
Bridgetown, Barbadoes	29.83	757.7	29.86	758.4	81	27.2		NE			2		6					Gloomy	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	29.91	759.7	30.00	762.0	45.0	7.2		SW			1		4					D. clouds	H. Todd.
Cardington			29.96	761.0	38.0	3.3		SW			0–1		8					Overcast	John McLaren.
Chatham (School M. E.)	29.89	759.2	30.02	762.5	32.2	0.1		Calm			0		0					Blue sky	J. Carmell, Sapper, R.E.
Donaghadee	29.96	761.0	30.00	762.0	46	7.8		NNE			5		5					D. clouds	J. Mac Gowan.
Dover	29.98	761.5	30.01	762.2	36	2.2		NW			2		3					¼ clouded	J. Costello.
Falmouth (Observatory)	29.81	757.2	30.05	763.3	48.2	9.0		W			1		5					D. clouds	The Staff.
Fort Napier, Natal	27.50	698.5	29.72	754.9	87.8	31.0		NW			3		0					Blue sky	Pvt. G. Salmon, A.H.C
Free Town, Sierra Leone																			
Galway (Queen's College)			29.98	761.5	41	5.0		N			1		8					Gloomy	Prof. A. H. Curtis.
Gibraltar, Mediterranean																			Sergt.Wm. Allen, A. H.
Glasgow, (Observatory)	29.82	757.4	30.02	762.5	43.5	6.4		NNE			3		8k					Gloomy	D. G. Maclean. [C.
Great Yarmouth	30.00	762.0	30.00	762.0	32	0.0		WSW			1		4					Foggy	G. T. Watson.
Greenwich (Royal Obs'y)	29.85	758.2	30.03	762.7	35.4	1.9		SW			1		0					Blue sky	The Staff, for G.B.Airy.
Guernsey	29.78	756.4	30.00	762.0	47.5	8.6		NW			1		5					D. clouds	Dr.S.E Hoskins, F.R.S.
Helston	30.16	766.1	30.28	769.1	46	7.8		SW			1	3c				0	0	Fine	M. P. Moyle.
Holyhead	29.90	759.4	29.95	760.7	44	6.7		ENE			3		5					D. clouds	John Tilston.
Jersey	29.76	755.9	30.06	763.5	48.4	9.1		SW			1		5					D. clouds	J. Fisher.
Kew (Observatory)	30.00	762.0	30.04	763.0	31.2	0.4		WSW	1	0.4			0					Misty	The Met'g'l Office.
Leicester (Museum)	29.71	754.6	29.98	761.5	36.8	2.7		SW			1		10			Blank	Blank	Overcast	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	30.07	763.8	30.14	765.5	66	18.9		SE			2		4k					D. clouds	A. King.
Nairn	29.95	760.7	30.05	763.3	40	4.4		NE			1		2					¼ clouded	W. D. Penny.
Nassau, Bahamas			30.14	765.5	72.0	22.2		NE			3		6			Blank	Blank	D. clouds	C. S. Duncombe.
Nottingham (Observatory)	29.80	756.9	30.00	762.0	32.9	0.5		Calm			0		10n		Calm	0.159	4.04	Raining	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.44	747.8	29.98	761.5	37.0	2.8		SW			1		10					Drizzling	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)			30.02	762.5	35	1.7		SW			1		9					Misty	H. E. Bellamy.
Plymouth	29.94	760.5	30.02	762.5	41.8	5.4		Calm			0		10					Foggy	John Merrifield.
Prince Town																			W. H. Tooker.
*Roche's Point	29.92	760.0	30.00	762.0	43	6.1		N			3		10					Raining	Wm. Kennedy.
St. Ann's Head																			John C. Walker.
Sandwick Manse, Orkneys			30.04	763.0	42	5.6		N	7	3.1			2					D. clouds	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	30.16	766.1	30.23	767.8	50.0	10.0		NE			2		10			Blank	Blank	Gloomy	Serg't W. H. Lyne.
Sheffield	29.69	754.1	29.98	761.5	37.0	2.8		SW			1		10			0.23	5.8	Raining	W. F. Cooper.
Silloth Rectory	29.95	760.7	29.98	761.5	39.6	4.2	94	E			2		10			0	0	Overcast	Francis Redford, A. M.
Stonyhurst (Observatory)			29.95	760.7	36.2	2.3		NW			1		10					Drizzling	Rev. S. J. Perry.
Straffield, Turgiss	29.79	756.7	30.02	762.5	34.4	1.3		S			1		0					Blue sky	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	29.96	761.0	30.03	762.7	52	11.1		W			2		5					D. clouds	W. Newcombe.
Valencia Observatory)	29.94	760.5	29.97	761.2	45.9	7.7		NNE	26	11.6			10					Showery	The Met'g'l Office.
Sub-Series.																			
Cape Town (C. G. H. Obs'y)	29.94	760.5	29.98	761.5	71.5	21.9	68	NW	11.2	5.0		9	8cs						The Staff, for D. Gill.
Colesberg Bridge, Cape Col.																			Robert Burnet.
Hobart Town, Tasmania			29.81	757.2	54.0	12.2	81	N			3		4k			0	0		Francis Abbott, F.R.A.S.
Leith, (Restalrig Park)			30.05	763.3	43.0	6.1		NE			2		6k			0	0	Fine	Andrew Gibb.
Mauritius (Observatory)	29.86	758.4	30.04	763.1	79.2	26.2	63	SE	14.0	6.3		2	5	W	ENE	0	0	Cloudy	C. Meldrum.
Melbourne (Observatory)	29.73	755.1	29.82	757.4	54.2	12.3	77	SE	3	1.3			2			0	0	Very fine	R. L. J. Ellery.
Monach Lt-house, Hebrides			30.14	765.5	44	6.7		NE			7	5	5	NE		0.2	5.		J. Youngclause.
North Unst, Shetland is.			30.02	762.5				NE			6	5	5	NE		Blank	Blank		

Note.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Colesberg Bridge, unknown.

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. Alert, Monteith Bay, Patagonia			30.03‡	762.7‡	55	12.8		ENE			2		2					Blue sky	Capt.J.P. Maclear, R.N.
H. M. Sloop Gannet, S. 11° 47′, W. 77° 13′			29.87‡	758.7‡	69.5	20.8		Calm			0		6					D. clouds	Commander E. Bourke, R. N.
H. M. S. Magpie, Shaweishan I'd., China			30.12‡	765.0‡	69.5	20.8		ENE			1		9					Overcast	Capt. R. H. Napier, R.N.
Brig Alliance, N. 37° 06′, W. 50° 20′			30.39‡	771.9‡	65.6	18.7		NE			5		10					Overcast	Capt. W. Scott.
Barque Belle-Isle, N. 18° 15′, W. 74° 40′			29.95	760.7	83	28.3		ENE			5		10			5	N	Drizzling	Capt. A. J. Brown
S. S. Ethiopia N. 40° 50′, W. 69° 50′			30.07	763.8	49	9.4		SSE			5		4		WSW	3	SSE	D. clouds	Capt. Campbell.
S. S. German, N. 16° 05′, W. 17° 45.′			29.89‡	759.2‡	78	25.6		NNE			2		4					D. clouds	Capt. O. D. Coxwell.
Barque Mertole, N. 37° 40′, W. 9° 35′			30.03‡	762.7‡	64	17.8		NNE			4		9					Overcast	Capt. Turner.
S. S. Peruvian N. 55° 30′, W. 11° 15′			30.11	764.8	46	7.8		N			6		8			5	NNE	Showery	Capt. W. H. Smith.
S. S. Strathleven, Sydney, N. S. W.			29.94‡	760.5‡	69.5	20.8		S			2		4					D. clouds	Capt. C. W. Pearson.
S. S. Sunbeam, N. 43° 0′, W. 37° 05′			30.26	768.6	61	16.1		NNE			5		4			5	Confused	D. clouds	Capt. C. M. Dobson.
Light House Tender Richmond. N. 26° 32′, W. 76° 59′			30.22	767.6	73	22.8		NE			5		5					D. clouds	Capt. W. H. Stewart.
S. S. Gordon Castle																			
German Brig "W. von Freeden"																			Capt. H. V. Freeden.

Note.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Barometer. Corrected for instru-m'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.25	666.7	29.97	761.2	61.2	16.2	77	SE	.....	.....	4	.....	2d	.....	E	0	0	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish ples.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.78	756.5	29.83	757.7	39.6	4.2	82	W	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....
Farõe	29.80	757.0	29.82	757.5	40.3	4.6	84	W	.....	.....	4	.....	5	.....	.....	.....	.....	.....	.....
Godthaab (Greenland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stykkisholm (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thorshavn (Farõe)	30.33	770.3	30.36	771.2	36.1	2.3	85	NNE	.....	.....	2	.....	7	.....	.....	.....	.....	.....	.....
Vestervig	29.67	753.7	29.78	756.5	33.4	0.8	100	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.54	750.2	30.09	764.2	37.4	3	89	N	.....	.....	1	.....	10	.....	.....	0	0	Foggy	Collignon, Director.
Amiens, Normal School	29.85	758.2	29.97	761.1	38.5	3.6	87	ESE	.....	.....	1	.....	5	.....	SW	0	0	Cloudy	Vaillant, Director.
Arras, Engin'r School	29.77	756.1	30.04	762.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Klein, Commandant.
Avignon, Normal School	29.99	761.8	30.07	763.8	63.7	17.6	55	S	.....	.....	1	.....	5	.....	.....	0	0	¾ covered	Giraud, Director.
Bar-sur-Seine	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.358	9.1	.....	C. Saillard, Director
Beauvais, Normal School	29.78	756.4	30.06	763.4	39.7	4.3	85	SSE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Frère Eugene Marie
Besançon, Normal School	29.12	739.7	30.02	762.4	55.4	13	70	S	.....	.....	1	.....	10	.....	S	0	0	Covered	A. Carré, Director.
Bourg-en-Bresse, N. School	29.11	739.5	30.04	763.1	54.3	12.4	74	S	.....	.....	4	.....	10m	SW	SW	0.142	3.6	Covered	Marlot, Director.
Bourges, Normal School	29.53	750.0	30.05	763.3	39.9	4.4	97	NNE	.....	.....	1	.....	10m	.....	NNE	0.71	18.	Raining	M. Gence, Director.
Brest, Naval Observatory	29.82	757.5	30.07	763.6	54.0	12.2	88	Calm	.....	.....	0	.....	8	.....	NNE	0	0	.....	Ch. de Kermaree, Dir.
Caen, Normal School	30.01	763.1	.....	.....	39.9	4.4	83	ENE	.....	.....	.....	.....	10	.....	.....	0	0	Covered	M. Bietrix, Director.
Carcassonne, N. School	29.60	751.8	30.02	762.6	58.6	14.8	92	ENE	.....	.....	3	.....	10	ENE	ENE	0.055	1.4	Covered	September, Director.
Châlons-sur-Marne, N. Sch	29.74	755.5	30.08	763.9	38.8	3.8	75	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Covered	Jadot, Director.
Chartres, Normal School	29.44	747.8	30.03	762.7	38.3	3.5	89	NE	.....	.....	1	.....	10	.....	NE	0.282	7.15	Covered	Vergier, Director.
Clermont-Fd, Puy de D. Obs	28.55	725.1	29.89	759.1	59.4	15.2	56	SE	.....	.....	1	.....	10	.....	S	0.433	11.0	.....	Alluard, Director.
Commercy, Normal School	29.12	739.7	30.01	762.3	39.4	4.1	97	W	.....	.....	1	.....	10m	W	W	0.39	10.	Raining	Dr. Coullet, Director.
Commune de Gréasque*	28.90	734.0	30.04	763.0	57.7	14.3	69	SE	.....	.....	2	.....	10	.....	SE	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.23	742.5	30.01	762.2	48.9	9.4	81	ENE	.....	.....	1	.....	10m	.....	.....	0	0	Covered	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	29.89	759.1	30.11	764.8	39.9	4.4	87	NW	.....	.....	1	.....	10	.....	.....	0.433	11.0	Covered	Mouillot, Director.
Le Mans, Normal School	29.76	755.9	30.08	764.1	37.4	3	83	N	.....	.....	1	.....	10	.....	.....	0	0	Covered	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.14	740.1	30.07	763.7	52.7	11.5	76	SSW	.....	.....	1	.....	10	.....	.....	0.205	5.20	Light rain	A. Baudry, Director
Lorient, Naval Observatory	29.98	761.4	30.09	764.2	43.2	6.2	88	SE	.....	.....	1	.....	.....	N	SE	0	0	.....	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.37	745.9	29.98	761.6	57.4	14.1	67	SE	.....	.....	1	.....	10	.....	SW	0.024	0.6	Covered	Ch. André, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	29.78	756.3	30.04	763.1	61.3	16.3	59	E	.....	.....	2-3	.....	10	.....	SW	0	0	.....	E. Stephan, Director.
Mirecourt, Normal School	28.94	735.0	30.03	762.8	36.1	2.3	96	N	.....	.....	1	.....	u	N	N	0	0	.....	Barbier, Director.
Mont-Louis	24.85	631.2	30.17	766.2	50.9	10.5	74	SW	24.2	10.8	.....	.....	5	.....	SE	0	0	.....	M. Cave.
Nice	30.14	765.6	30.18	766.5	61.5	16.4	67	E	.....	.....	4	.....	10	SW	E	0	0	Covered	M. Boissière, Director.
Nismes, Normal School	29.91	759.8	30.11	764.9	60.8	16	61	SW	.....	.....	1	.....	8	.....	SW	0	0	Very cloudy	M. Boyer, Director.
Paris, Montsouris Obs'y	29.76	755.9	.....	.....	37.4	3.0	90	WNW	.....	.....	1	.....	10	.....	.....	0.228	5.8	Foggy	Marié Davy, Director.
Perpignan	29.85	758.1	29.95	760.7	59.0	15.0	87	Calm	0	0	.....	.....	10	.....	.....	0	0	Foggy	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.47	570.7	.....	.....	40.6	4.8	.....	SW	.....	.....	3	.....	10	.....	SW	0.083	2.1	Rain & snow	Gen'l de Nansouty.
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Privas, Normal School	28.97	735.9	30.04	763 1	54.5	12.5	87	S	.....	.....	3	.....	km	N	S	0	0	.....	M. Tallieu
Puy de Dome (Summit) Obs	25.07	636.7	.....	.....	42.8	6.0	94	SSW	.....	.....	3	.....	8	.....	.....	0	0	¾ covered	Alluard, Director.
Rochefort, Naval Obs'y	30.02	762.4	30.05	763.2	40.6	4.8	100	NE	.....	.....	1	.....	10	NE	NE	0	0	Covered	Lt E. Decante, Director
Rouen, Normal School	29.96	760.9	30.04	763.1	39.2	4.0	83	SSE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.00	762.1	30.04	762.9	42.4	5.8	92	SSE	.....	.....	1	.....	8	SSE	SSE	0	0	Foggy	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.87	758.8	30.04	763.0	37.0	2.8	96	NNE	.....	.....	1	.....	.....	.....	SSW.NNE	0.08	2.0	Foggy	E. Renou, Director.
Tarbes, Normal School	28.91	734.4	30.00	761.9	36.5	2.5	72	SW	.....	.....	3	.....	2	NW	SW	0	0	Slightly cld'y	T. Huguet, Director.
Toulouse, Observatory	29.31	744.4	30.03	762.8	49.6	9.8	100	NNW	.....	.....	1	.....	10	.....	.....	0.016	0.4	Covered	M. Juher Mercadier.
Tours	29.85	758.2	30.05	763.2	39.2	4.0	87	NE	.....	.....	1	.....	10	.....	.....	0.535	13.6	Rainy	Cousin-Marquet.
Versailles, Observatory	29.55	750.6	30.04	763.1	35.6	2.0	93	SW	.....	.....	1	.....	.....	.....	.....	0.070	1.78	.....	Dr. A. Berigny, Director
Villefranche-sur-Saone, N. S	29.30	744.1	30.00	762.1	56.8	13.8	98	SE	.....	.....	1	.....	5	.....	.....	0.039	10.	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.87	758.6	29.89	759.3	79.2	26.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.24	6.	.....	L'Abbé Marchésl
Zi-Ka-Wei (near Shanghai	30.10	764.4	30.12	765.0	56.5	13.6	93	NNE	6.5	2.9	.....	10ck	.....	WSW	.....	0.098	2.5	Covered	Marc Dechevreus.
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NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in gene al terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 185.0 millimeters, or 5,315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centrigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity Miles per hour.	Wind. Velocity Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.16	740.6	30.00	762.0	39.4	4.1	85	Calm			0		9ks					Raining	Prof. Dr. Hoh.
Berlin	29.83	757.6	30.00	762.1	40.6	4.8	90	W			2		10			0.020	0.5	Raining	Prof. Dr. Arndt.
Breslau	29.51	749.6	30.04	763.1	45.5	7.5	81	W			1		4			0	0		Royal University Obs'y.
Carlsruhe	29.60	751.8	30.04	762.9	42.4	5.8	97	NW			0		10			0.425	10.8	Raining	Albert Senz.
Cassel	29.43	747.5	30.04	763.0	40.3	4.6	76	NW			1		10	NW		0.091	2.30		Dr. H. Möhl.
Emden			29.97	761.2	37.0	2.8	91	WSW			2		0			0.039	1.0		Prof. Dr. Prestel.
Frankfort on the Main	29.70	754.4	30.08	763.9	39.9	4.4	86	NE			1		10			0.260	6.6	Raining	Physical Society.
Friedrichshafen	28.59	726.3	30.06	763.5	45.0	7.2	80	E			2		8	SW		0.134	3.4		Chief Telegrapher Wilhelm.
Hamburg	29.92	759.9	29.99	761.8	37.4	3.0	88	NW			2		2k			0	0	Clear	Captain F. Hegemann.
Kiel	29.91	759.8	29.93	760.2	37.0	2.8	87	SSW			1		6			0.104	2.64		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.91	759.7	30.00	761.9	37.8	3.2	87	SE			7		10			0	0		Prof. E. Luther.
Köslin			29.93	760.2	39.4	4.1		SW			2		4			0	0		H. Müller.
Leipsic Observatory	29.64	752.8	30.07	763.8	38.8	3.8	87	SW			1		10					Sprinkling	Prof. Dr. Brahms, Privy Counselor
Magdeburg	29.83	757.7	30.06	763.5	39.4	4.1	87	S			1		10ks	SW		0.004	0.1		Dr. Assmann.
Memel	29.91	759.8	29.96	761.0	36.1	2.3	93	SSE			4–5		10n						Reinbrecht & Issermann.
Munich (München)	28.20	716.3	30.08	763.9	36.1	2.3	75	Calm			0		8			0	0	Foggy	Dr. C. Lang.
Neufahrwasser	29.93	760.1	29.94	760.5	39.4	4.1	88	SSW			3		10			0	0		A. Lothes.
Neustadt (Palatinate)	29.49	749.0	30.02	762.4	41.9	5.5	94	SW			1		10			1.024	26.0		Reallehrer Dicknether.
Posen	29.71	754.5	30.00	762.1	39.2	4.0	85	S			1		10			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	29.49	749.1	30.06	763.5	42.8	6.0	97	Calm			0		10	SW		0.016	0.04	Raining	Imp. University Observatory.
Stuttgart	29.05	737.9	30.01	762.2	47.3	8.5	62	N					10			0.268	6.8	Raining	Prof. Dr. Schoder.
Weissenburg (Bavaria)	28.52	724.3	30.08	764.0	43.9	6.6	72	SE	5	2			10		SE	0	0		Reallehrer J. Hopfner.
Wustrow	29.93	760.1	29.95	760.7	38.5	3.6	83	SW			5		6ks			0	0		E. Schütz, Director.

* German Naval Series.

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 526.5 m., or 1,405.9 ft.; Weissenburg, 481 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt. Director of the Royal Observatory at Athens.

Athens	29.88	759.0	30.28	769.0	54.7	12.6		NE			3.5		10					Covered	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	30.06	763.5	30.11	764.8	71.8	22.1	40	SSW	13	5.8			0			0	0	Blue sky	
Deesa	29.61	752.0	30.09	764.4	72.9	22.7	15	NNW	7.4	3.3			0			0	0	Blue sky	
Bombay	29.94	760.4	29.98	761.4	78.3	25.7	58	NNW	20	8.9			0			0	0	Blue sky	
Poona (Yerrowda)	28.10	713.6	29.95	760.8	80.0	26.7	40	NW	5	2.2			1			0	0	D. clouds	
Belgaum	27.41	696.2	29.95	760.7	77.5	25.3	49	ESE	3	1.3			3	SW	SE	0	0	D. clouds	
Lahore	29.28	743.8	30.07	763.7	57.1	13.9	39	Calm	0.3	0.4			0			0	0	Blue sky	
Roorkee	29.06	737.6	30.00	762.0	61.2	16.2	24	NW	4.0	1.8						0	0		
Agra	29.47	748.5	30.06	763.5	62.8	17.1	39	W	4.3	1.9						0	0		
Nagpur	28.95	735.3	30.02	762.4	71.4	21.9	32	Calm	3.6	1.6						0	0	Blue sky	
Jubbulpore	28.63	727.1	30.06	763.5	57.4	14.1	60	Calm	2.3	1.0						0	0	Blue sky	
Lucknow	29.63	752.6	30.03	762.7	60.3	15.7	42	WNW	2.7	1.2						0	0	Blue sky	
Allahabad	29.71	754.6	30.04	763.0	58.6	14.8	55	Calm	3.3	1.5			0			0	0	Blue sky	
Patna	29.83	757.6	30.02	762.4	66.0	18.9	33	W	1.0	0.4			0			0	0	Blue sky	
Hazaribagh	27.95	709.8	30.04	763.1	58.8	14.9	49	WNW	8.4	3.8			0			0	0	Blue sky	
Cuttack	29.88	758.8	29.96	761.0	76.7	24.8	56	ENE	2	0.9			1			0	0	Blue sky	
Calcutta (Alipore)	29.95	760.8	29.98	761.4	66.9	19.4	64	NNW	1.0	0.4			0			0	0	Blue sky	
Goalpara	29.52	749.7	29.92	759.8	70.8	21.6	73	WNW	1.6	0.7						0	0	Blue sky	
Chittagong	29.83	757.6	29.92	759.9	74.8	23.8	77	Calm	2.3	1.0			0			0	0	Misty	
Sibsagar	29.59	751.6	29.93	760.3	72.1	22.3	80	NNE	1.3	1.6			4			0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversion are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.88	759.0	30.30	769.7	46.2	7.9	91	Calm	0	0	.....	.....	10	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.73	755.1	30.27	768.9	38.1	3.4	100	W	.....	.....	1	.....	10	.....	.....	0.709	18.0	.....	Prof. Schiaparelli.
Padua	30.15	765.8	30.26	768.7	46.0	7.8	91	Calm	0	0	.....	.....	10	SE	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.80	744.3	30.23	767.8	45.7	7.6	89	N	0	0	.....	.....	10	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	30.02	762.6	30.22	767.5	54.5	12.5	68	Calm	0	0	.....	.....	10	SE	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.29	718.6	30.25	768.4	42.6	5.9	91	N	.....	.....	2	.....	9	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.20	767.1	30.25	768.4	47.5	8.6	80	NW	3.1	1.4	.....	.....	10	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.98	761.5	30.24	768.1	53.6	12.0	70	E	.....	.....	2	.....	7	W	.....	0	0	.....	Cav. F. Meucci.
Leghorn	30.12	765.1	30.21	767.2	56.1	13.4	71	ENE	0.3	2.8	.....	.....	10	.....	.....	0	0	.....	Prof. P. Monte.
Rome	30.05	763.2	30.23	767.7	60.4	15.8	59	S	1.3	0.6	.....	.....	6	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	30.00	762.1	30.26	768.6	57.9	14.4	77	NNW	8.7	3.9	.....	.....	4	N	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.87	746.0	30.26	768.5	56.3	13.5	72	NW	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.93	760.2	30.12	765.1	63.0	17.2	72	SE	.....	.....	2	.....	4	SE	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.98	761.5	30.23	767.9	61.2	16.2	70	NE	3.8	1.7	.....	.....	1	.....	.....	0	0	.....	Prof. G. Ciacciatore.
Syracuse	30.20	767.1	30.28	769.0	61.9	16.6	80	NE	1.3	0.6	.....	.....	7	WSW	.....	0	0	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.70	754.3	30.23	767.7	61.5	16.4	66	SW	0	0	.....	.....	1	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.11	764.8	30.12	765.0	46.8	8.2	87	NNE	5.1	2.3	.....	.....	9ck	.....	W	0	0	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.93	760.2	30.14	765.5	52.1	11.2	79	NE	0.5	0.2	.....	.....	10s	.....	.....	0	0	Cloudy	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.87	758.7	29.94	760.5	45.2	7.3	93	SW	3.0	1.3	.....	10ck;cs	.....	W	.....	0	0	Cloudy	The Staff.
Wakayama	30.05	763.3	30.11	764.8	48.6	9.2	82	E	4.6	2.1	.....	.....	10s	.....	.....	0	0	Cloudy	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	25.13	638.2	30.40	772.1	37.0	2.8	48	SE	.....	.....	1	.....	6	.....	.....	0	0	Fair	Prof. L. Perez.
Leon	24.51	622.5	30.41	772.4	44.2	6.8	84	NW	.....	.....	2	4c	4s	SE	.....	0	0	Cloudy	Prof. M. Leal.
Mazatlan	29.76	756.0	30.02	762.6	67.5	19.7	69	SE	.....	.....	2	10c	0	SW	.....	0	0	Very cloudy	I. Guerrero, C. E.
Mexico, Central Observatory	23.13	587.4	30.44	773.3	37.0	2.8	83	Calm	0	0	.....	10c	0	.....	.....	0	0	Dense fog	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	42.8	6.0	77	NW	.....	.....	1	3cs	0	.....	.....	0	0	Clear	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.53	597.6	30.67	779.0	32.5	0.3	60	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.28	616.8	30.48	774.2	43.2	6.2	67	E	.....	.....	1	8	0	W	.....	0	0	Cloudy	G. Barroeta, M. D.
Tlacotalpam	30.20	767.0	30.21	767.3	63.5	17.5	92	Calm	.....	.....	0	.....	10	.....	.....	1.39	35.2	Raining	Prof. M. M. Chàzaro.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell
Zacatecas	22.58	573.5	30.45	773.5	43.2	6.2	63	Calm	.....	.....	0	3s	0	.....	.....	0	0	Clear	J. C. Castrillon.

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,708.6 m., or 5,601.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m., or 6,318.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column; the instrumental correction —0.88 mm., or —0.035 inch, has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	.....	.....	.....	.....	.....	.....	.....	SW	.....	.....	3	.....	.....	.....	.....	0	0	.....	
Groningen	30.05	763.2	30.05	763.2	38.8	3.8	.....	SW	.....	.....	.....	.....	.....	.....	.....	0	0	.....	
Helder	30.04	763.1	30.10	764.5	26.8 —	2.9	.....	SW	.....	.....	.....	.....	.....	.....	.....	0.051	1.3	.....	
Hellevoetsluis	29.95	760.8	29.95	760.8	41.2	5.1	.....	WSW	.....	.....	2 1 2	.....	.....	.....	.....	0	0	.....	
Utrecht	30.08	762.7	30.03	762.7	41.0	5.0	88	W	.....	.....	.....	.....	.....	.....	.....	0	0	.....	
.....	29.99	761.8	30.04	763.0	38.8	3.8	41	SSW	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.85	758.3	29.91	759.7	37.0	2.8	66	NNW	4.0	1.8	.....	.....	0	.....	.....	0	0	.....	
Brönö	29.93	760.2	29.97	761.2	34.2	1.2	75	N	27	12	.....	.....	9	.....	.....	0	0	.....	
Christiana	29.61	752.1	29.76	756.0	35.4	1.9	75	N	2	1	.....	.....	10	.....	.....	0.157	4.0	.....	
Tromsö	29.95	760.6	29.99	761.7	20.3	— 6.5	76	NNE	9	4	.....	.....	8	.....	.....	0.173	4.4	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	29.98	761.6	30.18	766.5	60.8	16.0	59	ENE	18.1	8.1	.....	.....	4	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.01	736.8	30.03	762.8	62.6	17.0	88	SSW	6.3	2.8	.....	.....	10	.....	.....	0.567	14.4	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	29.68	753.8	29.76	756.0	69.8	21.0	81	E	8.1	3.6	.....	.....	10	.....	.....	0.445	11.3	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.69	754.1	30.05	763.3	57.9	14.4	91	NNE	7.4	3.3	.....	.....	10	SSW	.....	0.110	2.8	.....	The Staff.
Ponta Delgada (Azores)	30.03	762.7	30.10	764.5	62.6	17.0	61	ENE	18.6	8.3	.....	.....	3	.....	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	A. M. de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Matto	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	J. T. d'Oliveria, Com'd't
Rio Lima, Capt. S. C. da Silva Costa, Porto Praya, Cape Verd I'ds.	.....	.....	.....	
Sà da Bandeira	0	.....	D. clouds.....	A. D. de Fouseca Sarurento.....
Sado, Capt. J. A de Brito Capello, St. Paul de Loando	.....	.....	D. clouds.....	Louiz Apra, Q. Ma.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	3	NNE	Overcast.....	H. Mecudonco, 2nd Lieut.
	.....	.....	.....	J. G. Felgo, 2nd Lieut.
	.....	.....	.....	

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between upper and lower clouds, and no humidity is given; duration of rain-fall in hours. The Sà da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	29.58	751.3	29.60	751.8	27.3	— 2.6	92	SSW	22	10	.....	.....	10	.....	.....	.....	.....	Snow-drift..	Capt. Sseliwerstow
Astrakhan	30.90	784.9	30.82	782.8	32.0	0.0	65	ESE	7	3	.....	.....	0	.....	.....	.....	.....	.....	Capt. Wisganow.
Barnaul	29.87	758.6	30.47	773.9	—27.6	—33.1	87	W	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	29.80	756.8	30.05	763.3	31.5	— 0.3	96	S	9	4	.....	.....	10n	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	29.10	739.1	30.12	765.1	21.2	— 6.0	71	WSW	45	20	.....	.....	9	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	30.23	767.8	30.52	775.2	22.1	— 5.5	85	SW	9	4	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.91	759.6	30.59	776.9	28.0	— 2.2	98	SSE	7	3	.....	.....	10n	.....	.....	.....	.....	Light fog.....	Physical Cabinet.
Krotkowo*	30.18	766.5	30.69	779.6	22.3	— 5.4	72	SW	0	0	.....	.....	2s	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	30.36	771.2	30.58	776.7	32.0	0.0	85	E	4	2	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Moscow	29.89	759.1	30.47	773.9	28.9	— 1.7	90	S	7.8	3.5	.....	.....	9ks	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	27.60	701.0	30.12	765.0	1.8	—16.8	89	SSW	2	1	.....	.....	2	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Nikolaiev	30.39	771.9	30.46	773.7	34.2	1.2	91	ENE	9	4	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	30.70	779.7	30.96	786.3	16.7	— 8.5	49	ENE	4	2	.....	.....	1s	.....	.....	.....	.....	.....	
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	29.98	761.4	30.12	765.0	42.6	5.9	68	Calm	0	0	.....	.....	2k	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	29.97	761.3	29.99	761.7	29.3	— 1.5	98	S	16	7	.....	.....	10n	.....	.....	.....	.....	.....	Central Physical Obs.
Tashkend	29.03	737.3	30.79	782.0	12.2	—11	72	NW	65	29	.....	.....	10	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	29.16	740.6	30.63	778.0	47.1	8.4	87	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	29.65	753.2	30.09	764.3	37.0	2.8	91	SE	11	5	.....	.....	9ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.74	755.4	30.18	766.5	35.1	1.7	88	S	16	7	.....	.....	10	.....	.....	.....	.....	Heavy clouds...	Astronomical Obs.
Yenisiesk	29.90	759.4	30.24	768.0	—21.6	—29.8	77	SSW	4	2	.....	.....	1	.....	.....	.....	.....	.....	Marks.
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 45° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	29.90	759.4	30.00	762.1	64.6	18.1	66	S	3.2	1.44	.....	.....	0	.....	.....	0	0	Clear.	Antonio Rave, Director
Bilbao, Met. Obs'y	29.96	761.0	30.02	762.5	50.5	10.3	98	W	0.6	0.28	.....	.....	10	.....	.....	0.433	11.0	Raining	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.01	686.0	.....	.....	50.9	10.5	97	SW	3.8	1.71	.....	0	9	.....	.....	0.472	12.0	Almost cov'd	Domingo Martin y Perez.
Madrid, Royal Observatory	27.80	706.0	30.02	762.4	58.1	14.5	91	S	16.4	7.33	.....	0	9	.....	.....	0.232	5.9	Almost cov'd	The Staff.
Murcia, Met. Obs'y	29.90	759.4	30.05	763.2	71.6	22.0	60	SW	0.4	0.17	.....	3	4	NE	.....	0	0	Cloudy.....	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.12	739.7	30.03	762.8	48.6	9.2	80	NNE	21.7	9.7	.....	.....	10	.....	.....	0.008	0.2	Covered.....	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.14	765.4	30.20	767.1	69.9	21.1	64	NNE	14.8	6.6	.....	1ck	5k	.....	NE	0	0	Fair.....	Benito Vines S. J.
Manilla, Philippine Islands	29.79	756.6	29.84	758.0	79.0	26.1	94	N	0	0	.....	.....	10n	.....	W	0.19	4.8	Covered.	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.94	760.4	30.04	762.9	68.5	20.3	75	WNW	5.2	2.3	.....	0	6	.....	W	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.87	758.7	29.96	761.0	78.4	25.8	83	SE	0	0	.....	6ks	3kn	SE	SE	0.010	0.25	Cloudy.....	Enrique Gadea, Chief Eng'r

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.69	754.2	29.73	755.2	26.6	— 3.0	.....	N	.....	.....	6	.....	10	.....	.....	0.236	6.0	Snowing.	
Umea	29.70	754.4	29.75	755.7	32.4	0.2	85	NE	.....	.....	6	.....	8	.....	.....	0.-	0	.....	
Hernosand	29.71	754.6	29.76	755.9	35.2	1.8	78	NNW	.....	.....	2	.....	3	.....	.....	0.016	0.4	.....	
Stockholm	29.53	750.0	29.71	754.5	38.8	3.8	97	W	.....	.....	2	.....	10	.....	.....	0.043	1.1	.....	
Wisby	29.72	755.0	29.78	756.5	41.4	5.2	94	WSW	.....	.....	6	.....	10	.....	.....	.....	.....	Raining.....	
Sub-Series.																			
Upsala	29.60	751.8	29.69	754.0	33.6	0.9	100	NE	6.0	2.7	.....	.....	10	.....	.....	0.364	9.24	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.61	726.8	30.07	763.7	45.0	7.2	97	NE	.....	.....	1	.....	10	.....	.....	0.071	1.8	Covered.....	The Observatory.
Zurich	28.42	721.8	30.10	764.4	43.0	6.1	88	W	.....	.....	2	.....	9	.....	.....	0.220	5.6	Foggy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, +0.2 mm.; Thermometer, +1.8 Cent.; Relative Humidity, +19 per cent.
NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.30	769.5	49.1	9.5	92	N	9	4.0	.....	.....	10	.....	NE	0.039	1.0	Raining.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.31	769.8	59.9	15.5	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear.	A. Bertrand.
Sub-series.																			
Beirut, (Syria) Lee Obs'y	29.90	759.4	30.01	762.3	69.3	20.7	53	NE	.....	.....	2	2c	.....	.....	.....	0	0	D. clouds.....	Prof. C. V. A. van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B.	30.15	765.8	30.22	767.6	20.4	— 6.4	93	SE	2	0.9	.....	8c	2ks	W	.....	0	0	Cloudy.....	G. A. Blair.
Charlottetown, P. E. Island	.....	.....	.....	.....	.....	.....	.....	.....	12	5.4	.....	.....	.....	.....	.....	0.31	7.9	.....	H. J. Cundall, C. E.
Cornwall, Ontario	29.45	748.0	29.65	753.1	30.3	— 0.9	87	SW	.....	.....	3	.....	10n	.....	.....	0.02	0.5	Cloudy.....	James Smith, M. A.
Dalhousie, N. B.	29.96	761.0	30.14	765.5	24.5	— 4.2	.....	E	.....	.....	2	.....	10ks	.....	.....	0	0	Gloomy.....	H. A. Johnson.
Father Point, Quebec	29.90	759.4	29.92	760.0	24.4	— 4.2	81	SW	19	8.5	.....	.....	10n	.....	.....	.....	.....	Light snow.	J. McWilliams.
Fredericton, N. B.	30.08	764.0	30.14	765.5	29.0	— 1.7	89	SE	8	3.6	.....	.....	10s	.....	.....	0.20	5.1	Overcast....	Prof. Harrison.
Fort Garry, Manitoba..	29.35	745.5	30.28	769.1	— 3.7	—19.8	90	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear.	James Stewart.
Granton, Ontario	28.49	723.6	29.62	752.3	31	— 0.6	.....	NW	.....	.....	2	.....	10n	.....	.....	0.30	7.6	Cloudy.....	James Grant.
Halifax, N. S.	30.22	767.6	30.36	771.1	35.8	2.1	93	SE	13	5.8	.....	.....	10n	.....	.....	0	0	Cloudy.....	A. Allison.
Hamilton, Ontario	29.29	744.0	29.67	753.6	34.7	1.5	94	S	.....	.....	1	.....	10cs	.....	S	0.10	2.5	Cloudy.....	Geo. Dickson, B. A.
Heart's Content, N. F.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.23	742.4	29.58	751.3	35.1	1.7	97	S	21	9.4	.....	.....	10ks	.....	.....	0.41	10.4	Cloudy.....	S. Woods, M. A.
Little Glace Bay, N. S.	30.31	769.9	30.34?	770.6?	.....	.....	.....	S	9	4.0	.....	.....	10n	.....	.....	0	0	Overcast....	C. H. Rigby.
Montreal, Quebec	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. H. McLeod, C. E.
Moose Factory, Ontario	29.59	751.6	29.63	752.6	1.4	—17.0	97	W	.....	.....	2	.....	10	.....	.....	0.40	10.2	Cloudy.....	J. R. Nason.
Norwood	28.71	729.2	29.47	748.5	33.0	0.6	89	SW	.....	.....	3	4k	0	SW	.....	0	0	Clearing.....	Rev. T. F. Fotheringham, M. A.
Parry Sound, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. R. Mosley.
Peterboro, Ontario	28.79	731.3	29.56	750.8	30.7	— 0.7	95	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine.	J. F. Jeffers, M. A.
Port Dover, Ontario	28.92	734.6	29.62	752.3	36.0	2.2	90	W	13	5.8	.....	8k	0	W	.....	0.14	3.6	Fair.....	H. Morgan.
Port Hastings, N. S.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.02	737.1	29.68	753.9	35.8	2.1	74	W	28	12.5	.....	.....	10n	.....	SW	0.06	1.5	Heavy snow	M. Payne.
Quebec, Quebec	29.50	749.3	29.84	757.9	25.5	— 3.6	81	E	.....	.....	3	.....	10n	.....	.....	.....	.....	Light snow.	Capt. Ashe, R. N.
Rockliffe, Ontario	29.01	736.8	29.48	748.8	29.1	— 1.6	83	SE	6	2.7	.....	.....	10s	.....	SE	0.40	10.2	Light snow.	W. H. McIntyre.
St. Andrews, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Gove.
St. John, N. B.	29.98	761.5	30.15	765.8	34	1.1	74	SE	17	7.6	.....	.....	10n	.....	.....	0.17	4.3	Overcast....	G. Murdock, C. E.
Saugeen, Ontario	28.87	733.3	29.61	752.1	30.0	— 1.1	90	NW	32	14.3	.....	.....	10s	.....	.....	0.60	15.2	Overcast....	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.29	718.6	29.61	752.1	28.8	— 1.8	96	NW	15	6.7	.....	.....	10s	.....	.....	0.25	6.3	Cloudy.....	C. J. MacGregor, M. A.
Sydney, C. B.	30.44	773.2	30.48	774.2	26.2	— 3.2	80	E	4	1.8	.....	.....	10s	.....	.....	0.01	0.3	Overcast....	T. C. Hill, C. E.
Toronto, Ontario	29.21	741.9	29.61	752.1	33.3	0.7	78	SW	10	4.5	.....	5cs	5s	W	.....	0.01	0.3	Cloudy.....	Magnetic Observatory.
Windsor, N. S.	30.20	767.1	30.30	769.6	21.0	— 6.1	100	SW	1	0.4	.....	.....	10n;s	.....	.....	0	0	Cloudy.....	Prof. John E. Oram, M. A.
Woodstock, Ontario	28.53	724.6	29.62	752.3	32.9	0.5	92	SW	23	10.3	.....	.....	10s	.....	W	0.25	6.3	Overcast....	Prof. J. Montgomery.
Yarmouth, N. S.	30.14	765.5	30.21	767.3	35.0	1.7	86	SE	.....	.....	3	.....	10n	.....	.....	0.02	0.5	Raining	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	30.37	771.4	30.64	778.2	23.0	— 5.0	86	W	.....	.....	.....	0	0	.....	.....	0.01	0.3	Clear.	John Delany.
St. Pierre, N. F., l'Hopital Maritime.	.....	.....	30.41	772.3	33.8	1,	.....	SW	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	The Commandant.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10, except Yarmouth and St. Johns on scale 0 to 20. At St. Andrews the velocity of the wind is estimated, and at St Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of BVT. BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0–10.	CLOUDS. Amount. Up'er 0–10.	CLOUDS. Amount. Lo'er 0–10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.62	752.3	29.86	758.4	32	0.0	79	S	20	8.9	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Alpena, Michigan	29.07	738.4	29.73	755.1	30	— 1.1	89	NW	11	4.9	.....	.....	10n	.....	NW	Inap.	Inap.	Light snow..	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	29.03	737.3	30.22	767.6	39	3.9	55	S	13	5.8	.....	0	Sm'e	.....	Calm	0	0	Clear.	
Atlantic City, New Jersey	29.97	761.2	29.98	761.5	44	6.7	52	SW	24	10.7	.....	10k	0	SW	.....	0	0	Cloudy.....	
Augusta, Georgia	30.09	764.3	30.30	769.6	33	0.6	79	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Clear.	
Baltimore, Maryland	29.94	760.5	29.99	761.7	37	2.8	45	W	8	3.6	.....	2k	5s	W	W	0	0	Fair...	
Barnegat, New Jersey	29.94	760.5	29.96	761.0	41	5.0	82	SW	20	8.9	.....	0	8s	.....	W	0	0	Fair...	
Bismarck, Dakota	28.37	720.6	30.23	767.8	12	—11.1	80	Calm	0	0	.....	0	0	.....	.....	Inap.	Inap.	Clear.	
Boerne, Texas	28.74	730.0	30.10	764.5	42	5.6	83	SW	1	0.4	.....	2c	0	Calm	.....	0	0	Clear.	
Boise City, Idaho	27.41	696.2	30.37	771.4	24	— 4.4	74	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Boston, Massachusetts	29.80	756.9	29.96	761.0	34	1.1	100	S	6	2.7	.....	.....	10s	.....	SE	0.02	0.5	Cloudy.....	
Brackettville, Texas	28.98	736.1	30.06	763.5	48	8.9	85	E	6	2.7	.....	0	2s	.....	Calm	0	0	Fair...	
Breckenridge, Minnesota	29.23	742.4	30.34	770.6	4	—15.6	100	NW	6	2.7	.....	0	0	.....	.....	Inap.	Inap.	Clear.	
Brownsville, Texas	30.14	765.5	30.18	766.6	60	15.6	88	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Buffalo, New York	28.91	734.3	29.60	751.8	39	3.9	64	W	15	6.7	.....	0	8ks	.....	SW	0.08	2.0	Fair...	
Burkes, Arizona	.....	.....	.....	.....	40	4.4	73	E	.....	.....	1	2c	2s	E	Calm	0	0	Fair...	
Burlington, Vermont	29.47	748.5	29.76	755.9	30	— 1.1	89	S	20	8.9	.....	.....	10n	.....	S	Inap.	Inap.	Light snow.	
Cairo, Illinois	29.85	758.2	30.26	768.6	42	5.6	66	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Campo, California	27.49	698.2	30.06	763.5	24	— 4.4	74	E	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Cape Hatteras, N. Carolina	30.20	767.1	30.20	767.1	44	6.7	76	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Cape Henry, Virginia	30.09	764.3	30.11	764.8	39	3.9	59	SW	20	8.9	.....	0	0	.....	.....	0	0	Clear.	
Cape Lookout, N. Carolina	30.19	766.8	30.21	767.3	52	11.1	47	W	24	10.7	.....	0	0	.....	.....	0	0	Clear.	
Cape May, New Jersey	29.95	760.7	29.98	761.5	47	8.3	55	SW	36	16.1	.....	5k	Haze	W	.....	0	0	Fair...	
Castroville, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Cedar Keys, Florida	30.31	769.9	30.34	770.6	44	6.7	68	N	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Charleston, South Carolina	30.22	767.6	30.28	769.1	42	5.6	83	W	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Charlotte, North Carolina	29.28	743.7	30.12	765.0	37	2.8	63	SW	6	2.7	.....	0	Sm'e	.....	Calm	0	0	Clear.	
Chattanooga, Tennessee	29.39	746.5	30.22	767.6	40	4.4	56	NW	8	3.6	.....	1cs	Sm'e	Calm	Calm	0	0	Clear.	
Cheyenne, Wyoming	24.14	613.1	30.08	764.0	28	— 2.2	54	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Chicago, Illinois	29.24	742.7	29.96	761.0	30	— 1.1	68	W	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Cincinnati, Ohio	29.38	746.2	30.04	763.0	40	4.4	43	W	8	3.6	.....	4k	0	W	.....	0	0	Fair...	
Cleveland, Ohio	29.05	737.9	29.78	756.4	36	2.2	80	SW	24	10.7	.....	.....	10ks	.....	NW	0.03	0.8	Cloudy.....	
Coleman City, Texas	28.49	723.6	30.25	768.3	36	2.2	53	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Columbus, Ohio	29.09	738.9	29.95	760.7	34	1.1	79	W	20	8.9	.....	0	0	.....	.....	0	0	Clear.	
Concho, Texas	28.29	718.6	30.06	763.5	35	1.7	61	Calm	0	0	.....	0	0	.....	.....	0	0	Fair...	
Corsicana, Texas	29.72	754.9	30.20	767.1	48	8.9	56	S	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Davenport, Iowa	29.42	747.3	30.10	764.5	28	— 2.2	54	W	13	5.8	.....	0	0	.....	.....	0	0	Clerr.	
Deadwood, Dakota	25.46	646.7	.....	.....	25	— 3.9	50	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Decatur, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Denison, Texas	29.37	746.0	30.19	766.8	42	5.6	58	N	5	2.2	.....	0	0	.....	.....	0	0	Clear.	
Denver, Colorado	24.93	633.2	30.15	765.8	25	— 3.9	75	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear.	
Des Moines, Iowa	29.33	745.0	30.27	768.8	25	— 3.9	62	N	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Detroit, Michigan	29.08	738.6	29.76	755.9	32	0.0	69	W	12	5.4	.....	.....	10s	.....	W	0.01	0.3	Cloudy.....	
Dodge City, Kansas	27.68	703.1	30.15	765.8	22	— 5.6	72	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Dubuque, Iowa	29.41	747.0	30.16	766.1	23	— 5.0	60	NW	15	6.7	.....	1k	0	NW	.....	0	0	Clear.	
Duluth, Minnesota	29.41	747.0	30.15	765.8	12	—11.1	80	NW	4	1.8	.....	0	0	.....	.....	0.07	1.8	Clear.	
Eagle Pass, Texas	29.56	750.8	30.31	769.9	53	11.7	67	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Eastport, Maine	30.03	762.7	30.09	764.3	38	3.3	72	S	18	8.0	.....	.....	10ks	.....	S	0	0	Threatening	
Edinburg, Texas	.....	.....	.....	.....	53	11.7	93	Calm	.....	.....	0	5c	2s	Calm	Calm	0	0	Fair...	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	28.93	734.8	29.65	753.1	36	2.2	80	SW	19	8.5	.....	.....	10n	.....	Calm	0.08	2.0	Light snow.	
Escanaba, Michigan	29.23	742.4	29.92	760.0	16	— 8.9	66	NW	16	7.2	.....	0	2s	.....	NW	0.15	3.8	Fair...	
Florence, Arizona	28.56	725.4	30.16	766.1	49	9.4	57	E	8	3.6	.....	5cs	0	Calm	.....	0	0	Fair	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	28.08	713.2	30.06	763.5	15	— 9.4	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Fort Custer, Montana	26.88	682.7	.....	.....	22	— 5.6	72	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Fort Davis, Texas	25.31	642.9	30.27	768.8	32	0.0	50	NW	1	0.4	.....	2c	0	SW	.....	0	0	Fair...	
Fort Gibson, Indian Ter	29.72	754.9	30.29	769.4	34	1.1	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Fort Grant, Arizona	25.28	642.1	30.08	764.0	46	7.8	28	E	4	1.8	.....	0	5s	.....	Calm	0	0	Fair...	
Fort Griffin, Texas	28.88	733.5	30.20	767.1	43	6.1	59	W	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Fort Keogh, Montana	27.48	698.0	.....	.....	23	— 5.0	60	W	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Fort McKavett, Texas	27.90	708.6	29.88	758.9	40	4.4	73	NW	1	0.4	.....	1c	0	S	.....	0	0	Clear.	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	29.00	736.6	30.16	766.1	39	3.9	64	N	12	5.4	.....	0	0	.....	.....	0	0	Clear.	
Fort Stevenson, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Verde, Arizona	.....	.....	.....	.....	30	— 1.1	69	NW	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.33	719.6	29.88	758.9	59	15.0	76	N	2	0.9	.....	5cs	0	Calm	.....	0	0	Fair...	
Galveston, Texas	30.20	767.1	30.25	768.3	59	15.0	94	SW	2	0.9	.....	2ck	0	W	.....	0	0	Clear.	
Graham, Texas	28.99	736.3	30.09	764.3	32	0.0	59	Calm	0	0	.....	2	0	W	.....	0	0	Fair...	
Grand Haven, Michigan	29.20	741.7	29.88	758.9	30	— 1.1	78	SW	26	11.6	.....	.....	10s	.....	SW	0.02	0.5	Cloudy.....	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.22	742.2	30.30	767.1	40	4.4	48	NE	10	4.5	.....	0	0	.....	.....	0	0	Clear.	
Indianapolis, Indiana	29.21	741.9	30.01	762.2	34	1.1	53	W	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Indianola, Texas	30.22	767.6	30.25	768.3	57	13.9	81	S	8	3.6	.....	0	1s	.....	S	0	0	Clear.	
Jacksboro, Texas	28.98	736.1	30.16	766.1	40	4.4	56	SE	10	4.5	.....	0	0	.....	.....	0	0	Clear.	
Jacksonville, Florida	30.32	770.1	30.34	770.6	40	4.4	73	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Keokuk, Iowa	29.47	748.5	30.12	765.0	32	0.0	59	NW	18	8.0	.....	0	0	.....	.....	0	0	Clear.	
Key West, Florida	30.20	767.1	30.24	768.1	65	18.3	63	NE	17	7.6	.....	0	0	.....	.....	0	0	Clear.	
Kittyhawk, North Carolina	30.16	766.1	30.19	766.8	40	4.4	73	W	13	5.8	.....	0	Haze	.....	Calm	0	0	Clear.	
Knoxville, Tennessee	29.16	740.7	30.21	767.3	36.5	2.5	57	W	8	3.6	.....	Haze	Sm'e	.....	.....	0	0	Smoky.....	
La Crosse, Wisconsin	29.33	745.0	30.11	764.8	21	— 6.1	71	N	15	6.7	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy.....	
La Mesilla, New Mexico	26.22	666.0	30.37	771 4	27	— 2.8	53	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Laredo, Texas	29.82	757.4	30.16	766.1	61	16.1	61	Calm	0	0	.....	2k	0	W	.....	0	0	Clear.	
Leavenworth, Kansas	29.37	746.0	30. 6	768.6	33	0.6	70	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Little Rock, Arkansas	29.92	760.0	30.30	769.6	42	5.6	74	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Los Angeles, California	29.70	754.4	30.04	763.0	47.5	8.6	52	NE	7	3.1	.....	0	0	.....	.....	0	0	Clear.	
Louisville, Kentucky	29.52	749.8	30.10	764.5	42	5.6	50	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Lynchburg, Virginia	29.36	745.7	30.08	764.0	31	— 0.6	78	SW	1	0.4	.....	0	Sm'e	.....	Calm	0	0	Clear.	
Madison, Wisconsin	28.95	735.3	29.98	761.5	25	— 3.9	87	NW	12	5.4	.....	.....	10s	.....	NW	0.02	0.5	Cloudy.....	
Marquette, Michigan	29.20	741.7	29.95	760.7	17	— 8.3	83	NW	20	8.9	.....	.....	10ks	.....	W	0.25	6.3	Cloudy.....	
Mason, Texas	28.53	724.6	30.38	771.6	36	2.2	61	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Memphis, Tennessee	29.89	759.2	30.24	768.1	44	6.7	76	W	2	0.9	.....	0	Sm'e	.....	Calm	0	0	Clear	
Milwaukee, Wisconsin	29.21	741.9	29.98	761.5	25	— 3.9	75	NW	16	7.2	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy.....	
Mobile, Alabama	30.28	769.1	30.33	770.4	39.5	4.2	86	W	2	0.9	.....	0	Sm'e	.....	.....	0	0	Smoky.....	
Montgomery, Alabama	30.09	764.3	30.34	770.6	36	2.2	80	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Clear.	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Morgantown, West Virginia	28.89	733.8	29.87	758.7	47	8.3	41	SW	16	7.2	.....	.....	10ks	.....	SW	0	0	Cloudy.....	
Mt. Washington, N. H.....	23.38	593.8	29.74	755.4	12	—11.1	100	SW	54	24.1	.....	.....	10n	.....	SW	0.56	14.2	Light snow.	
Nashville, Tennessee.....	29.68	753.9	30.24	768.1	39	3.9	82	Calm	0	0	.....	0	Sm'e	.....	Calm	0	0	Clear.....	
New Haven, Connecticut.....	29.82	757.4	29.94	760.5	45	7.2	53	SW	13	5.8	.....	.....	10s	.....	SW	Inap.	Inap.	Cloudy.....	
New London, Connecticut...	29.92	760.0	29.97	761.2	42	5.6	66	SW	9	4.0	.....	.....	10s	.....	SW	0.03	0.8	Cloudy.....	
New Orleans, Louisiana.....	30.24	768.1	30.30	769.6	52	11.1	73	SE	4	1.8	.....	0	Haze	.....	Calm	0	0	Hazy.	
Newport, Rhode Island.....	29.96	761 0	30.01	762.2	42	5.6	83	SW	4	1.8	.....	.....	10s	.....	SW	0.16	4.1	Cloudy.....	
New York, New York.....	29.77	756.1	29.95	760.7	40	4.4	56	SW	18	8.0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Norfolk, Virginia.....	30.07	763.8	30.13	765.3	35	1.7	53	N	12	5.4	.....	0	0	.....	.....	0	0	Clear	
North Platte, Nebraska.....	27.31	693.7	30.08	764.0	19	— 7.2	69	W	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Olympia, Washington Ter...	30.12	765.0	30.16	766.1	37.0	2.8	95	SE	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Omaha, Nebraska.....	29.10	739.1	30.27	768.8	30	— 1.1	68	NW	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Oswego, New York.....	29.38	746.2	29.70	754.4	36	2.2	71	S	16	7.2	.....	.....	10n	.....	Calm	0.02	0.5	Light snow.	
Pembina, Dakota.....	29.30	744.2	30.24	768.1	— 5	—20.6	100	NW	4	1.8	.....	0	0	.....	.....	0.01	0.3	Clear	
Pensacola, Florida.....	30.31	769.9	30.34	770.6	39	3.9	82	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Philadelphia, Pennsylvania	29.91	759.7	29.97	761.2	37	2.8	63	SW	14	6.3	.....	.....	10s; hz	.....	W; Calm	0	0	Cloudy.....	
Phœnix, Arizona.....	28.88	733.5	30.73	780.5	47	8.3	55	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Pike's Peak, Colorado.....	17.88	454.1	30.10	764.5	16	— 8.9	.....	NW	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas.....	29.48	748.8	30.43	772.9	48	8.9	42	NE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Pioche, Nevada.....	.....	.....	.....	.....	40	4.4	25	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear.	
Pittsburg, Pennsylvania.....	29.02	737.1	29.84	757.9	40	4.4	56	W	12	5.4	.....	0	5s	.....	W	0	0	Fair.....	
Port Huron, Michigan.....	29.04	737.6	29.71	754.6	30	— 1.1	89	NW	17	7.6	.....	.....	10n	.....	NW	0.10	2.5	Light snow.	
Portland, Maine.....	29.94	760.5	29.99	761.7	37	2.8	81	SW	4	1.8	.....	.....	10n	.....	Calm	0.11	2.8	Sleeting.....	
Portland, Oregon.....	30.13	765.3	30.21	767.3	33.5	0.8	95	NW	1	0.4	.....	0	Fog	.....	Calm	0	0	Clear	
Portsmouth, N. Hampshire..	.....	.....	.....	.....	45	7.2	76	W	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Prescott, Arizona.....	24.85	631.2	30.21	767.3	27	— 2.8	76	Calm	.....	.....	0	0	2s	.....	NE	0	0	Fair.....	
Punta Rassa, Florida.....	30.28	769.1	30.29	769.4	52	11.1	47	N	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Red Bluff, California.....	29.78	756.4	30.15	765.8	39	3.9	82	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas.....	29.97	761.2	30.20	767.1	54	12.2	87	SE	4	1.8	.....	5c	0	Calm	.....	0	0	Fair.....	
Rochester, New York.....	29.02	737.1	29.64	752.8	35	1.7	90	W	12	5.4	.....	.....	10n	.....	SW	Inap.	Inap.	Light snow.	
Roseburg, Oregon.....	29.61	752.1	30.20	767.1	33	0.6	100	NE	1	0.4	.....	.....	Fog	.....	NE	0	0	Foggy	
Sacramento, California.....	30.03	762.7	30.11	764.8	41	5.0	91	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri.....	29.59	751.6	30.19	766.8	37	2.8	45	W	23	10.3	.....	0	0	.....	.....	0	0	Clear.	
St. Paul, Minnesota.....	29.26	743.2	30.16	766.1	16	— 8.9	66	NW	12	5.4	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Salt Lake City, Utah.....	25.87	657.1	30.20	767.1	24	— 4.4	61	SE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
San Antonio, Texas.....	29.51	749.5	30.12	765.0	47	8.3	85	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
San Diego, California.....	29.99	761.7	30.06	763.5	49	9.4	57	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Sandusky, Ohio.....	30.13	765.3	29.81	757.2	35	1.7	70	W	25	11.2	.....	.....	10ks	.....	SW	Inap.	Inap.	Cloudy.....	
Sandy Hook, New Jersey.....	29.91	759.7	29.94	760.5	39	3.9	73	SW	22	9.8	.....	2c	8s	Calm	Calm	0	0	Cloudy.....	
San Francisco, California....	30.02	762.5	30.09	764.3	50	10.0	79	N	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Santa Fé, New Mexico.....	23.43	595.1	29.97	761.2	31	— 0.6	69	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia.....	30.22	767.6	30.32	770.1	46	7.8	62	SW	5	2.2	.....	0	Fog	.....	Calm	0	0	Clear.	
Shreveport, Louisiana.....	30.00	762.0	30.22	767.6	44	6.7	68	S	4	1.8	.....	0	1s	.....	Calm	0	0	Clear.	
Silver City, New Mexico.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina..	30.22	767.6	30.26	768.6	46	7.8	62	W	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Socorro, New Mexico.....	25.59	650.0	29.65	753.1	31	— 0.6	48	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois.....	29.44	747.8	30.14	765.5	34	1.1	61	W	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Springfield, Massachusetts..	29.80	756.9	29.94	760.5	35	1.7	61	S	6	2.7	.....	.....	10s	.....	S	0	0	Threatening	
Stockton, Texas.....	27.07	687.6	30.07	763.8	35	1.7	10	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass.....	29.90	759.4	29.96	761.0	41	5.0	91	SW	16	7.2	.....	.....	10n	.....	SW	0.14	3.6	Light rain...	
Toledo, Ohio.....	29.14	740.1	29.84	757.9	34	1.1	79	W	10	4.5	.....	.....	8s	.....	W	0.01	0.3	Clearing.....	
Tucson, Arizona.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon.....	29.95	760.7	30.48	774.2	27.0	— 2.8	94	SE	4	1.8	.....	.....	10n	.....	SE	Inap.	Inap.	Light snow.	
Uvalde, Texas.....	29.28	743.7	30.11	764.8	50	10.0	79	NE	3	1.3	.....	10c	0	NW	.....	0	0	Cloudy.....	
Vicksburg, Mississippi.....	30.02	762.5	30.29	769.4	45	7.2	76	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Virginia City, Montana.....	24.34	618.2	29.82	757.4	26	— 3.3	63	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Visalia, California.....	29.66	753.4	30.05	763.3	38	3.3	91	ı	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.....	29.87	758.7	29.99	761.7	36	2.2	53	SW	8	3.6	.....	2k	0	SW	.....	0	0	Fair.....	
Wickenburg, Arizona.....	.....	.....	.....	.....	36	2.2	53	W	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, North Carolina	30.16	766.1	30.24	768.1	41	5.0	65	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Winnemucca, Nevada.....	25.82	655.8	30.18	766.6	11	—11.7	79	NE	5	2.2	.....	0	0	.....	.....	0	0	Clear.	
Wood's Holl, Massachusetts	29.96	761.0	30.00	762.0	44	6.7	84	SW	12	5.4	.....	.....	10ks	.....	SW	0.03	0.8	Threatening	
Yankton, Dakota.....	28.95	735.3	30.37	771.4	18	— 7.8	52	N	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Yuma, Arizona.....	29.89	759.2	30.06	763.5	46	7.8	54	E	5	2.2	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Fayetteville, Arkansas.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.....	30.11	764.8	30.16	766.1	72	22.2	63	NE	3.6	1.6	.....	0	8ks	.....	NE	0	0	Cloudy.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I.....	30.08	764.0	30.09	764.3	77	25.0	87	Calm	0	0	.....	8c	2s	Calm	.....	0	0	Fair.....	James Gall.
Medellin, Colombia, S. A..*	25.18	639.6	.....	.....	65.0	18.3	85	Calm	.....	.....	0	.....	10n	.....	.....	0.31	7.9	.....	Thomas Herran.
Navassa, W. I.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.91	759.7	29.91	759.7	83	28.3	75	ı	.....	.....	3	3c	6k	E	.....	0	0	⅝ cloudy.....	C. J. Hering.
Santiago de Cuba, W. I.....	29.97	761.2	30.00	762.0	74	23.3	81	N	12	5.4	.....	8ck	8ks	.....	N	0	0	.....	Robert Mason.
St. Thomas, W. I.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.....	29.94	760.5	29.99	761.7	— 6.0	—21.1	81	N	12	5.4	.....	0	1s	.....	N	0	0	Fair.....	J. Fortescue & W. Wood.
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NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Medellin, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m., Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm. *The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.29‡	769.4‡	.....	.....	41	5.0	91	W	2	0.9	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Navy Yard, Portsmouth, N.H	30.13‡	765.3‡	.....	.....	28	—2.2	82	W	2	0.9	.....	.....	2	.....	.....	0	0	.....	.....	Pleasant	
Naval Hospital, Yokohama, Japan	29.95‡	760.7‡	.....	.....	49.5	9.7	78	Calm	.....	.....	0	ck	9s	.....	W	0	0	.....	.....	Cloudy	
Adams,																					
Mare I'd., Navy Yard, Cal.	30.09‡	764.3‡	.....	.....	50	10.0	93	E	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Alaska, Iquique, Peru	.....*	30.01‡	762.2‡	.....	.....	64	17.8	83	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....	Overcast
Alliance, N. 19° 09′, W. 48° 15′	.....	30.06‡	763.5‡	.....	.....	79	26.1	57	NE	.....	.....	5	.....	8	.....	NE	.....	.....	Mod'ate	NE	D. clouds
Colorado, New York, N. Y.	.....	29.91‡	759.7‡	.....	.....	40	4.4	61	SSW	5.5	2.5	.....	.....	10	.....	SW	0	0	.....	.....	Misty
Constitution, Navy Yard, Norfolk, Va.		30.16‡	766.1‡	.....	.....	35	1.7	100	S	5	2.2	.....	.....	1	.....	SE	.....	.....	.....	.....	Pleasant
Enterprise, Alexandria, Egypt	.....	30.11‡	761.8‡	.....	.....	70	21.1	85	NNW	.....	.....	3	.....	4	.....	NNW	.....	.....	Smooth	.....	Clear
Franklin, Off Navy Yard, Norfolk, Va.		30.16‡	766.1‡	.....	.....	37	2.8	67	SSW	12	5.4	.....	.....	2	.....	.....	0.01	0.3	.....	.....	Clear
Hartford. Boston, Mass	.....	30.01‡	762.2‡	.....	.....	40	4.4	91	S	.....	.....	4	.....	10	.....	S	0	0	Smooth	.....	Cloudy
Independence, Mare I'd, Navy Yard, Cal.		30.10‡	764.5‡	.....	.....	59	15.0	70	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	.....	Clear
Kearsage, Savannah, Ga	.....	30.39‡	770.1‡	.....	.....	46	7.8	77	WNW	.....	.....	1	.....	0	.....	.....	.....	.....	Smooth	.....	Clear
Lackawana, N. 36° 12′ W. 174° 35′	..†	30.30‡	769.6‡	.....	.....	67	19.4	89	SSE	.....	.....	2–3	.....	10	.....	.....	.....	.....	Smooth	.....	Cloudy
Marion, New York Harbor, N. Y.		29.95‡	760.7‡	.....	.....	41	5.0	67	SW	.....	.....	4	.....	10	.....	W	.....	.....	Smooth	.....	Cloudy
Michigan, Erie, Pa	.....	29.64‡	752.8‡	.....	.....	38	3.3	83	WSW	.....	.....	7	.....	10	.....	.....	.....	.....	.....	.....	Light snow
Monocacy, Shanghai, China	.....	30.14‡	765.5‡	.....	.....	57	13.9	94	ENE	.....	.....	1	.....	10	.....	E	.....	.....	.....	.....	Cloudy
New Hampshire, Port Royal, S. C	.....	30.29‡	769.4‡	.....	.....	46	7.8	84	NNW	.....	.....	3	.....	1	.....	Calm	0	0	.....	.....	Clear
Onward, Callao, Peru	.....	29.97‡	761.2‡	.....	.....	66	18.9	94	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Long	W	Misty
Palos, Tientsin, China	.....	30.11‡	764.8‡	.....	.....	43	6.1	68	S	.....	.....	1	.....	2	.....	.....	.....	.....	.....	.....	Clear
Passaic, Washington, D. C	.....	30.01‡	762.2‡	.....	.....	39	3.9	91	SW	.....	.....	3	.....	5	.....	NE	0	0	.....	.....	Fair
Pensacola, Callao, Peru	.....	29.98‡	761.5‡	.....	.....	72	22.2	76	Calm	.....	.....	0	.....	2	.....	.....	.....	.....	Smoke	.....	Hazy
Powhatan, Navy Yard, Brooklyn, N.Y.		30.04‡	763.0‡	.....	.....	40	4.4	54	SW	.....	.....	3	.....	10	.....	SW	0	0	.....	.....	Cloudy
Quinnebaug, Spezia, Italy	.....	30.20‡	767.1‡	.....	.....	57	13.9	81	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....	Cloudy
Ranger, N. 39° 30′, E. 170° 20′	.....	29.62‡	752.3‡	.....	.....	57	13.9	94	ENE	.....	.....	6	.....	10	.....	ENE	.....	.....	Heavy	E	Overcast
Richmond, Shanghai, China	.....	30.13‡	765.3‡	.....	.....	57	13.9	100	ENE	.....	.....	1	.....	10	.....	.....	0.09	2.3	Smooth	.....	Cloudy
Rio Bravo, Brownsville, Texas	.....	† 30.36‡	771.1‡	.....	.....	56	13.3	100	SE	2	0.9	.....	.....	2	.....	Calm	0	0	.....	.....	Foggy
Santee, Annapolis, Md	.....	29.98‡	761.5‡	.....	.....	42	5.6	61	SW	.....	.....	1	.....	8	.....	SW	0	0	.....	.....	Cloudy
Shenandoah, S. 12° 16′, W. 34° 11′	.....	29.90‡	759.4‡	.....	.....	81	27.2	87	NE	.....	.....	2	.....	10	.....	E	.....	.....	Smooth	.....	Cloudy
St. Louis, League Island, Pa	.....	29.97‡	761.2‡	.....	.....	37	2.8	100	SSW	11	4.9	.....	.....	8	.....	SW	0	0	.....	.....	Fair
Trenton, Gibraltar, Mediterranean	.....	30.04‡	763.0‡	.....	.....	76	24.4	64	Calm	.....	.....	0	.....	2	.....	Calm	0	0	Smooth	.....	Fair
Tuscarora, N. 15° 57′, W. 97° 44′	.....	29.96‡	761.0‡	.....	.....	71	21.7	85	N	.....	.....	1	.....	0	.....	.....	0	0	Smooth	.....	Clear
Vandalia, Havana, Cuba	.....	30.21‡	767.3‡	.....	.....	72	22.2	95	N	.....	.....	3	.....	8?	.....	N	.....	.....	.....	.....	Clear?
Wabash, Boston, Mass	.....	30.06‡	763.5‡	.....	.....	36	2.2	82	SSE	10	4.5	.....	.....	10	.....	.....	0.1	3.	.....	.....	Rainy
Wachusett, N. 4° —′, W 24° —′	.....	29.91‡	759.7‡	.....	.....	82	27.8	91	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Smooth	S	Fair
Wyoming, Gibraltar, Mediterranean	.....	30.06‡	763.5‡	.....	.....	67	19.4	60	NE	.....	.....	1–2	.....	2	.....	NE	.....	.....	Smooth	NE	Fair
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NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		CHARACTER.	DIRECTION FROM—		
S. S. Samaria																			Capt. T. Roberts.

NOTE—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitebury.
S. S. Costa Rica																			W. House & R. Lawless.
S. S. Dakota, Capt. H. G. Morse																			Capt. Connolly.
S. S. Georgia																			F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin																			Capt. A. Fuller.
S. S. Wilmington																			
S. S. Zealandia, Sydney, New South Wales		29.52‡	749.8‡				NE			4			E		Smooth	SE			R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The orginals give the barometer as read off; wind-force by the scale 0 to to 12; for the Brittanic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer N. 22° 19′, E. 115° 16′ †		29.78‡	756.4‡	64	17.8	83	WSW			4		8		W		Smooth		D. clouds	D. A. Joyce, 2nd Officer
S. S. Gaelic, Capt. Davidson																			J. A. Thompson, C. C.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:33 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undutsch.
S. S. Leipzig, Capt. F. Pfeiffer																			
S. S. Nürnberg																			S. Risius, 3rd Officer.
S. S. Ohio, Bremerhaven, Germany		30.10‡	764.5‡				ESE			2		5		SE				Cloudy?	Capt. A. Jaeger.
																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa.		30.05‡	763.3‡	35	1.7	??	WSW			5				SW	0			Fair	Capt. R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from, sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents.

Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

NOTE.—The originals give the barometer as read off; do not distinguish between upper and lower clouds; sea-swell in general terms, as published. ‡Corrections for temperature, instrumental error and elevation applied at this office.

ALLAN LINE MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian, Halifax, N. S.		30.37‡	771.4‡	30	— 1.1		SSE			5		10		WSW				Cloudy	J. Powell, 4th Officer.
S. S. Peruvian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES—Miscellaneous.

Furnished by the co-operation of the Observers named.

Schooner Addie Fuller, N. 34° 30', W. 74° 16'		30.17‡	766.3‡	60	15.6	100	NW	14	6.3		10n		NW		0.20 in. or 5.1 mm	Short		Squally	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George" of Halifax																			N. B. Foss.
Schooner Harry and Fred																			Capt. George Gardner.
Haytian																			
§ Iron Cross																			Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

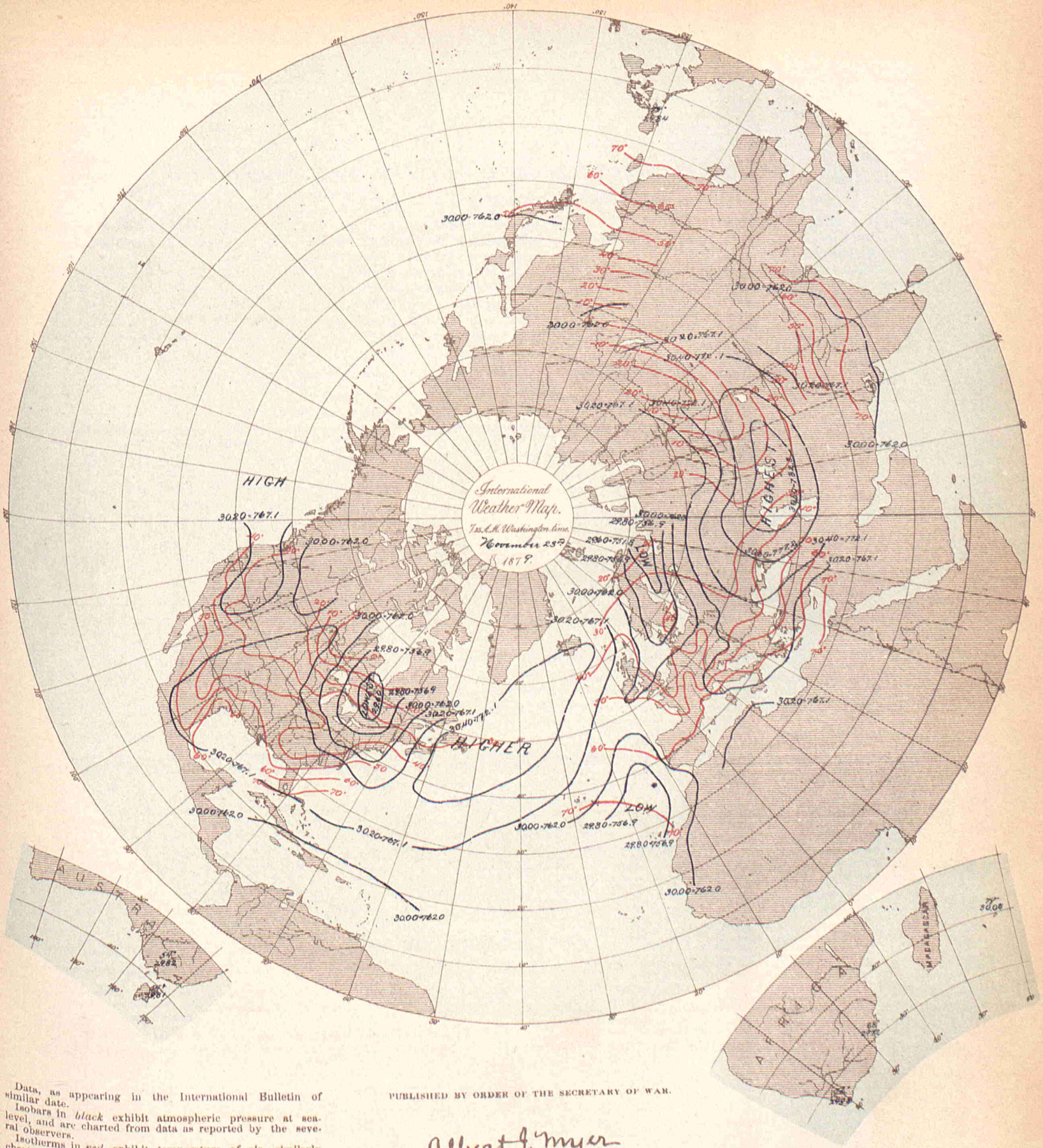
Collated at the Office of the CHIEF SIGNAL OFFICER OF THE ARMY, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg'd.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASS'G'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 24, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.07	763.6	69.4	20.8	68	SE			1		8			0	0	Very cloudy	
Nemours			30.02	762.6	71.6	22.0	74	Calm			0		8			0	0	Very cloudy	Kesxuche.
Algiers			30.04	762.9	76.3	24.6	39	Calm			0		0			0	0	Clear.	Touriliere.
La Calle			30.02	762.6	74.8	23.8	64	WNW			1		8			0	0	Very cloudy	Foufrede.
Tunis																			Jacques.
Sfax			30.18	766.5															Gau.
Saida																			Herbin.
Tebessa			30.19	766.8	72.0	22.2	54	N			4		2			0	0	Fair	Watrin.
Geriville					59.9	15.5	66	SW			1		2			0	0	Fair	Brugniuax.
Laghouat			30 23	767.8	72.7	22.6	8	SW			1		0			0	0	Clear.	Bertrand.
Biskra			30.17	766.2	73.0	22.8	36	NW			1		0			0	0	Clear.	Chauvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0-4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.34	745.3	29.89	759.3	53.4	11.9	68	S			4		10			0.720	18.3		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.13	740.0	29.93	760.3	32.4	0.2	89	NNE	0	0			10			0	0		Dr. Wierzbicki.
Eperies	29.00	736.6	29.91	759.7	36.0	2.2	89	S			2		10			0	0		Julius Mikolik.
Gratz	28.57	725.7	29.85	758.2	38.7	3.7	85	N			3		10			0.299	7.6		Andreas Rospini.
Hermannstadt	28.54	724.8	30.01	762.3	38.3	3.5	82	SE			1		6			0.033	0.85		Prof. A. Gottschling.
Kremsmünster	28.56	725.5	29.96	760.9	33.4	0.8	87	Calm			0		10						Prof. C. Wagner.
Lemberg	28.86	733.0	29.89	759.1	33.1	0.6	94	SE			1		10			0.374	9.5		Dr. T. Stanecki.
Pola	29.85	758.3	29.97	761.2	55.6	13.1	90	SSE			2		10			0	0		I.R.Hydrographic Office.
Szathmar	29.52	749.9	30.00	762.1	40.3	4.6	71	E			1		1			0	0		Pet. Panesics, S. J.
Szegedin	29.65	753.1	29.93	760.3	46.4	8.0	72	S			3		4			0	0		Karl Stancel.
Trieste	29.87	758.6	29.97	761.2	50.7	10.4	85	Calm			0		10			0.390	9.9	Rainy	P. Busin.
Vienna	29.17	740.9	29.89	759.2	34.2	1.2	96	WNW			1		10			0.063	1.6		I.R.Central Met. Ob'sy

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.18	766.6	30.28	769.1	41.0	5.0	.....	NW	7	3.1	.....	.....	9	.....	.....	0.050	1.27	Overcast.....	W. Boswell.
Ardrossan	30.21	767.3	30.23	767.8	40	4.4	.....	Calm	.....	.....	0	.....	7	.....	.....	.....	.....	D. clouds.....	Wm.McNeil &G.Carrick
Armagh, (Observatory)	29.98	761.5	30.22	767.6	40.0	4.4	.....	NE	11	4.9	.....	.....	2	.....	.....	.....	.....	D. clouds.....	S. Call.
Bidston (Liverpool Obs)	.....	.....	30.14	765.5	39.5	4.2	.....	NE	8	3.6	.....	.....	5	.....	.....	.....	.....	Misty.....	John Hartnup.
Bolton (Sharples)	29.58	751.3	30.11	764.8	36.2	2.3	.....	ENE	6	2.7	.....	.....	3	.....	.....	.....	.....	D. clouds.....	Thomas Mackereth.
Bradford, Yorkshire	29.73	755.1	30.13	765.3	39.4	4.1	.....	NW	.....	.....	2	.....	9	.....	.....	0.06	1.5	Gloomy	J McLandsborough.
Bridgetown, Barbadoes	29.84	757.9	29.87	758.7	75	23.9	.....	N	.....	.....	1	.....	9	.....	.....	.....	.....	Raining	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	29.99	761.7	30.09	764.3	39.0	3.9	.....	WNW	.....	.....	1	.....	7	.....	.....	Blank	Blank	D. clouds.....	H. Todd.
Cardington	.....	.....	30.08	764.0	38.4	3.6	.....	NE	.....	.....	0–1	.....	9	.....	.....	.....	.....	Overcast.....	John McLaren.
Chatham (School M. E.)	29.94	760.5	30.08	764.0	35.2	1.8	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Foggy	J. Carmell, Sapper, R.E.
Donaghadee	30.18	766.6	30.22	767.6	44	6.7	.....	ENE	.....	.....	5	.....	5	.....	.....	.....	.....	D. clouds.....	J. Mac Gowan.
Dover	30.64	763.0	30.07	763.8	39	3.9	.....	N	.....	.....	1	.....	10	.....	.....	.....	.....	Foggy	J. Costello.
Falmouth (Observatory)	29.70	754.4	29.94	760.5	46.2	7.9	.....	SE	.....	.....	4	.....	10	.....	.....	.....	.....	Raining	The Staff.
Fort Napier, Natal	27.54	699.5	29.75	755.6	81.2	27.3	.....	NE	.....	.....	3	.....	0	.....	.....	.....	.....	Blue sky	Pvt. G. Salmon, A.H.C
Free Town, Sierra Leone	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Galway (Queen's College)	.....	.....	30.11	764.8	43	6.1	.....	NE	.....	.....	2	.....	1	.....	.....	.....	.....	Blue sky.....	Prof. A. H. Curtis.
Gibraltar, Mediterranean	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Sergt.Wm. Allen, A. H.
Glasgow, (Observatory)	30.02	762.5	30.23	767.8	42.6	5.9	.....	NNE	.....	.....	4	.....	0	.....	.....	.....	.....	Blue sky.....	D. G. Maclean. [C.
Great Yarmouth	30.06	763.5	30.07	763.8	42	5.6	.....	ENE	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds.....	G. T. Watson.
Greenwich (Royal Obs'y)	29.91	759.7	30.09	764.3	34.3	1.3	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	The Staff, for G.B.Airy.
Guernsey	29.76	755.9	29.99	761.7	46	7.8	.....	SE	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds.....	Dr. S.E Hoskins, F.R.S.
Helston	30.06	763.5	30.18	766.6	47	8.3	.....	E	.....	.....	1	.....	10n	.....	.....	0.54	13.7	Raining	M. P. Moyle.
Holyhead	30.08	764.0	30.14	765.5	43	6.1	.....	ENE	.....	.....	4	.....	1	.....	.....	.....	.....	Blue sky.....	John Tilston.
Jersey	29.73	755.1	30.03	762.7	46.3	7.9	.....	SE	.....	.....	3	.....	4	.....	.....	.....	.....	D. clouds.....	J. Fisher.
Kew (Observatory)	30.05	763.3	30.09	764.3	35.0	1.7	.....	NNE	2	0.9	.....	.....	10	.....	.....	.....	.....	Foggy	The Met'g'l Office.
Leicester (Museum)	29.84	757.9	30.10	764.5	40.0	4.4	.....	NE	.....	.....	4	.....	10	.....	.....	.....	.....	Misty.....	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	29.98	761.5	30.06	763.5	69	20.6	.....	SE	.....	.....	2	.....	2k	.....	.....	.....	.....	Blue sky.....	A. King.
Nairn	30.21	767.3	30.30	769.6	39	3.9	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Overcast.....	W. D. Penny.
Nassau, Bahamas	.....	.....	30.14	765.5	72.8	22.7	.....	N	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds.....	C. S. Duncombe.
Nottingham (Observatory)	29.93	760.2	30.12	765.0	42.3	5.7	.....	N	.....	.....	2	5c	.....	NE	.....	0.044	1.12	D. clouds.....	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	30.57	776.5	30.11	764.8	40.8	4.9	.....	NNE	.....	.....	2	.....	2	.....	.....	.....	.....	D. clouds.....	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)	.....	.....	30.08	764.0	37	2.8	.....	ENE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	H. E. Bellamy.
Plymouth	29.96	759.4	29.97	761.2	43.0	6.1	.....	ENE	.....	.....	4	.....	10	.....	.....	.....	.....	Raining	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	29.97	761.2	30.04	763.0	44	6.7	.....	ENE	.....	.....	6	.....	8	.....	.....	.....	.....	¾ clouded...	Wm. Kennedy.
St. Ann's Head	29.88	758.9	30.04	763.0	42	5.6	.....	E	.....	.....	5	.....	7	.....	.....	.....	.....	D. clouds.....	John C. Walker.
Sandwick Manse, Orkneys	.....	.....	30.36	771.1	40	4.4	.....	NE	17	7.6	.....	.....	8	.....	.....	.....	.....	Showery.....	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	30.01	762.2	30.07	763.8	51.8	11.0	.....	NE	.....	.....	2	.....	8	.....	.....	.....	.....	D. c ouds.....	Serg't W. H. Lyne.
Sheffield	29.88	758.9	30.17	766.3	39.3	4.1	.....	NNE	.....	.....	1	.....	10	.....	.....	0.02	0.5	Overcast.....	W. F. Cooper.
Silloth Rectory	30.14	765.5	30.18	766.6	41.5	5.3	89	Calm	.....	.....	0	.....	0	.....	.....	0	0	Blue sky.....	Francis Redford, A. M.
Stonyhurst (Observatory)	.....	.....	30.12	765.0	37.1	2.8	.....	ENE	.....	.....	2	.....	4	.....	.....	.....	.....	Misty.....	Rev. S. J. Perry.
Stratfield, Turgiss	29.88	758.9	30.10	764.5	35.3	1.8	.....	NE	.....	.....	0–1	.....	10	.....	.....	.....	.....	Overcast.....	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	29.88	758.9	29.95	760.7	47	8.3	.....	E	.....	.....	6	.....	10	.....	.....	.....	.....	Raining	W. Newcombe.
Valencia Observatory)	30.04	763.0	30.06	763.5	42.3	5.7	.....	NE	25	11.2	.....	.....	4	.....	.....	.....	.....	Squally.....	The Met'g'l Office.
SUB-SERIES.																			
Jape Town (C. G. H. Obs'y)	30.11	764.8	30.15	765.8	73	22.8	49	S	12.2	5.5	.....	1	4cs	.....	.....	.....	.....	.....	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
Hobart Town, Tasmania	.....	.....	29.52	749.8	59.0	15.0	82	S	.....	.....	1	.....	10k	.....	.....	0.5	13.	Covered.....	Francis Abbott, F.R.A.S.
Leith, (Restalrig Park)	.....	.....	30.27	768.8	41.0	5.0	.....	NE	.....	.....	3	.....	10k	.....	.....	0.16	4.1	Cloudy.....	Andrew Gibb.
Mauritius (Observatory)	29.86	758.4	30.05	763.3	80.3	26.8	55	ESE	16.5	7.4	.....	0	3	.....	ESE	0	0	Squally	C. Meldrum.
Melbourne (Observatory)	29.52	749.8	29.61	752.1	52.0	11.1	75	W	5	2.2	.....	.....	2	.....	.....	0.51	13.0	Fine.....	R. L. J. Ellery.
Monach Lt-house, Hebrides	.....	.....	30.36	771.1	43	6.1	.....	NE	.....	.....	4	3	0	E	.....	0	0	.....	J. Youngclause.
North Unst, Shetland Is	.....	.....	30.38	771.6	.....	.....	.....	NE	.....	.....	6	4	7	NE	.....	0	0	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Colesberg Bridge, unknown.

BRITISH MARINE SERIES. VESSELS.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. 0—10.	Clouds. Direction. From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. Alert, Monteith Bay, Patagonia	29.91‡	759.7‡	50.5	10.3	.....	WSW	.....	.....	1	10	.....	.....	.....	Overcast.....	Capt.J.P. Maclear, R.N.
H. M. Sloop Gannet, S. 11° 47′, W. 77° 13′	29.95‡	760.7‡	67	19.4	.....	S	.....	.....	1	9	.....	.....	.....	Overcast.....	Commander E. Bourke, R. N.
H. M. S. Magpie, Shaweishan I'd., China	29.99‡	761.7‡	69.5	20.8	.....	NE	.....	.....	5	10	.....	.....	.....	Raining	Capt. R. H. Napier, R.N
Brig Alliance, N. 38° 35′, W. 50° 05′	30.27‡	768.8‡	64.3	17.9	.....	ESE	.....	.....	5	10	.....	.....	.....	Overcast.....	Capt. W. Scott.
Barque Belle-Isle, N. 18° 50′, W. 74° 30′	29.97	761.2	84	28.9	.....	E	.....	.....	1	0	.....	2	N	Blue sky	Capt. A. J. Brown
S. S. Ethiopia, N. 42° 00′, W. 63° 50′	29.98	761.5	48	8.9	.....	W	.....	.....	3	2	.....	4	ESE	Blue sky.....	Capt. Campbell.
S. S. German, N. 21° 15′, W. 17° 30.′	29.91‡	759.7‡	67	19.4	.....	E	.....	.....	5	10	.....	.....	.....	Overcast.....	Capt. O. D. Coxwell.
Barque Mertole, N. 36° 50′, W. 8° 30′	30.00‡	762.0‡	67	19.4	.....	Calm	.....	.....	0	10	.....	.....	.....	Overcast.....	Capt. Turner.
S. S. Strathleven, Sydney, N. S. W.	29.87‡	758.7‡	68.5	20.3	.....	N	.....	.....	5	10	.....	.....	.....	Overcast.....	Capt. C. W. Pearson.
S. S. Sunbeam, N. 43° 0′, W. 41° 05′	30.38	771.6	57	13.9	.....	NNE	.....	.....	5	4	.....	4	N	D. clouds.....	Capt. C. M. Dobson.
Light House Tender Richmond, N. 26° 32′, W. 76° 59′	30.23	767.8‡	70	21.1	.....	NE	.....	.....	4	4	.....	.....	.....	D. clouds.....	Capt. W. H. Stewart.
S. S. Gordon Castle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
German Brig "W. von Freeden"	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. V. Freeden.
S. S. Peruvian	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. H. Smith.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. L'w'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
San José	26.20	665.5	29.92	760.0	65.3	18.5	80	SE	.....	.....	4	9c;s	.....	N	.....	0.5	13.	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.02	762.6	30.07	763.8	37.8	3.2	87	E	.....	.....	2	.....	10	.....	.....	.....	.....	Raining	.....
Fanöe	30.08	764.6	30.10	764.5	34.2	1.2	87	NNE	.....	.....	4	.....	9	.....	.....	.....	.....	.....	.....
Godthaab (Greenland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stykkisholm (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thorshavn (Faröe)	30.47	773.8	30.50	774.7	39.6	4.2	62	NE	.....	.....	2	.....	8	.....	.....	.....	.....	.....	.....
Vestervig	30.08	764.1	30.19	766.9	32.2	0.1	92	NE	.....	.....	6	.....	10	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.53	750.1	30.08	764.1	41.4	5.2	78	S	.....	.....	1	.....	8kn	.....	S	0	0	Very cloudy	Collignon, Director.
Amiens, Normal School	29.90	759.5	30.02	762.4	37.0	2.8	80	ESE	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	Vaillant, Director.
Arras, Engin'r School	29.84	757.9	30.11	764.8	32.9	0.5	88	W	.....	.....	3	.....	n	.....	S	0	0	.....	Klein, Commandant.
Avignon, Normal School	29.93	760.3	30.01	762.3	50.5	10.3	62	N	.....	.....	2	.....	0	.....	.....	0.457	11.6	Very clear	Giraud, Director.
Bar-sur-Seine	29.56	750.7	30.14	765.5	36.5	2.5	93	S	.....	.....	1	.....	10	.....	.....	1.024	26.0	Covered	C. Saillard, Director
Beauvais, Normal School	29.83	757.6	30.11	764.8	36.5	2.5	87	SSE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Frère Eugene Marie
Besançon, Normal School	29.23	742.5	30.17	766.2	36.3	2.4	91	SW	.....	.....	2	.....	5	.....	SW	1.280	32.5	Cloudy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.23	742.4	30.22	767.6	37.8	3.2	90	N	.....	.....	1	.....	10n	.....	NW	1.402	35.6	Covered	Marlot, Diretor.
Bourges, Normal School	29.56	750.7	30.13	765.2	39.9	4.4	97	WSW	.....	.....	1	.....	10n	.....	WSW	0.831	21.10	Raining	M. Gence, Director.
Brest, Naval Observatory	29.68	753.8	29.92	759.9	45.7	7.6	91	ESE	.....	.....	2	.....	10	.....	E	0.138	3.50	.....	Ch. de Rermaree, Dir.
Caen, Normal School	30.05	763.3	.....	.....	40.1	4.5	62	NW	.....	.....	.....	.....	1	.....	N	0	0	Clear	M. Bietrin, Director.
Carcassonne, N. School	29.67	753.7	30.10	764.5	47.8	8.8	81	W	.....	.....	1	.....	10	W	NNW	0.091	2.3	Covered	September, Director.
Châlons-sur-Marne, N. Sch'l	29.79	756.7	30.12	765.1	40.1	4.5	81	SSW	.....	.....	1	.....	10	.....	.....	.....	.....	Covered	Jadot, Director.
Chartres, Normal School	29.48	748.8	30.07	763.7	40.1	4.5	90	NE	.....	.....	1	.....	10	NE	NE	0.098	2.5	Covered	Vergier, Director.
Clermont-Fd, Puy de D. Obs	28.70	728.9	30.11	764.7	37.4	3.0	89	NW	.....	.....	1	.....	10	.....	.....	0	0	.....	Alluard, Director.
Commercy, Normal School	29.21	741.8	30.10	764.6	34.7	1.5	96	WNW	.....	.....	1	.....	10n	WNW	WNW	0.610	15.5	Covered	Dr. Coullet, Director.
Commune de Gréasque*	28.85	732.7	29.99	761.7	49.1	9.5	81	NW	.....	.....	2	.....	8	.....	SW	0.28	7.	.....	L. Kina, Director.
Grenoble, Normal School	29.26	743.2	30.05	763.2	43.5	6.4	82	WNW	.....	.....	1	.....	8kn	.....	NE	0.520	13.2	Very cloudy	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	29.89	759.1	30.11	764.7	44.4	6.9	85	SSE	.....	.....	3	.....	5	.....	S	0	0	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.78	756.3	30.09	764.3	43.2	6.2	88	S	.....	.....	2	.....	8	.....	S	0.008	0.2	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.19	741.3	30.12	765.0	36.9	2.7	87	WSW	.....	.....	1	.....	10	.....	.....	1.331	33.80	Covered	A. Baudry, Director.
Lorient, Naval Observatory	29.87	758.7	29.98	761.5	47.5	8.6	92	SE	.....	.....	3	.....	10	.....	.....	0.205	5.2	Covered	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.48	748.7	30.12	765.0	42.1	5.6	70	N	.....	.....	1	.....	.....	.....	NNE	0.720	18.3	.....	Ch. André, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	29.67	753.7	29.95	760.6	53.6	12.0	64	WNW	.....	.....	2	.....	9	.....	WNW	0.102	2.60	.....	E. Stephan, Director.
Mirecourt, Normal School	29.04	737.6	30.13	765.2	37.9	3.3	93	NW	.....	.....	1	.....	kn	NW	NW	6	0	.....	Barbier, Director.
Mont-Louis	24.82	630.4	30.13	765.4	41.4	5.2	67	SW	24.2	10.8	.....	.....	6	.....	S	0.201	5.1	.....	M. Cave.
Nice	29.82	757.3	29.85	758.2	60.4	15.8	77	NW	.....	.....	4	.....	10	NW	NW	.....	.....	Light rain	M. Boissière, Director.
Nismes, Normal School	29.79	756.6	29.99	761.8	52.9	11.6	69	NW	.....	.....	1	.....	2	.....	SW	0.67	17.	Slightly cld'y	M. Boyer, Director.
Paris, Montsouris Obs'y	29.81	757.2	.....	.....	39.0	3.9	100	SW	.....	.....	1	.....	10	.....	.....	0.043	1.1	.....	Marié Davy, Director.
Perpignan	29.92	759.9	30.02	762.5	52.5	11.4	71	NE	7.4	3.3	.....	.....	10	.....	NW	0	0	Foggy	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.40	568.9	.....	.....	28.8	—1.8	.....	W	.....	.....	2	.....	10	.....	W	0.480	12.2	Snowing	Gen'l de Nansouty.
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Privas, Normal School	28.97	735.9	30.07	763.6	45.7	7.6	89	N	.....	.....	1	.....	n	N	S	0	0	.....	M. Tallieu
Puy de Dome (Summit) Obs	25.08	637.1	.....	.....	30.7	—0.7	98	E	.....	.....	1	.....	2	.....	.....	0.709	18.0	Misty	Alluard, Director.
Rochefort, Naval Obs'y	30.08	764.1	30.11	764.9	42.4	5.8	91	SSE	.....	.....	3	.....	2	SSE	SSE	0	0	¾ covered	Lt E. Decante, Director
Rouen, Normal School	30.00	762.1	30.09	764.3	36.9	2.7	93	E	.....	.....	1	.....	10	.....	.....	0	0	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.95	760.8	29.98	761.6	49.1	9.5	76	SE	.....	.....	2	.....	1	SE	SE	0.035	0.90	Misty	L. Hercouet, Director.
Saint Maur (near Paris)	29.93	760.3	30.10	764.5	40.6	4.8	95	SW	.....	.....	1	.....	.....	.....	S	0.024	0.6	Foggy	F. Renou, Director.
Tarbes, Normal School	29.03	737.3	30.10	764.6	45.5	7.5	64	NW	.....	.....	1	.....	1	SW	W	0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.39	746.6	30.12	765.0	40.8	4.9	89	SSE	.....	.....	1	.....	10	.....	.....	0.504	12.8	Covered	M. Juher Mercadier.
Tours	29.89	759.1	30.08	764.1	44.6	7.0	83	SE	.....	.....	1	.....	10	.....	W	0.276	7.0	Covered	Cousin-Marquet.
Versailles, Observatory	29.59	751.5	30.08	764.0	38.8	3.8	100	SW	.....	.....	1	.....	.....	.....	.....	0.002	0.04	.....	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.36	745.7	30.10	764.4	41.4	5.2	84	NNW	.....	.....	1	.....	5	.....	NE	0.16	4.	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.87	758.6	29.89	759.3	74.1	23.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	5.51	140.	.....	L'Abbé Marchési
Zi-Ka-Wei (near Shanghai	29.98	761.4	30.00	762.0	58.5	14.7	99	NE	15.9	7.1	.....	.....	10n	.....	.....	0.874	22.2	Raining	Marc Dechevrens.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Perpignan, but otherwise in gene al terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centrigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.25	743.0	30.10	764.5	34.5	1.4	93	N			2		10n			0.217	5.5	Raining	Prof. Dr. Hoh.
Berlin	29.76	756.0	29.95	760.6	34.9	1.6	100	S			2		10			0.421	10.7	Rain & snow	Prof. Dr. Arndt.
Breslau	29.37	745.9	29.89	759.3	36.3	2.4	95	W			2		10					Rain & snow	Royal University Obs'y.
Carlsruhe	29.61	752.2	30.06	763.5	35.2	1.8	92	SW			0		10	NW		0.110	2.8		Albert Senz.
Cassel	29.41	747.0	30.02	762.4	34.3	1.3	90	N			1		10	N		0.029	0.72	Snowing	Dr. H. Möhl.
Emden			30.28	769.1	35.4	1.9	98	NW			0		9			0	0		Prof. Dr. Prestel.
Frankfort on the Main	29 68	753.8	30.05	763.3	37.4	3.0	87	NNE			2		10			0.728	18.5	Raining	Physical Society.
Friedrichshafen	28.58	726.0	30.07	763.6	39.2	4.0	84	W			8		10	W		0	0		Chief Telegrapher Wilhelm.
Hamburg	30.00	762.0	30.08	763.9	34.9	1.6	98	NNE			2		10n			0	0	Light fog	Captain F. Hegemann.
Kiel	30.05	763.3	30.07	763.7	32.4	0.2	77	N			2		10			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.90	759.5	29.99	761.7	37.8	3.2	91	E			4		9			0.075	1.9		Prof. E. Luther.
Köslin			29.98	761.6	36.7	2.6		Calm			0		8			0.079	2.0		H. Müller.
Leipsic Observatory	29.52	749.8	29.96	761.0	32.4	0.2	100	NNE			1		10			0.319	8.1	Snowing	Prof. Dr. Bruhns, Privy Counselor
Magdeburg	30.18	766.6	30.02	762.4	34.7	1.5	91	NNW			2		10ks	N		0.354	9.0	Snowing	Dr. Assmann.
Memel	29.94	760.4	29.98	761.6	38.8	3.8	85	N			1–2		10n						Reinbrecht & Issermann
Munich (München)	28.10	713.6	29 95	760.8	37.9	3.3	83	W			4		10			0.067	1.7	Rain & fog	Dr. C. Lang.
Neufahrwasser	29.98	761.4	29.99	761.8	38.3	3.5	87	NNE			2		10			0.224	5.7		A. Lothes.
Neustadt (Palatinate)	29.50	749.2	30.02	762.6	36.9	2.7	87	W			2		10	W		0	0		Reallehrer Dicknether.
Posen	29.61	752.1	29.91	759.8	33.8	1.0	90	NW			1		10			0.409	10.4	Snowing	Prof. Dr. Magener.
Strassburg (in Alsace)	29.56	750.7	30.13	765.2	37.6	3.1	85	NW			1		10	W		0.896	22.76		Imp. University Observatory.
Stuttgart	29.03	737.3	30.00	762.0	36.5	2.5	77	NW					10			0.134	3.4	Light rain	Prof. Dr. Schoder.
Weissenburg (Bavaria)	28.43	722.0	29.98	761.6	34.9	1.6	84	W	11	5			10		W	0.051	1.3		Reallehrer J. Hopfner
Wustrow	30.04	763.0	30.07	763.6	38.1	3.4	80	NNE			2		5s			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.75	755.7	30.15	765.7	57.2	14.0		NE			0.5		5					½ clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.98	761.5	30.03	762.8	76.5	24.7	31	WSW	15	6.7			2			0	0	D. clouds	
Deesa	29.56	750.7	30.04	763.1	70.0	21.1	26	NNW	7.9	3.5			0			0	0	Blue sky	
Bombay	29.92	760.0	29.96	761.0	74.7	23.7	69	NNW	16	7.2			0			0	0	Blue sky	
Poona (Yerrowda)	28.07	713.1	29.94	760.4	77.0	25.0	14	NW	13	5.8			0			0	0	Blue sky	
Belgaum	27.38	695.4	29.94	760.4	72.7	22.6	65	WSW	9	4.0			1		E	0	0	D. clouds	
Lahore	29.23	742.5	30.02	762.5	56.6	13.7	31	Calm	1.1	0.5			0			0	0	Blue sky	
Roorkee	29.03	737.4	29.97	761.2	59.8	15.4	39	NW	2.8	1.2						0	0		
Agra	29.42	747.2	30.01	762.2	62.8	17.1	38	W	4.6	2.1						0	0		
Nagpur	28.92	734.5	29.98	761.6	70.7	21.5	31	Calm	2.4	1.1						0	0	Blue sky	
Jubbulpore	28.60	726.4	30.04	762.9	56.2	13.4	61	Calm	1.1	0.5						0	0	Blue sky	
Lucknow	29.59	751.6	29.98	761.6	61.4	16.3	42	WNW	1.1	0.5						0	0	Blue sky	
Allahabad	29.70	754.3	30.03	762.8	56.4	13.6	53	Calm	2.8	1.2						0	0	Blue sky	
Patna	29.80	756.9	29.99	761.7	64.6	18.1	41	W	1.3	0.6			0			0	0	Blue sky	
Hazaribagh	27.91	708.9	30.00	762.1	59.8	15.4	40	WNW	8.3	3.7			0			0	0	Blue sky	
Cuttack	29.90	759.5	29.98	761.6	71.0	21.7	76	NE	2	0.9			0			0	0	Blue sky	
Calcutta (Alipore)	29.95	760.8	29.97	761.3	62.7	17.1	69	NNW	1.0	0.4			1			0	0	Blue sky	
Goalpara	29.52	749.9	29.92	760.1	68.7	20.4	64	WSW	2.0	0.9			0			0	0	Blue sky	
Chittagong	29.84	758.0	29.94	760.3	69.0	20.6	63	NW	2.3	1.0			0			0	0	Blue sky	
Sibsagar	29.60	751.9	29.95	760.6	70.9	21.6	84	NNE	1 6	0.7			0			0	0	Misty	
													5			0	0	D. clouds	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversion are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.55	750.6	29.97	761.3	45.7	7.6	96	NE	1.3	0.6	.....	.....	10	.....	.....	0.043	1.1	.....	Prof. Giovanni Clodig.
Milan	29.39	746.6	29.93	760.2	39.9	4.4	97	NW	.....	.....	2	.....	10	.....	.....	0.343	8.7	.....	Prof. Schiaparelli.
Padua	29.83	757.7	29.95	760.6	45.3	7.4	97	N	8.1	3.6	.....	.....	10	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.04	737.6	29.97	761.1	41.9	5.5	95	SE	1.8	0.8	.....	.....	10	.....	.....	0.173	4.4	.....	Prof. P. F. Denza.
Genoa	29.69	754.2	29.89	759.1	47.8	8.8	78	N	8.7	3.9	.....	.....	10	SE	.....	0.146	3.7	.....	Prof. G. M. Garibaldi.
Mondovi	27.97	710.4	29.93	760.2	40.5	4.7	93	ESE	.....	.....	2	.....	9	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.89	759.3	29.95	760.6	52.3	11.3	81	S	8.7	3.9	.....	.....	10	S	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.69	754.1	29.95	760.7	57.2	14.0	76	E	.....	.....	2	.....	10	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.82	757.3	29.90	759.5	60.8	16.0	83	S	19.2	8.6	.....	.....	10	.....	.....	0.055	1.4	.....	Prof. P. Monte.
Rome	29.88	759.0	30.06	763.5	53.2	15.1	74	S	13.0	5.8	.....	.....	10	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.86	758.5	30.11	764.9	59.5	15.3	68	SSE	6.3	2.8	.....	.....	5	S	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.19	741.5	30.08	764.1	57.2	14.0	73	SW	1.3	0.6	.....	.....	1	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.80	757.0	30.00	761.9	64.2	17.9	76	SE	.....	.....	2	.....	8	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.84	758.0	30.10	764.4	61.2	16.2	60	NE	1.3	0.6	.....	.....	2	.....	.....	0	0	.....	Prof. G. Ciacciatore.
Syracuse	30.07	763.7	30.14	765.6	62.6	17.0	81	E	4.9	2.2	.....	.....	6	S	.....	0	0	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.56	750.8	30.08	764.1	60.4	15.8	77	WNW	0.7	0.3	.....	.....	2	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.11	764.8	30.13	765.3	48.9	9.4	81	NNE	10.4	4.6	.....	7cs	.....	.....	.....	0	0	Fair	K. Sasaki.
Nagasaki, I. M. Obs'y	29.89	759.2	30.10	764.5	54.9	12.7	75	NE	1.2	0.5	.....	.....	10s;n	.....	.....	0.880	22.35	Light rain	S. Takehayashi.
Tokei, (Yeddo) Observatory	30.02	762.5	30.09	764.3	47.1	8.4	65	NNW	4.4	2.0	.....	4ck;cs	.....	SW	.....	0	0	Fair	The Staff.
Wakayama	30.06	763.5	30.12	765.0	48.7	9.3	87	NNE	2.7	1.2	.....	.....	10s	.....	.....	0	0	Cloudy	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	25.11	637.9	30.38	771.6	37.4	3.0	50	W	.....	.....	1	.....	1	.....	.....	0	0	Clear	Prof. L. Perez.
Leon	24.50	622.3	30.37	771.5	46.0	7.8	82	W	.....	.....	1	0	0	.....	.....	0	0	Blue sky	Prof. M. Leal.
Mazatlan	29.73	755.2	30.03	762.8	68.0	20.0	76	SE	.....	.....	1	10ck	0	SW	.....	0	0	Very cloudy	I. Guerrero, C. E.
Mexico, Central Observatory	23.12	587.3	30.34	770.5	42.8	6.0	82	Calm	0	0	.....	.....	10pk	.....	.....	0	0	Threatening	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	43.5	6.4	81	NW	.....	.....	1	0	0	.....	.....	0	0	Very clear	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.52	597.3	30.60	777.1	36.0	2.2	64	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.26	616.1	30.54	775.8	36.5	2.5	72	E	.....	.....	1	.....	10	.....	E	0	0	Covered	G. Barroeta, M. D.
Tlacotalpam	30.16	766.0	30.17	766.3	63.0	17.2	94	Calm	.....	.....	2	0	0	.....	.....	0	0	Fine	Prof. M. M. Chàzaro
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell
Zacatecas	22 58	573.4	30.33	770.3	42.1	5.6	59	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	J. C Castrillon.

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7.433.9 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column; the instrumental correction —0.88 mm., or —0.035 inch, has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.10	764.6	30.10	764.6	39.6	4.2	.....	SW	.....	.....	2	.....	.....	.....	.....	0.012	0.3	.....	
Groningen	30.02	762.6	30.08	764.0	34.5	1.4	.....	WSW	.....	.....	.....	.....	.....	.....	.....	0	0	.....	
Helder	30.07	763.8	30.07	763.8	40.1	4.5	.....	NW	.....	.....	1	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.08	764.0	30.08	764.0	38.5	3.6	95	SSE	.....	.....	1	.....	.....	.....	.....	0	0	.....	
Utrecht	30.06	763.5	30.11	764.7	36.1	2.3	77	SSW	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.26	768.7	30.32	770.1	33.1	0.6	78	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	
Brönö	30.36	771.1	30.40	772.1	26.8	— 2.9	72	N	4	2	.....	.....	3	.....	.....	0	0	.....	
Christiana	30.30	769.5	30.45	773.5	27.0	— 2.8	35	NNE	4	2	.....	.....	0	.....	.....	0	0	.....	
Tromsö	30.21	767.3	30.25	768.4	22.6	— 5.2	71	SW	7	3	.....	.....	9	.....	.....	0.500	12.7	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	29.82	757.4	30.01	762.3	59.4	15.2	78	ENE	12.5	5.6	.....	.....	6	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	28.97	735.9	30.00	762.1	58.3	14.6	82	SSW	3.1	1.4	.....	.....	10	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	29.69	754.2	29.78	756.4	70.7	21.5	78	Calm	0	0	.....	.....	10	.....	.....	0.020	0.5	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.65	753.1	30.01	762.3	56.5	13.6	84	ENE	9.8	4.4	.....	.....	10	SW	.....	0.083	2.1	Thunder-storm.	The Staff.
Ponta Delgada (Azores)	29.88	758.9	29.95	760.7	62.2	16.8	63	ENE	11.9	5.3	.....	.....	3	.....	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	A. M. de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	J. T. d'Oliveria, Com'd't
Rio Lima, Capt. S. C. da Silva Costa, Porto Praya, Cape Verd I'ds.	.....	.....	D. clouds	A. D. de Fouseca Sarurento....
Sá da Bandeira	.....	.....	.....	Louiz Apra, Q. Ma.
Sado, Capt. J. A de Brito Capello, St. Paul de Loando	.....	.....	Raining, 2 hr's rain-fall.	H. Mecudoneo, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes, Hong Kong, China	.....	.....	Blue sky.....	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between upper and lower clouds, and no humidity is given; duration of rain-fall in hours. The Sá da Bandeirâ gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	29.75	755.6	29.77	756.1	12.6	—10.8	97	NNW	9	4	.....	.....	6ks	.....	.....	.....	.....	.....	Capt. Sseliwerstow
Astrakhan	30.48	774.3	30.40	772.2	35.2	1.8	67	SSE	13	6	.....	10cp	.....	.....	.....	.....	.....	.....	Capt. Wisganow.
Barnaul	29.84	757.9	30.39	772.0	6.8	—14.0	99	SW	31	14	.....	.....	10	.....	.....	.....	.....	Snowing.....	Meteorological Obs.
Dorpat	29.78	756.5	30.04	763.0	25.3	— 3.7	82	N	11	5	.....	.....	10n	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	28.96	735.6	29.98	761.4	23.9	— 4.5	45	WSW	45	20	.....	.....	4cs	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	29.84	757.9	30.12	765.1	26.8	— 2.9	65	SSW	18	8	.....	.....	3	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.37	746.1	30.04	763.0	31.1	— 0.5	98	S	7	3	.....	.....	10n	.....	.....	.....	.....	.....	Physical Cabinet.
Krotkowo*	29.82	757.5	30.33	770.4	23.9	— 4.5	73	SW	2	1	.....	.....	1	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	29.98	761.5	30.19	766.9	36.7	2.6	89	ESE	13	6	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs
Moscow	29.41	747.1	29.99	761.7	28.8	— 1.8	86	SE	13	6	.....	.....	10s	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	27.74	704.6	30.21	767.4	12.6	—10.8	57	W	2	1	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	30.10	764.4	30.17	766.2	41.0	5.0	86	E	4	2	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	30.57	776.4	30.83	783.0	20.1	— 6.6	12	ESE	11	5	.....	.....	0	.....	.....	.....	.....	.....	.....
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	30.02	762.5	30.16	766.1	45.1	7.3	51	Calm	0	0	.....	.....	6k	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	29.95	760.7	29.97	761.1	23.7	— 4.6	90	N	16	7	.....	.....	10n	.....	.....	.....	.....	Snowing.	Central Physical Obs.
Tashkend	29.24	742.6	31.00	787.5	12.7	—10.7	76	.....	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.95	735.2	30.41	772.3	47.1	8.4	70	Calm	0	0	.....	.....	5k	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	29.46	748.3	29.90	759.5	34.0	1.1	96	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Foggy	Astronomical Obs.
Wilna	29.52	749.9	29.96	761.0	34.0	1.1	94	SW	2	1	.....	.....	10	.....	.....	.....	.....	Heavy clouds..	Astronomical Obs.
Yenisiesk	29.60	751.7	29.91	759.8	— 1.1	—18.4	80	SW	13	6	.....	.....	10	.....	.....	.....	.....	Snowing.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	29.91	759.6	30.01	762.2	60.1	15.6	74	ESE	2.3	1.03	.....	.....	6	.....	.....	0	0	½ Covered....	Antonio Rave, Director
Bilbao, Met. Obs'y	29.92	759.9	29.98	761.4	53.8	12.1	87	SE	1.0	0.47	.....	.....	10	.....	.....	0.322	8.2	Covered	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.05	687.1	.....	.....	42.8	6.0	91	SW	2.0	0.91	.....	.....	10	.....	.....	0.512	13.0	Covered.....	Domingo Martin y Perez.
Madrid, Royal Observatory	27.79	705.8	30.02	762.6	55.9	13.3	86	SE	4.5	2.03	.....	0	10	.....	.....	0.067	1.7	Covered.....	The Staff.
Murcia, Met. Obs'y	29.89	759.2	30.04	763.0	66.0	18.9	70	SSW	3.3	1.47	.....	5	5	ESE	.....	0	0	Covered.....	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.09	738.9	30.00	762.0	49.1	9.5	80	SE	3.8	1.7	.....	.....	2	.....	.....	0	0	Cloudy.....	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.11	764.9	30.18	766.6	71.8	22.1	63	NNE	8.7	3.9	.....	0	3k	.....	NE	0.071	1.8	Fair.....	Benito Vines S. J.
Manilla, Phillippine Islands	29.80	757.0	29.83	757.7	81.2	27.3	94	SW	2.9	1.3	.....	.....	10n	.....	W	1.39	35.3	Covered.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.94	760.5	30.04	763.0	67.5	19.7	78	W	3.1	1.4	.....	0	10	.....	S	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.84	758.0	29.93	760.3	74.8	23.8	97	NE	0	0	.....	3kn	5kn	SE	SE	0.098	2.50	Raining	Enrique Gadea, Chief Eng'r

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.34	770.6	30.38	771.6	— 2.2	—19.0	.....	N	.....	.....	2	.....	1	.....	.....	0	0	.....	
Umea	30.36	771.1	30.41	772.4	11.8	—11.2	85	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	
Hernosand	30.37	771.5	30.43	772.8	22.3	— 5.4	61	NNW	.....	.....	2	.....	0	.....	.....	0	0	.....	
Stockholm	30.14	765.5	30.32	770.0	27.0	— 2.8	49	NE	.....	.....	4	.....	8	.....	.....	0.157	4.0	.....	
Wisby	30.08	763.9	30.13	765.4	29.5	— 1.4	72	ENE	.....	.....	7	.....	5	.....	.....	0.043	1.1	.....	
Sub-Series.																			
Upsala	30.24	768.0	30.32	770.2	25.5	— 3.6	76	N	8.5	3.8	.....	.....	6	.....	NE	0.019	0.47	Snowing	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.60	726.4	30.05	763.3	45.0	7.2	71	E	.....	.....	1	.....	3	.....	.....	0.776	19.7	Cloudy	The Observatory.
Zurich	28.41	721.5	30.10	764.6	37.0	2.8	81	W	.....	.....	4	.....	8	.....	.....	0.157	4.0	Cloudy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, —0.3 mm.; Thermometer, +2.0 Cent.; Relative Humidity, —7 per cent.
NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30 13	765.2	50.2	10.1	86	N	10	4.5	.....	.....	9	.....	NE	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.13	765.2	68.2	20.1	.....	SW	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-series.																			
Beirut, (Syria) Lee Obs'y	29.79	756.7	29.90	759.5	72.1	22.3	64	SW	.....	.....	1	.....	8ks	.....	S	0	0	D. clouds	Prof. C. V. A. van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	29.74	755.4	29.80	756.9	30.5	— 0.8	95	SW	4	1.8	.....	.....	6n	.....	.....	0.16	4.1	Light snow	G. A. Blair.
Charlottetown, P. E. Island	29.75	755.6	29.80	756.9	33.3	0.7	88	SW	4	1.8	.....	0	0	.....	.....	0.02	0.5	Clear	H. J. Cundall, C. E.
Cornwall, Ontario	30.06	763.5	30.27	768.8	15.0	— 9.4	87	NW	.....	.....	1	0	1s	.....	.....	0.40	10.2	Clear	James Smith, M. A.
Dalhousie, N. B	29.58	751.3	29.76	755.9	29.5	— 1.4	.....	W	.....	.....	1	5cs	0	.....	.....	0.06	1.5	Fair	H. A. Johnson.
Father Point, Quebec	29.94	760.5	29.96	761.0	18.4	— 7.6	92	W	40	17.9	.....	8k	2n	W	.....	0.18	4.6	Light snow	J. McWilliams.
Fredericton, N. B	29.81	757.2	29.88	758.9	26.0	— 3.3	73	NW	18	8.0	.....	0	3s	.....	W	0	0	Fair	Prof. Harrison.
Fort Garry, Manitoba	28.63	727.2	29.48	748.8	22.0	— 5.6	86	W	10	4.5	.....	0	3ks	.....	.....	0	0	Clearing	James Stewart.
Granton, Ontario	29.17	740.9	30.38	771.6	11	—11.7	.....	Calm	.....	.....	0	1c	0	.....	.....	0	0	Clear	James Grant.
Halifax, N. S	29.75	755.6	29.88	758.9	35.0	1.7	89	W	6	2.7	.....	0	5ks	.....	.....	0.79	20.1	Fair	A. Allison.
Hamilton, Ontario	29.90	759.4	30.30	769.6	25.1	— 3.8	82	NW	.....	.....	1	.....	10cs	.....	NW	0.02	0.5	Cloudy	Geo. Dickson, B. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.98	761.5	30.34	770.6	16.5	— 8.7	85	W	5	2.2	.....	0	0	.....	.....	0.27	6.9	Clear	S. Woods, M. A.
Little Glace Bay, N. S	29.75	755.6	29.79	756.7	38.6	3.7	91	SW	6	2.7	.....	7ck	0	SW	.....	1.14	29.0	Fair	C. H. Rigby.
Montreal, Quebec	30.02	762.5	30.24	768.1	17.0	— 8.3	75	W	16	7.2	.....	8k	0	.....	.....	0	0	Cloudy	C. H. McLeod, C. E.
Moose Factory, Ontario	29.87	758.7	29.90	759.4	— 1.5	—18.6	97	SW	.....	.....	3	0	7	.....	.....	0	0	Fair	J. R. Nason.
Norwood	29.55	750.6	30.32	770.1	5.4	—14.8	100	Calm	.....	.....	0	9k	0	NW	.....	Inap.	Inap.	Cloudy	Rev. T. F. Fotheringham, M. A.
Parry Sound, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. R. Mosley.
Peterboro, Ontario	29.52	749.8	30.35	770.9	12.2	—11.0	70	NE	.....	.....	1	0	0	.....	.....	0	0	.....	J. F. Jeffers, M. A.
Port Dover, Ontario	29.64	752.8	30.38	771.6	20.1	— 6.6	85	W	7	3.1	.....	5c	0	W	.....	0.02	0.5	Fair	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.67	753.6	30.37	771.4	17.2	— 8.2	86	W	4	1.8	.....	3ck	0	W	.....	0.06	1.5	Fair	M. Payne.
Quebec, Quebec	29.80	756.9	30.15	765.8	8.5	—13.1	67	NW	.....	.....	5	0	2s	.....	.....	0.25	6.3	Fair	Capt. Ashe, R. N.
Rockliffe, Ontario	29.74	755.4	30.26	768.6	3.5	—15.8	72	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	W. H. McIntyre.
St. Andrews, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Gove.
St. John, N. B	29.72	754.9	29.89	759.2	30	— 1.1	89	W	14	6.3	.....	0	7ks	.....	.....	0	0	Cloudy	G. Murdock, C. E.
Saugeen, Ontario	29.50	749.3	30.25	768.3	29.0	— 1.7	79	SW	21	9.4	.....	8k	0	S	.....	0.28	7.1	Cloudy	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.97	735.8	30.37	771.4	13.0	—10.6	98	SW	3	1.3	.....	2cs	6s	.....	.....	0.40	10.2	Cloudy	C. J. MacGregor, M. A.
Sydney, C. B	29.78	756.4	29.82	757.4	38.2	3.4	92	W	6	2.7	.....	1c	1ks	.....	.....	0.47	11.9	Fine	T. C. Hill, C. E.
Toronto, Ontario	29.93	760.2	30.34	770.6	24.3	— 4.8	69	W	6	2.7	.....	2cs	2ks	W	W	0.05	1.3	Fair	Magnetic Observatory.
Windsor, N. S	29.73	755.1	29.83	757.7	33.5	0.8	89	W	5	2.2	.....	1cs	2ks	.....	.....	0.47	11.9	Fair	Prof. John E. Oram, M. A.
Woodstock, Ontario	29.22	742.2	30.39	771.9	14.7	— 9.6	95	SW	7	3.1	.....	6cs	1s	.....	.....	0	0	Fair	Prof. J. Montgomery.
Yarmouth, N. S	29.89	759.2	29.96	761.0	34.7	1.5	67	NW	.....	.....	4	0	3s	.....	.....	0.29	7.4	Fair	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	30.04	763.0	30.30	769.6	35.0	1.7	79	SE	.....	.....	.....	.....	10n	.....	.....	Inap.	Inap.	Stormy	John Delany.
St. Pierre, N. F., l'Hopital Maritime	.....	.....	29.86	758.3	40.3	4.6	.....	SE	.....	.....	6	.....	.....	.....	.....	.....	.....	.....	The Commandant.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10, except Yarmouth and St. Johns on scale 0 to 20. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of BVT. BRIG. GEN. ALBERT J. MYER, Chief Signal Officer. U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0-10.	CLOUDS. Amount. Up'er 0-10.	CLOUDS. Amount. Lo'er 0-10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER
Albany, New York	30.07	763.8	30.32	770.1	25	— 3.9	75	NW	2	0.9	.....	0	0	.....	.....	Inap.	Inap.	Clear.	.....
Alpena, Michigan	29.53	750.0	30.22	767.6	19	— 7.2	85	SW	6	2.7	.....	8c	0	Calm	.....	0.20	5.1	Fair...	.....
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Atlanta, Georgia	29.17	740.9	30.39	771.9	36	2.2	53	NW	10	4.5	.....	0	Sm'e	.....	Calm	0	0	Clear.	.....
Atlantic City, New Jersey	30.38	771.6	30.40	772.1	37	2.8	64	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	.....
Augusta, Georgia	30.22	767.6	30.44	773.2	40	4.4	82	Calm	0	0	.....	Haze	Fog;hr	Calm	Calm	0	0	Light haze.	.....
Baltimore, Maryland	30.42	772.7	30.47	773.9	31	— 0.6	58	NW	3	1.3	.....	0	Haze	.....	Calm	0	0	Clear.	.....
Barnegat, New Jersey	30.37	771.4	30.39	771.9	30	— 1.1	57	NW	9	4.0	.....	0	0	.....	.....	0	0	Clear.	.....
Bismarck, Dakota	27.99	710.9	29.84	757.9	37	2.8	90	NW	18	8.0	.....	.....	10s	.....	Calm	0	0	Cloudy	.....
Boerne, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Boise City, Idaho	27.40	696.0	30.36	771.1	25	— 3.9	75	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear.	.....
Boston, Massachusetts	30.04	763.0	30.21	767.3	27	— 2.8	64	W	11	4.9	.....	0	0	.....	.....	Inap.	Inap.	Clear.	.....
Brackettville, Texas	28.98	736.1	30.04	763.0	58	14.4	88	E	7	3.1	.....	0	5s	.....	Calm	0	0	Fair..	.....
Breckenridge, Minnesota	28.65	727.7	29.67	753.6	29	— 1.7	100	W	14	6.3	.....	0	2s	.....	Calm	0	0	Fair...	.....
Brownsville, Texas	30.13	765.3	30.18	766.6	66	18.9	79	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.	.....
Buffalo, New York	29.60	751.8	30.35	770.9	26	— 3.3	63	W	15	6.7	.....	1k	2s	W	W	0.18	4.6	Fair...	.....
Burkes, Arizona	.....	.....	.....	.....	35	1.7	70	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear.	.....
Burlington, Vermont	29.96	761.0	30.27	768.8	22	— 5.6	58	NW	13	5.8	.....	2k	8ks	W	W	Inap.	Inap.	Cloudy	.....
Cairo, Illinois	29.98	761.5	30.40	772.1	35	1.7	61	S	5	2.2	.....	0	0	.....	.....	0	0	Clear.	.....
Campo, California	27.50	698.5	30.07	763.8	26	— 3.3	75	E	4	1.8	.....	0	0	.....	.....	0	0	Clear.	.....
Cape Hatteras, N. Carolina	30.39	771.9	30.40	772.1	43	6.1	59	NE	25	11.2	.....	Haze	Haze	.....	.....	0	0	Hazy	.....
Cape Henry, Virginia	30.42	772.7	30.44	773.2	39	3.9	46	N	24	10.7	.....	2k	0	N	.....	0	0	Fair...	.....
Cape Lookout, N. Carolina	30.36	771.1	30.38	771.6	41	5.0	57	NE	26	11.6	.....	Haze	0	Calm	.....	0	0	Light haze.	.....
Cape May, New Jersey	30.38	771.6	30.42	772.7	34	1.1	55	NW	24	10.7	.....	0	0	.....	.....	0	0	Clear.	.....
Castroville, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cedar Keys, Florida	30.31	769.9	30.33	770.4	51	10.6	86	N	6	2.7	.....	0	0	.....	.....	0	0	Clear.	.....
Charleston, South Carolina	30.28	769.1	30.34	770.6	46	7.8	54	NE	15	6.7	.....	0	0	.....	.....	0	0	Clear.	.....
Charlotte, North Carolina	29.53	750.0	30.40	772.1	37	2.8	53	NE	6	2.7	.....	0	Haze	.....	Calm	0	0	Clear.	.....
Chattanooga, Tennessee	29.58	751.3	30.43	772.9	34	1.1	61	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear.	.....
Cheyenne, Wyoming	24.04	610.6	29.98	761.5	44	6.7	9	W	16	7.2	.....	0	0	.....	.....	0	0	Clear	.....
Chicago, Illinois	29.41	747.0	30.14	765.5	29	— 1.7	67	SW	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	.....
Cincinnati, Ohio	29.78	756.4	30.49	774.4	26	— 3.3	75	SE	2	0.9	.....	1c	Fog;sm	NW	Calm	0	0	Clear.	.....
Cleveland, Ohio	29.64	752.8	30.43	772.9	20	— 6.7	70	SE	6	2.7	.....	Haze	0	Calm	.....	0.10	2.5	Clear.	.....
Coleman City, Texas	28.37	720.6	30.08	764.0	47	8.3	48	SW	4	1.8	.....	0	5s	.....	Calm	0	0	Fair...	.....
Columbus, Ohio	29.52	749.8	30.43	772.9	23	— 5.0	50	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear.	.....
Concho, Texas	28.28	718.3	29.96	761.0	54	12.2	38	SW	.....	.....	1	.....	10s	.....	Calm	0	0	Cloudy	.....
Corsicana, Texas	29.74	755.4	30.21	767.3	58	14.4	82	S	4	1.8	.....	0	5ks	.....	Calm	0	0	Fair...	.....
Davenport, Iowa	29.52	749.8	30.19	766.8	28	— 2.2	54	S	14	6.3	.....	8ck	0	W	.....	0	0	Fair...	.....
Deadwood, Dakota	25.33	643.4	.....	.....	38	3.3	38	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	.....
Decatur, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Denison, Texas	29.38	746.2	30.20	767.1	47	8.3	70	SE	6	2.7	.....	5ck	5s	SW	SW	0	0	Cloudy	.....
Denver, Colorado	24.79	629.6	30.01	762.2	31	— 0.6	48	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.	.....
Des Moines, Iowa	29.10	739.1	30.01	762.2	31	— 0.6	69	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear.	.....
Detroit, Michigan	29.65	753.1	30.38	771.6	19	— 7.2	85	SW	.....	.....	.....	0	0	.....	.....	0	0	Clear.	.....
Dodge City, Kansas	27.37	695.2	29.73	755.1	32	0.0	59	W	6	6.7	.....	0	2s	.....	W	0	0	Fair...	.....
Dubuque, Iowa	29.30	744.2	30.04	763.0	25	— 3.9	50	S	14	6.3	.....	8c;k	0	SW	.....	0	0	Fair...	.....
Duluth, Minnesota	29.04	737.6	29.74	755.4	24	— 4.4	87	W	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	.....
Eagle Pass, Texas	29.37	746.0	30.14	765.5	36	2.2	80	E	4	1.8	.....	0	0	.....	.....	0	0	Clear.	.....
Eastport, Maine	29.88	758.9	29.95	760.7	27	— 2.8	70	W	15	6.7	.....	5k	0	NW	.....	0.29	7.4	Fair...	.....
Edinburg, Texas	.....	.....	.....	.....	54	12.2	93	Calm	.....	.....	0	5cs	0	S	.....	0	0	Fair...	.....
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Erie, Pennsylvania	29.63	752.6	30.39	771.9	30	— 1.1	68	S	20	8.9	.....	.....	10ks	.....	W	0.08	2.0	Cloudy	.....
Escanaba, Michigan	29.34	745.2	30.03	762.7	22	— 5.6	72	SW	16	7.2	.....	.....	10s	.....	SW	0	0	Cloudy	.....
Florence, Arizona	28.53	724.6	30.13	765.3	40	4.4	65	Calm	0	0	.....	2c	0	W	.....	0	0	Fair...	.....
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fort Buford, Dakota	28.90	734.0	29.80	756.9	28	— 2.2	88	NW	17	7.6	.....	0	0	.....	.....	0	0	Clear.	.....
Fort Custer, Montana	26.89	683.0	.....	.....	36	2.2	55	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear.	.....
Fort Davis, Texas	25.26	641.6	30.22	767.6	36	2.2	45	NW	2	0.9	.....	0	2s	.....	Calm	0	0	Fair...	.....
Fort Gibson, Indian Ter	29.59	751.6	30.14	765.5	48	8.9	43	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear.	.....
Fort Grant, Arizona	25.24	641.1	30.04	763.0	45	7.2	40	N	3	1.3	.....	0	0	.....	.....	0	0	Clear.	.....
Fort Griffin, Texas	28.85	732.8	30.14	765.5	50	10.0	73	E	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	.....
Fort Keogh, Montana	27.43	696.7	.....	.....	35	1.7	52	W	6	2.7	.....	0	8s	.....	W	0	0	Fair...	.....
Fort McKavett, Texas	27.88	708.1	29.81	757.2	52	11.1	86	E	5	2.2	.....	8cs	0	Calm	.....	0	0	Cloudy	.....
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fort Sill, Indian Territory	28.90	734.0	30.04	763.0	43	6.1	59	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	.....
Fort Stevenson, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fort Verde, Arizona	.....	.....	.....	.....	29	— 1.7	78	NW	.....	.....	1	0	0	.....	.....	0	0	Clear.	.....
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fredericksburg, Texas	28.34	719.8	29.88	758.9	64	17.8	78	S	1	0.4	.....	0	5ks	.....	Calm	0	0	F ir...	.....
Galveston, Texas	30.23	767.8	30.27	768.8	66	18.9	84	SE	7	3.1	.....	0	5ks	.....	SE	0	0	Fair...	.....
Graham, Texas	29.07	738.4	30.16	766.1	43	6.1	83	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	.....
Grand Haven, Michigan	29.55	750.6	30.23	767.8	34	1.1	79	SW	20	8.9	.....	.....	10s	.....	SW	0.02	0.5	Cloudy	.....
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Henrietta, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Indianapolis, Indiana	29.54	750.3	30.38	771.6	27	— 2.8	64	S	6	2.7	.....	0	5ks	.....	S	0	0	Fair...	.....
Indianola, Texas	30.22	767.6	30.25	768.3	63	17.2	89	E	6	2.7	.....	8cs	2s	SW	S	0	0	Cloudy	.....
Jacksboro, Texas	29.63	752.6	30.18	766.6	55	12.8	39	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	.....
Jacksonville, Florida	30.32	770.1	30.34	770.6	48	8.9	70	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	.....
Keokuk, Iowa	29.50	749.3	30.15	765.8	27	— 2.8	76	S	7	3.1	.....	0	1s	.....	Calm	0	0	Clear	.....
Key West, Florida	30.20	767.1	30.23	767.8	65	18.3	74	NE	25	11.2	.....	0	0	.....	.....	0	0	Clear.	.....
Kittyhawk, North Carolina	30.40	772.1	30.43	772.9	42	5.6	50	N	38	17.0	.....	0	Haze	.....	Calm	0	0	Clear	.....
Knoxville, Tennessee	29.36	745.7	30.44	773.2	28	— 2.2	77	NE	1	0.4	.....	0	Sm'e	.....	.....	0	0	Smoky	.....
La Crosse, Wisconsin	29.17	740.9	29.94	760.5	29	— 1.7	67	S	24	10.7	.....	.....	10s	.....	Calm	0	0	Cloudy	.....
La Mesilla, New Mexico	26.15	664.2	30.30	769.6	29	— 1.7	56	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	.....
Laredo, Texas	29.73	755.1	30.07	763.8	65	18.3	68	S	3	1.3	.....	.....	10s	.....	S	0	0	Cloudy	.....
Leavenworth, Kansas	29.16	740.7	30.03	762.7	36	2.2	61	S	12	5.4	.....	0	0	.....	.....	0	0	Clear.	.....
Little Rock, Arkansas	29.97	761.2	30.35	770.9	39	3.9	82	Calm	0	0	.....	2c	0	NW	.....	0	0	Fair...	.....
Los Angeles, California	29.73	755.1	30.08	764.0	40.0	4.4	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	.....
Louisville, Kentucky	29.81	757.2	30.41	772.4	30	— 1.1	68	NE	3	1.3	.....	0	Sm'e	.....	Calm	0	0	Clear.	.....
Lynchburg, Virginia	29.76	755.9	30.50	774.7	28	— 2.2	77	W	1	0.4	.....	0	0	.....	.....	0	0	Clear.	.....
Madison, Wisconsin	29.08	738.6	30.12	765.0	27	— 2.8	76	S	17	7.6	.....	.....	10c	.....	SW	Inap.	Inap.	Cloudy	.....
Marquette, Michigan	29.17	740.9	29.92	760.0	18	— 7.8	84	SW	24	10.7	.....	.....	10ks	.....	W	0	0	Cloudy	.....
Mason, Texas	28.54	724.9	30.30	769.6	58	14.4	82	SE	12	5.4	.....	5cs	0	S	.....	0	0	Fair...	.....
Memphis, Tennessee	30.01	762.2	30.37	771.4	37	2.8	54	E	4	1.8	.....	0	Sm'e	.....	Calm	0	0	Clear.	.....
Milwaukee, Wisconsin	29.41	747.0	30.18	766.6	24	— 4.4	74	S	14	6.3	.....	0	5s	.....	Calm	0	0	Fair...	.....
Mobile, Alabama	30.32	770.1	30.37	771.4	45.5	7.5	88	N	6	2.7	.....	1cs	1s	Calm	Calm	0	0	Clear	.....
Montgomery, Alabama	30.17	766.3	30.41	772.4	42	5.6	74	N	1	0.4	.....	2c	Sm'e	W	Calm	0	0	Clear.	.....

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Morgantown, West Virginia	29.41	747.0	30.49	774.4	24	— 4.4	61	Calm	0	0	.....	0	0	.....	.....	0.02	0.5	Clear.	
Mt. Washington, N. H.	23.32	592.3	29.68	753.9	— 5	—20.6	100	NW	63	28.1	.....	.....	Fog	.....	NW	0.09	2.3	Foggy	
Nashville, Tennessee	29.86	758.4	30.42	772.7	35	1.7	61	Calm	0	0	.....	0	Sm'e	.....	Calm	0	0	Clear.	
New Haven, Connecticut	30.16	766.1	30.28	769.1	32	0.0	69	S	6	2.7	.....	0	1s	.....	W	Inap.	Inap.	Clear.	
New London, Connecticut	30.22	767.6	30.27	768.8	30	— 1.1	68	NW	8	3.6	.....	1k	0	Calm	.....	0	0	Clear.	
New Orleans, Louisiana	30.29	769.4	30.35	770.9	55	12.8	74	E	6	2.7	.....	10cs	Hz;sme	.....	Calm	0	0	Cloudy.....	
Newport, Rhode Island	30.20	767.1	30.26	768.6	31	— 0.6	69	W	16	7.2	.....	0	0	.....	.....	0	0	Clear.	
New York, New York	30.16	766.1	30.35	770.9	30	— 1.1	59	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Norfolk, Virginia	30.40	772.1	30.46	773.7	35	1.7	53	N	9	4.0	.....	0	0	.....	.....	0	0	Clear.	
North Platte, Nebraska	27.00	685.8	29.69	754.1	22	— 5.6	66	NW	14	6.3	.....	0	0	.....	.....	0	0	Clear.	
Olympia, Washington Ter.	30.2	767.8	30.27	768.8	45.0	7.2	88	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Omaha, Nebraska	28.78	731.0	29.91	759.7	33	0.6	32	S	10	4.5	.....	0	0	.....	.....	0	0	Clear.	
Oswego, New York	30.00	762.0	30.34	770.6	29	— 1.7	78	N	12	5.4	.....	0	8s	.....	W	0.12	3.0	Fair.....	
Pembina, Dakota	28.65	727.7	29.49	749.0	28	— 2.2	88	W	20	8.9	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Pensacola, Florida	30.37	771.4	30.40	772.1	49	9.4	78	NE	8	3.6	.....	Haze	0	Calm	.....	0	0	Clear.	
Philadelphia, Pennsylvania	30.34	770.6	30.39	771.9	30	— 1.1	68	NW	10	4.5	.....	0	Fog	.....	Calm	0	0	Clear.	
Phœnix, Arizona	28.86	733.0	30.72	780.3	44	6.7	60	E	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Pike's Peak, Colorado	17.81	452.4	30.02	762.5	14	—10.0	.....	NW	3	1.3	.....	1cs	0	Calm	.....	0	0	Clear.	
Pilot Point, Texas	29.42	747.3	30.21	767.3	50	10.0	64	S	10	4.5	.....	2k	8s	S	SE	0	0	Cloudy.....	
Pioche, Nevada	.....	.....	.....	.....	34	1.1	34	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Pittsburg, Pennsylvania	29.58	751.3	30.47	773.9	20	— 6.7	70	Calm	0	0	.....	.....	Sm'e	.....	.....	0.03	0.8	Smoky.....	
Port Huron, Michigan	29.63	752.6	30.36	771.1	15	— 9.4	82	S	8	3.6	.....	0	0	.....	.....	0.08	2.0	Clear.	
Portland, Maine	30.06	763.5	30.12	765.0	25	— 3.9	62	NW	5	2.2	.....	0	0	.....	.....	0.17	4.3	Clear.	
Portland, Oregon	30.21	767.3	30.28	769.1	35.5	1.9	95	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Portsmouth, N. Hampshire	.....	.....	.....	.....	43	6.1	67	NE	36	16.1	.....	0	0	.....	.....	0	0	Clear.	
Prescott, Arizona	24.83	630.7	30.19	766.8	26	— 3.3	75	NW	.....	.....	J	0	0	.....	.....	0	0	Clear.	
Punta Rassa, Florida	30.27	768.8	30.28	769.1	54	12.2	55	N	10	4.5	.....	0	0	.....	.....	0	0	Clear.	
Red Bluff, California	29.79	756.7	30.17	766.3	41	5.0	74	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Rio Grande City, Texas	29.98	761.5	30.20	767.1	60	15.6	88	E	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Rochester, New York	29.67	753.6	30.33	770.4	24	— 4.4	87	W	10	4.5	.....	.....	10s	.....	W	0.30	7.6	Cloudy.....	
Roseburg, Oregon	29.69	754.1	30.29	769.4	33	0.6	100	E	4	1.8	.....	.....	Fog	.....	Calm	0	0	Foggy	
Sacramento, California	30.06	763.5	30.15	765.8	40	4.4	91	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
St. Louis, Missouri	29.69	754.1	30.30	769.6	27	— 2.8	64	S	8	3.6	.....	1c	0	Calm	.....	0	0	Clear.	
St. Paul, Minnesota	28.91	734.3	29.76	755.9	30	— 1.1	78	S	16	7.2	.....	.....	10s	.....	.....	0	0	Cloudy.....	
Salt Lake City, Utah	25.85	656.6	30.18	766.6	23	— 5.0	86	SE	6	2.7	.....	.....	Fog	.....	.....	0	0	Foggy	
San Antonio, Texas	29.52	749.8	30.10	764.5	60	15.6	82	SE	2	0.9	.....	.....	8ks	.....	SE	0	0	Cloudy.....	
San Diego, California	30.03	762.7	30.10	764.5	51	10.6	93	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Sandusky, Ohio	29.69	754.1	30.42	772.7	22	— 5.6	72	S	10	4.5	.....	0	0	.....	.....	0.01	0.3	Clear.	
Sandy Hook, New Jersey	30.31	769.9	30.34	770.6	32	0.0	89	W	25	11.2	.....	0	0	.....	.....	0	0	Clear.	
San Francisco, California	30.08	764.0	30.15	765.8	49	9.4	85	N	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Santa Fé, New Mexico	23.36	593.3	29.90	759.4	27	— 2.8	53	NE	2	0.9	.....	5c	0	N	.....	0	0	Fair.....	
Savannah, Georgia	30.27	768.8	30.36	771.1	44	6.7	68	N	5	2.2	.....	0	Haze	.....	Calm	0	0	Clear.	
Shreveport, Louisiana	30.07	763.8	30.29	769.4	49	9.4	64	SE	1	0.4	.....	5cs	0	Calm	.....	0	0	Fair.....	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.34	770.6	30.38	771.6	40	4.4	56	N	14	6.3	.....	0	0	.....	.....	0	0	Clear.	
Socorro, New Mexico	25.51	647.9	29.58	751.3	29	— 1.7	67	Calm	0	0	.....	0	2s	.....	SW	0	0	Fair	
Springfield, Illinois	29.59	751.6	30.30	769.6	27	— 2.8	59	S	14	6.3	.....	0	1s	.....	W	0	0	Clear.	
Springfield, Massachusetts	30.14	765.5	30.28	769.1	30	— 1.1	57	SW	4	1.8	.....	0	5ks	.....	W	Inap.	Inap.	Fair	
Stockton, Texas	27.14	689.3	30.14	765.5	37	2.8	15	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Thatcher's Island, Mass	30.16	766.1	30.22	767.6	30	— 1.1	78	NW	13	5.8	.....	5k	0	NW	.....	0.04	1.0	Fair.....	
Toledo, Ohio	29.65	753.1	30.40	772.1	22	— 5.6	72	SW	8	3.6	.....	0	2s	.....	W	0.01	0.3	Clear.	
Tucson, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon	30.05	763.3	30.58	776.7	29.5	— 1.4	89	NW	2	0.9	.....	.....	10s	.....	.....	0.02	0.5	Cloudy.....	
Uvalde, Texas	29.26	743.2	30.08	764.0	60	15.6	82	E	2	0.9	.....	.....	10s	.....	SE	0	0	Cloudy.....	
Vicksburg, Mississippi	30.09	764.3	30.36	771.1	47	8.3	62	SE	12	5.4	.....	5c	0	Calm	.....	0	0	Fair.....	
Virginia City, Montana	24.31	617.5	29.79	756.7	28	— 2.2	66	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Visalia, California	29.71	754.6	30.10	764.5	35	1.7	90	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Washington, D. C.	30.36	771.1	30.48	774.2	28	— 2.2	77	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Wickenburg, Arizona	.....	.....	.....	.....	31	— 0.6	79	NW	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Wilmington, North Carolina	30.32	770.1	30.40	772.1	40	4.4	39	NE	10	4.5	.....	0	0	.....	.....	0	0	Clear.	
Winnemucca, Nevada	25.81	655.6	30.17	766.3	20	— 6.7	70	NE	5	2.2	.....	0	0	.....	.....	0	0	Clear.	
Wood's Holl, Massachusetts	30.19	766.8	30.23	767.8	31	— 0.6	60	NW	20	8.9	.....	0	0	.....	.....	0	0	Clear.	
Yankton, Dakota	28.53	724.6	29.84	757.9	36	2.2	45	W	10	4.5	.....	0	0	.....	.....	0	0	Clear.	
Yuma, Arizona	29.88	758.9	30.05	763.3	41	5.0	74	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
SUB-SERIES,																			
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Havana, Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Kingston, Jamaica, W. I.	30.09	764.3	30.14	765.5	73	22.8	67	NE	1.2	0.5	.....	4k	0	E	.....	0.06	1.5	Fair.....	Chas. Hasselbrink.
Medellin, Colombia, S. A. *	30.08	764.0	30.09	764.3	76	24.4	87	N	6	2.7	.....	8k	2s	N	.....	0.04	1.0	Hazy.....	James Gall.
Navassa, W. I.	25.17	639.3	.....	.....	65.8	18.8	85	Calm	.....	.....	0	.....	10n	.....	.....	0.48	12.2	.....	Thomas Herran.
Paramaribo, D. Guiana, S. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Santiago de Cuba, W. I.	29.90	759.4	29.90	759.4	83	28.3	79	E	.....	.....	2	5k	6ks	E	.....	0	0	⅜ cloudy....	C. J. Hering.
St. Thomas, W. I.	29.98	761.5	30.00	762.0	75*	23.9	85	NNE	2.4	1.1	.....	8ck	8n	.....	N	Blank	Blank	.....	Robert Mason.
York Factory, B. A.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
	30.01	762.2	30.06	763.5	— 8.0	—22.2	79	N	11	4.9	.....	0	0	.....	.....	0	0	Clear.	J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Medellin, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,890 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,235.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm. *The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.34‡	770.6‡	.....	.....	51	10.6	79	NE	7	3.1	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Navy Yard, Portsmouth, N.H	30.07‡	763.8‡	.....	.....	24	—4.4	81	W	3	1.3	.....	.....	2	.....	.....	0	0	.....	.....	Pleasant	
Naval Hospital, Yokohama, Japan	30.08‡	764.0‡	.....	.....	50	10.0	58	NE	.....	.....	2	ck	7k	.....	W	0	0	.....	.....	Fair	
Adams, Mare I'd., Navy Yard, Cal.	30.16‡	766.1‡	.....	.....	45	7.2	100	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Alaska, Iquique, Peru .....*	30.00‡	762.0‡	.....	.....	64	17.8	83	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....	Hazy	
Alliance, N. 19° 03′, W. 51° 22′	29.97‡	761.2‡	.....	.....	78	25.6	73	NE	.....	.....	5	.....	8	.....	NE	.....	.....	Mod'ate	NE	D. clouds	
Colorado, New York, . Y.	30.36‡	771.1‡	.....	.....	31	—0.6	74	WNW	8	3.6	.....	.....	0	.....	.....	0	0	.....	.....	Hazy	
Constitution, Navy Yard, Norfolk, Va.	30.35‡	770.9‡	.....	.....	40	4.4	91	SSW	14	6.3	.....	.....	7	.....	SW	.....	.....	.....	.....	Pleasant	
Enterprise, Alexandria, Egypt	30.06‡	763.5‡	.....	.....	69	20.6	80	WNW	.....	.....	3	.....	4	.....	WNW	.....	.....	Smooth	.....	Clear.	
Franklin, Off Navy Yard, Norfolk, Va.	30.46‡	773.7‡	.....	.....	36	2.2	60	N	10.8	4.8	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Hartford, Boston, Mass.	30.17‡	766.3‡	.....	.....	29	—1.7	74	NW	.....	.....	3	.....	0	.....	.....	0	0	.....	.....	Clear	
Independence, Mare I'd, Navy Yard, Cal.	30.10‡	764.5‡	.....	.....	59	15.0	76	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Kearsage, Savannah, Ga.	30.32‡	770.1‡	.....	.....	46	7.8	84	N	.....	.....	2	.....	0	.....	.....	.....	.....	Smooth	.....	Clear	
Lackawana, N. 36° 35′ W. 171° 20′..†	30.07‡	763.8‡	.....	.....	65	18.3	89	SSE	.....	.....	5–6	.....	10	.....	SSE	.....	.....	Mod'ate	SE	Cloudy	
Marion, New York Harbor, N. Y.	30.34‡	770.6‡	.....	.....	33	0.6	66	WNW	.....	.....	3	.....	0	.....	.....	.....	.....	Smooth	.....	Clear	
Michigan, Erie, Pa.	30.34‡	770.6‡	.....	.....	32	0.0	81	SSW	.....	.....	2	.....	10	.....	W	.....	.....	.....	.....	Cloudy	
Monocacy, Shanghai, China..	30.04‡	762.5‡	.....	.....	58	14.4	100	NE	.....	.....	2	.....	10	.....	NE	.....	.....	.....	.....	Raining	
New Hampshire, Port Royal, S. C.	30.36‡	771.1‡	.....	.....	48	8.9	70	NE	22	9.8	.....	.....	0	.....	.....	0		.....	.....	Clear	
Onward, Callao, Peru .....†.	29.97‡	761.2‡	.....	.....	67	19.4	84	SSE	.....	.....	2	.....	5	.....	.....	.....	.....	Long	W	Misty	
Palos, Tientsin, China..	30.14‡	765.5‡	.....	.....	44	6.7	100	E	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Cloudy	
Passaic, Washington, D. C.	30.43‡	772.9‡	.....	.....	30	— 1.1	90	W	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Clear	
Pensacola, Callao, Peru	29.95‡	760.7‡	.....	.....	67	19.4	84	SE	.....	.....	2	.....	5	.....	.....	.....	.....	Smooth	.....	Hazy	
Powhatan, Navy Yard, Brooklyn, N.Y.	30.32‡	770.1‡	.....	.....	34	1.1	74	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	.....	Clear	
Quinnebaug, Genoa, Italy	29.87‡	758.7‡	.....	.....	51	10.6	79	NNE	.....	.....	5	.....	10	.....	.....	.....	.....	.....	.....	Raining	
Ranger, N. 39° 20′, E. 171° 25′	29.69‡	754.1‡	.....	.....	59	15.0	82	SE	.....	.....	5	.....	10	.....	NW	.....	.....	Mod'ate	SE	Overcast	
Richmond, Shanghai, China	30.03‡	762.7‡	.....	.....	59	15.0	100	ENE	.....	.....	3	.....	10	.....	.....	0.86	21.8	Smooth	.....	Rainy	
Rio Bravo, Brownsville, Texas... †	30.33‡	770.4‡	.....	.....	63	17.2	89	SSE	2	0.9	.....	.....	2	.....	Calm	0	0	.....	.....	Misty	
Santee, Annapolis, Md	30.46‡	773.7‡	.....	.....	33	0.6	.....	NW	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Clear	
Shenandoah, S. 13° 53′, W. 35° 19′...	29.94‡	760.5‡	.....	.....	81	27.2	83	ESE	.....	.....	3	.....	5	.....	.....	.....	.....	Smooth	.....	Fair	
St. Louis, League Island, Pa.	30.36‡	771.1‡	.....	.....	30	—1.1	.....	NW	12	5.4	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Trenton, Gibraltar, Mediterranean	30.07‡	763.8‡	.....	.....	67	19.4	74	Calm	.....	.....	0	.....	10	.....	Calm	0	0	Smooth	.....	Cloudy	
Tuscarora, N. 15° 58′, W. 97° 42′	29.94‡	760.5‡	.....	.....	72	22.2	90	W	.....	.....	2	.....	2	.....	Calm	0	0	Smooth	.....	Fair	
Vandalia, Havana, Cuba...	30.16‡	766.1‡	.....	.....	74	23.3	90	NE	.....	.....	4	.....	8	.....	N	.....	.....	.....	.....	Fair	
Wabash, Boston, Mass.	30.14‡	765.5‡	.....	.....	27	—2.8	74	NW	13	5.8	.....	.....	2	.....	.....	0	0	.....	.....	Clear	
Wachusett, N. 3° —′, W 24° —′	29.97‡	761.2‡	.....	.....	87	30.6	69	SE	.....	.....	3	.....	2	.....	SE	.....	.....	Smooth	SSE	Fair	
Wyoming, Gibraltar, Mediterranean.	30.03‡	762.7‡	.....	.....	64	17.8	68	NE	.....	.....	1–2	.....	10	.....	NE	.....	.....	Smooth	NE	Cloudy	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S. S. Samaria																			Capt. T. Roberts.

NOTE—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama																			Capt. Seabury.
S. S. City of Peking																			Capt. Berry.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio, Capt. Maury																			L. B. Walls.
S. S. Colima																			Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota, Capt. H. G. Morse																			W. House & R. Lawless.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin																			F. W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Sydney, New South Wales.		29.52‡	749.8‡				NE			3				NE					R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The orginals give the barometer as read off; wind-force by the scale 0 to to 12; for the Brittanic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer Hong-Kong, China†		29.86‡	758.4‡	67	19.4	89	W			3		8		W		Smooth		D. clouds	D. A. Joyce, 2nd Officer
S. S. Gaelic, Capt. Davidson																			J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undutsch.
S. S. Leipzig, Capt. F. Pfeiffer																			S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, Bremerhaven, Germany		30.08‡	764.0‡				W			4		5		WSW				Cloudy?	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa.		30.48‡	774.2‡	38	3.3	82	WNW			4		3		W	0			Clear.	Capt. R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from, sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents.

Belgenland, Off Portland Island, British Channel.		29.93‡	760.2‡	56	13.3		NE	16	7.2			10		NE	0	Smooth		Rainy	Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

Note.—The originals give the barometer as read off; do not distinguish between upper and lower clouds; sea-swell in general terms, as published. ‡Corrections for temperature, instrumental error and elevation applied at this office.

ALLAN LINE MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian, Halifax, N. S.		*9.91‡	759.7‡	36	2.2		WSW			1		8		W				Fair	J. Powell, 4th Officer.
S. S. Peruvian																			

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES—Miscellaneous.

Furnished by the co-operation of the Observers named.

Schooner Addie Fuller, N. 36° 10′, W. 74° 43′		30.30‡	769.6‡	52	11.1	66	N	17	7.6		5k		N		0	Rough		D. clouds	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George" of Halifax																			N. B. Foss.
Schooner Harry and Fred																			Capt. George Gardner.
Haytian																			
§ Iron Cross																			Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

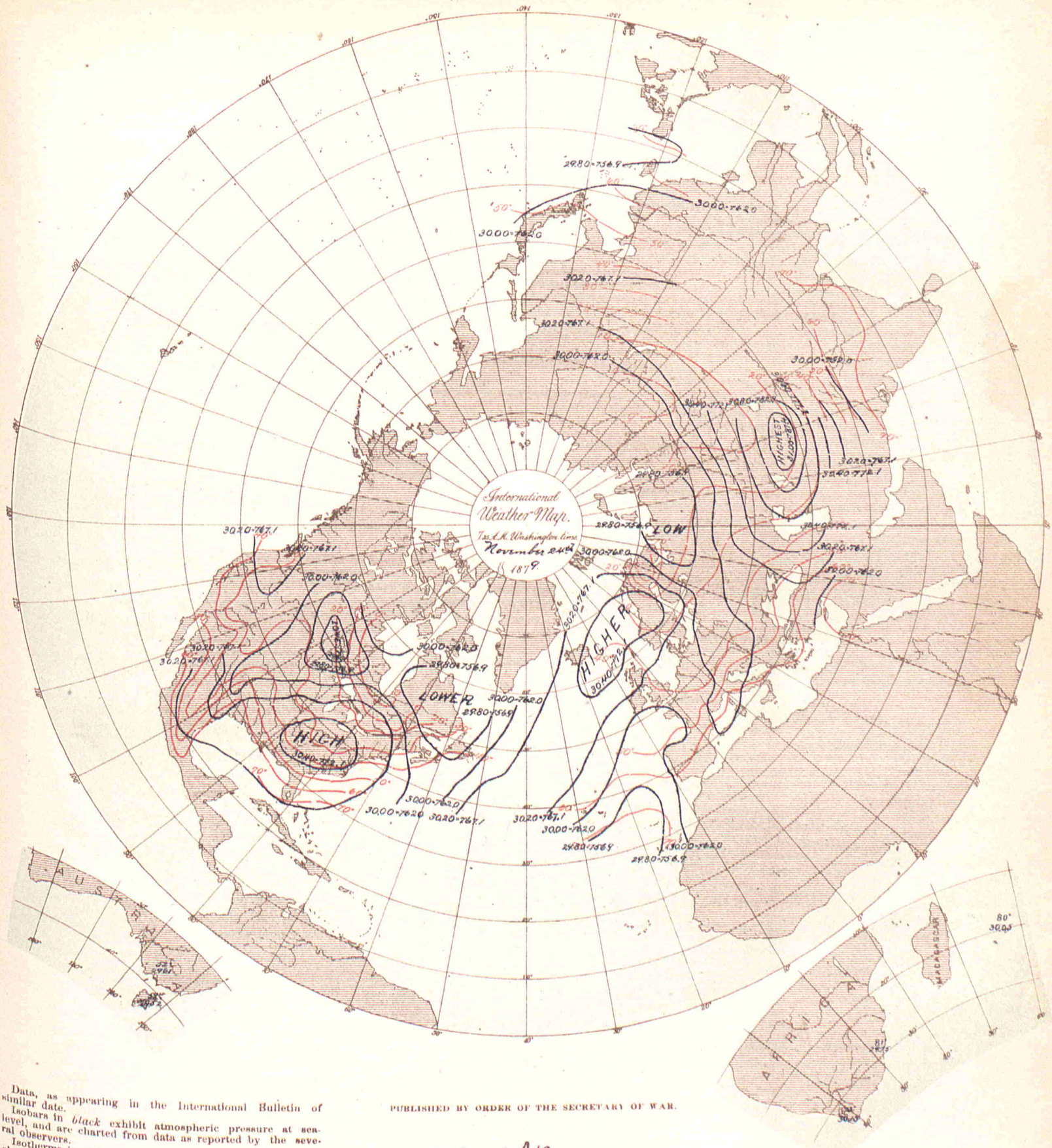
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds or types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg'd.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 25, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:38 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	29.95	760.6	67.5	19.7	71	SE	.....	.....	1	.....	5	.....	.....	0	0	Cloudy.....	
Nemours	.....	.....	29.89	759.1	74.1	23.4	59	WNW	.....	.....	2	.....	8	.....	.....	0	0	Very cloudy	Kesxuche.
Algiers	.....	.....	29.95	760.6	77.7	25.4	35	SSW	.....	.....	2	.....	10	.....	.....	0	0	Covered.....	Tourilliere.
La Calle	.....	.....	29.93	760.1	77.5	25.3	51	WNW	.....	.....	4	.....	10	.....	.....	0	0	Covered.....	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.10	764.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Herbin.
Tebessa	.....	.....	30.11	764.9	73.6	23.1	45	NW	.....	.....	3	.....	5	.....	.....	0	0	Cloudy.....	Watrin.
Geriville	.....	.....	.....	.....	65.1	18.4	27	SSW	.....	.....	6	.....	8	.....	.....	0	0	Very cloudy	Brugniaux.
Laghouat	.....	.....	30.15	765.8	69.4	20.8	18	SSW	.....	.....	4	.....	5	.....	.....	0	0	Cloudy.....	Bertrand.
Biskra	.....	.....	30.09	764.2	72.0	22.2	39	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear.....	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.47	748.5	30.08	764.0	37.4	3.0	92	NE	.....	.....	2	.....	10	.....	.....	0.240	6.1	Raining.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.50	744.3	30.11	764.7	32.0	0.0	92	ENE	5.8	2.6	.....	.....	10	.....	.....	0.201	5.1	.....	Dr. Wierzbicki.
Eperies	29.01	736.9	29.92	760.0	36.9	2.7	84	E	.....	.....	2	.....	10	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.74	730.1	30.04	763.0	37.6	3.1	85	S	.....	.....	2	.....	10	.....	.....	0.098	2.5	.....	Andreas Rospini.
Hermannstadt	28.44	722.4	29.92	759.9	35.6	2.0	100	ESE	.....	.....	1	.....	10	.....	.....	0.228	5.80	Raining.....	Prof. A. Gottschling.
Kremsmünster	28.69	728.7	30.09	764.2	34.5	1.4	82	WNW	.....	.....	1	.....	10	.....	.....	0.087	2.2	.....	Prof. C. Wagner.
Lemberg	28.87	733.4	29.91	759.6	32.4	0.2	94	W	.....	.....	2	.....	10	.....	.....	0.465	11.8	.....	Dr. T. Stanecki.
Pola	29.78	756.4	29.89	759.2	52.9	11.6	69	E	.....	.....	1	.....	4	.....	.....	0.118	3.0	.....	I.R.Hydrographic Office.
Szatlmar	29.47	748.6	29.96	760.9	34.2	1.2	100	S	.....	.....	2	.....	10	.....	.....	0.197	5.0	.....	Pet. Pancsics, S. J.
Szegedin	29.67	753.6	29.96	760.9	41.7	5.4	78	.....	.....	.....	.....	.....	10	.....	.....	0.047	1.20	.....	Karl Stancel.
Trieste	29.82	757.5	29.93	760.1	45.3	7.4	70	ENE	.....	.....	3	.....	10	.....	.....	Inap.	Inap.	Cloudy.....	P. Busin.
Vienna	29.30	744.1	30.04	763.1	36.7	2.6	75	WNW	.....	.....	2	.....	10	.....	.....	0.016	0.4	.....	I.R.Central Met. Obs'ry
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

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BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S,, Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Lower 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.47	773.9	30.57	776.5	39.0	3.9		E	21	9.4			9			0	0	Squally	W. Boswell.
Ardrossan	30.46	773.7	30.48	774.2	39	3.9		ENE			3		7					Misty	Wm.McNeil &G.Carrick.
Armagh, (Observatory)	30.20	767.1	30.44	773.2	39.6	4.2		NE	11	4.9			8					D. clouds	S. Call.
Bidston (Liverpool Obs)			30.32	770.1	39.8	4.3		NE	15	6.7			10					Misty	John Hartnup.
Bolton (Sharples)	29.76	755.9	30.29	769.4	38.6	3.7		ENE	12	5.4			10					Overcast	Thomas Mackereth.
Bradford, Yorkshire	29.93	760.2	30.32	770.1	39.5	4.2		E			4		10			0.04	1.0	Raining	J McLandsborough.
Bridgetown, Barbadoes	29.84	757.9	29.87	758.7	80.5	26.9		NE			1		6					Gloomy	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	30.16	766.1	30.26	768.6	37.9	2.3		NE			1		10			Blank	Blank	Overcast	H. Todd.
Cardington			30.22	767.6	39.0	3.9		NE			0–1		9					Overcast	John McLaren.
Chatham (School M. E.)	30.09	764.3	30.23	767.8	39.1	3.9		E			2		8					D. clouds	J. Carnell, Sapper, R.E
Donaghadee	30.39	771.9	30.44	773.2	42	5.6		ESE			5		5					D. clouds	J. Mac Gowan.
Dover	30.18	766.6	30.21	767.3	38	3.3		E			4		7					¾ clouded	J. Costello.
Falmouth (Observatory)	29.86	758.4	30.09	764.3	42.5	5.8		ENE			6		10					Squally	The Staff.
Fort Napier, Natal	27.80	706.1	30.01	762.2	67.3	19.6		NW			2		10					Overcast	Pvt. G. Salmon, A.H.C
Free Town, Sierra Leone																			
Galway (Queen's College)			30.31	769.9	40	4.4		NE			3		3					D. clouds	Prof. A. H. Curtis.
Gibraltar, Mediterranean																			Sergt.Wm. Allen, A. H.
Glasgow, (Observatory)	30.29	769.4	30.50	774.7	36.0	2.2		NNE			4		10k					Overcast	D. G. Maclean. [C.
Great Yarmouth	30.24	768.1	30.25	768.3	39	3.9		ENE			5		5					D. clouds	G. T. Watson.
Greenwich (Royal Obs'y)	30.05	763.3	30.23	767.8	38.2	3.4		ENE			1		0			Blank	Blank	Blue sky	The Staff, for G.B.Airy.
Guernsey	29.84	757.9	30.06	763.5	42.5	5.8		ESE			5		8					D. clouds	Dr. S.E Hoskins, F.R.S.
Helston	30.20	767.1	30.32	770.1	43	6.1		E			2	3c	10n			2.40	61.0	Very gloomy	M. P. Moyle.
Holyhead	30.26	768.6	30.32	770.1	41	5.0		ENE			5		6					D. clouds	John Tilston.
Jersey	29.76	755.9	30.06	763.5	40.8	4.9		E			5		10					Overcast	J. Fisher.
Kew (Observatory)	30.19	766 8	30.23	767.8	39.1	3.9		ENE	9	4.0								Misty	The Met'g'l Office.
Leicester (Museum)	29.99	761.7	30.26	768.6	40.1	4.5		NE			4		9			Blank	Blank	D. clouds	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	29.93	760.2	30.00	762.0	69	20.6		NW			1		0					Blue sky	A. King.
Nairn	30.46	773.7	30.56	776.2	32	0.0		Calm			0		0					Clear	W. D. Penny.
Nassau, Bahamas			30.16	766.1	74.5	23.6		NE			2		4					D. clouds	C. S. Duncombe.
Nottingham (Observatory)	30.10	764.5	30.40	762.0	40.9	4.9		NE			2		8k		E	0.160	4.06	D. clouds	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.72	754.9	30.26	768.6	39.2	4.0		NNE			3		2					D. clouds	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)			30.24	768.1	40	4.4		E			1		6					D clouds	H. E. Bellamy.
Plymouth	30.03	762.7	30.10	764.5	38.7	3.7		NE			5		10					Misty	John Merrifield.
Prince Town																			W. H. Tooker.
*Roche's Point	30.15	765.8	30.24	768.1	42	5.6		ENE			5		10					Raining	Wm. Kennedy.
St. Ann's Head	30.04	763.0	30.21	767.3	42	5.6		ENE			5		10					Blue sky	John C. Walker.
Sandwick Manse, Orkneys			30.59	777.0	39.8	4.3		S	9	4.0			2					D. clouds	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	29.88	758.9	29.95	760.7	52.8	11.6		S			1		6					D. clouds	Serg't W. H. Lyne.
Sheffield	30.04	763.0	30.34	770.6	39.0	3.9		NE			1		9			0.05	1.3	Overcast	W. F. Cooper.
Silloth Rectory	30.40	772.1	30.43	772.9	37.4	3.0	86	E			4		10			0	0	Overcast	Francis Redford, A. M.
Stonyhurst (Observatory)			30.30	769.6	38.8	3.8		NE	15	6.7			10					Overcast	Rev. S. J. Perry.
Stratfield, Turgiss	30.09	762.0	30.22	767.6	38.4	3.6		E			1		8					Foggy	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	30.03	762.7	30.11	764.8	41	5.0		NE			6		6					D. clouds	W. Newcombe.
Valencia Observatory)	30.26	768.6	30.28	769.1	42.0	5.6		NE	14	6.3			5					Squally	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	30.03	762.7	30.07	763.8	72.6	22.6	57	S	17.4	7.8		0	4cs						The Staff, for D. Gill.
Colesberg Bridge, Cape Col.																			Robert Burnet.
Hobart Town, Tasmania			29.44	747.8	53.0	11.7	93	S			1		10kn			0.40	10.2	Raining	Francis Abbott, F.R.A.S.
Leith, (Restalrig Park)			30.52	775.2	39.0	3.9		E			3		10k			0	0	Cloudy	Andrew Gibb.
Mauritius (Observatory)	29.83	757.7	30.02	762.5	79.5	26.4	61	SE	19.0	8.5		0	4		ESE	0	0	Squally	C. Meldrum.
Melbourne (Observatory)	29.56	750.8	29.65	753.1	53.9	12.2	79	W	4	1.8			8			0.19	4.8	Dull	R. L. J. Ellery.
Monach Lt-house, Hebrides			30.53	775.4	46	7.8		E			3	0	0			0	0		J. Youngclause.
North Unst, Shetland Is			30.53	775.4				SW			4		10			0	0		

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Colesberg Bridge, unknown.

British Marine Series. Vessels.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather	Observer
H. M. S. Alert, Monteith Bay, Patagonia			Overcast	Capt.J.P. Maclear, R.N.
H. M. Sloop Gannet, S. 11° 04′, W. 77° 11′			Misty	Commander E. Bourke, R. N.
H. M. S. Magpie, Drinkwater Pt.near Shanghai,China			Misty	Capt. R. H. Napier, R.N
Brig Alliance, N. 39° 40′, W. 47° 40′			Overcast	Capt. W. Scott.
Barque Belle-Isle, N. 19° 05′, W. 74° 25′	6	NE	D. clouds	Capt. A. J. Brown
S. S. Ethiopia, N. 43° 40′, W. 57° 05′	3	WNW	Overcast	Capt. Campbell.
S. S. German, N. 26° 20′, W. 17° 00.′			Overcast	Capt. O. D. Coxwell.
Barque Merlole, N. 36° 45′, W. 7° 55′			Misty	Capt. Turner.
S. S. Strathleven, Sydney, N. S. W.			Overcast	Capt. C. W. Pearson.
S. S. Sunbeam, N. 43° 05′, W. 44° 55′	6	S	Misty	Capt. C. M. Dobson.
Light House Tender Richmond, N. 26° 32′, W. 76° 59′	Heavy		D. clouds	Capt. W. H. Stewart.
S. S. Gordon Castle				Capt. H. V. Freeden.
German Brig "W. von Freeden"				Capt. W. H. Smith.
S. S. Peruvian				

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level.
‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer, corrected for instrum'tal error and temperature. Inches.	Barometer, corrected for instrum'tal error and temperature. Millimeters.	Barometer, reduced to sea-level. Inches.	Barometer, reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.15	664.2	29.89	759.2	67.6	19.8	95	NE	.....	.....	2	.....	10s	.....	NE	0.4	10.	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.44	773.1	30.48	774.3	28.6	—1.9	78	ENE	.....	.....	6	.....	8	.....	.....	.....	.....	Snowing	.....
Fanöe	30.47	773.9	30.49	774.4	29.5	—1.4	88	ENE	.....	.....	4	.....	8	.....	.....	.....	.....	.....	.....
Godthaab (Greenland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stykkisholm (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thorshavn (Faröe)	30.50	774.7	30.54	775.6	40.6	4.8	74	S	.....	.....	2	.....	7	.....	.....	.....	.....	.....	.....
Vestervig	30.46	773.6	30.57	776.4	27.0	—2.8	68	NE	.....	.....	4	.....	1	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.51	749.6	30.07	763.6	39.2	4	67	NW	.....	.....	1	.....	8ns	N	E	0.008	0.2	Very cloudy	Collignon, Director.
Amiens, Normal School	29.97	761.2	30.09	764.2	36.3	2.4	82	NE	.....	.....	1	.....	1	.....	SE	0	0	Clear	Vaillant, Director.
Arras, Engin'r School	29.92	760.0	30.19	766.9	32.2	0.1	98	ENE	.....	.....	3	.....	.....	.....	.....	0	0	Foggy	Klein, Commandant.
Avignon, Normal School	29.81	757.2	29.89	759.2	44.6	7	69	N	.....	.....	1	.....	10	.....	.....	0	0	Misty	Giraud, Director.
Bar-sur-Seine	29.48	748.9	30.07	763.6	38.1	3.4	69	SSE	.....	.....	1	.....	0	.....	.....	Inap.	Inap.	Clear	C. Saillard, Director
Beauvais, Normal School	29.86	758.5	30.14	765.6	39.4	4.1	70	E	.....	.....	2	.....	8	.....	E	0	0	Very cloudy	Frère Eugene Marie
Besançon, Normal School	29.11	739.3	30.03	762.7	37.6	3.1	92	E	.....	.....	2	.....	8	.....	E	0.20	5.	Very cloudy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.13	740.0	30.05	763.2	36.0	2.2	89	N	.....	.....	1	10c	.....	.....	N	0	0	Covered	Marlot, Director.
Bourges, Normal School	29.42	747.3	29.99	761.7	37.8	3.2	89	NE	.....	.....	3	.....	5k	.....	NE	0.009	0.175	Cloudy	M. Gence, Director.
Brest, Naval Observatory	29.72	754.8	29.96	761.0	41.4	5.2	81	NE	.....	.....	3	.....	10	.....	NE	0.630	16.00	.....	Ch. de Rermaree, Dir.
Caen, Normal School	30.10	764.4	.....	.....	40.6	4.8	89	E	.....	.....	1-2	.....	5	.....	W	0.016	0.4	Cloudy	M. Bietrin, Director.
Carcassonne, N. School	29.45	747.9	29.87	758.6	46.8	8.2	89	W	.....	.....	1	.....	10	W	W	0	0	Covered	September, Director.
Châlons-sur-Marne, N. Sch'	29.82	757.3	30.15	765.7	42.8	6.0	78	E	.....	.....	1	.....	5	.....	.....	.....	.....	Cloudy	Jadot, Director.
Chartres, Normal School	29.46	748.2	30.04	763.1	40.5	4.7	87	E	.....	.....	1	.....	9	NW	WNW	0	0	.....	Vergier, Director.
Clermont-Fd, Puy de D. Obs	28.54	724.8	29.04	760.4	34.9	1.6	89	NE	.....	.....	1	.....	10	.....	.....	0	0	.....	Alluard, Director.
Commercy, Normal School	29.21	741.9	30.11	764.7	34.2	1.2	93	ENE	.....	.....	3	.....	10k;n	ENE	ENE	0.39	10.	Covered	Dr. Coullet, Director.
Commune de Gréasque*	28.71	729.3	29.85	758.3	50.2	10.1	64	N	.....	.....	1	.....	10	.....	SE	0	0	.....	L. Khia, Director.
Grenoble, Normal School	29.15	740.4	29.94	760.4	42.1	5.6	85	ENE	.....	.....	1	.....	10kn	.....	.....	0	0	Covered	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	29.71	754.7	29.93	760.3	38.5	3.6	90	ENE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Mouillot, Director.
Le Mans, Normal School	29.71	754.7	30.03	762.7	39.9	4.4	65	NNE	.....	.....	6	.....	5	E	NE	0	0	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.66	738.1	30.00	762.1	40.1	4.5	79	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Baudry, Director
Lorient, Naval Observatory	29.85	758.2	29.96	761.0	40.6	4.8	84	E	.....	.....	4	.....	10	.....	.....	0.610	15.5	Covered	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.34	745.1	29.98	761.4	38.3	3.5	80	NNE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Ch. André, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	29.56	750.9	29.84	757.8	52.7	11.5	74	W	.....	.....	1	.....	10	.....	SW	0.067	1.70	.....	E. Stephan, Director.
Mirecourt, Normal School	29.03	737.3	30.12	765.1	34.3	1.3	93	NE	.....	.....	3	.....	k	NE	NE	0	0	.....	Barbier, Director.
Mont-Louis	24.07	620.5	29.98	761.5	41.0	5.0	86	W	20.6	9.2	.....	.....	10	.....	.....	0.161	4.1	.....	M. Cave.
Nismes, Normal School	29.82	757.5	29.86	758.4	55.8	13.2	73	E	.....	.....	1	.....	.....	E	E	0.102	2.6	Light mist	M. Boissière, Director.
Paris, Montsouris Obs'y	29.65	753.1	29.86	758.4	44.6	7	71	NW	.....	.....	3	.....	5	.....	SW	0	0	Cloudy	M. Boyer, Director.
Perpignan	29.81	757.2	.....	.....	41.2	5.1	64	ENE	.....	.....	3	.....	7	.....	E	0	0	.....	Marié Davy, Director.
Pic du Midi (Plantade) H. P.	29.75	755.6	29.85	758.2	49.1	9.5	84	SE	1.8	0.8	.....	.....	10	.....	E	Inap.	Inap.	Raining	Dr. Fines.
Pic du Midi (Summit) H. P.	22.26	565.5	.....	.....	31.1	—0.5	.....	W	.....	.....	3	.....	10	.....	W	0.409	10.4	Snowing	Gen'l de Nansouty.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Puy de Dome (Summit) Obs	28.87	733.2	29.96	761.0	41.7	5.4	59	N	.....	.....	1	.....	k	N	S	0	0	.....	M. Tallieu
Rochefort, Naval Obs'y	24.92	633.0	.....	.....	28.9	—1.7	78	SE	.....	.....	1	.....	2	.....	.....	0	0	Rain at distance	Alluard, Director.
Rouen, Normal School	29.91	759.6	29.94	760.4	40.5	4.7	80	ENE	.....	.....	3	.....	2	ENE	ENE	0	0	¼ covered	Lt E. Decante, Director
Saint Malo (Port) Obs'y	30.04	762.9	30.12	765.1	41.4	5.2	66	ENE	.....	.....	3	.....	2	.....	E	0	0	Slightly cld'y	Frere Lucard, Director.
Saint Maur (near Paris)	29.98	761.4	30.01	762.2	41.2	5.1	70	ESE	.....	.....	3	.....	5	ESE	ESE	0.035	0.90	Cloudy	Lt. Hereonet, Director.
Tarbes, Normal School	29.93	760.3	30.10	764.5	40.3	4.6	64	E	.....	.....	3	.....	.....	.....	E	0	0	.....	E. Renou, Director.
Toulouse, Observatory	28.76	730.5	29.84	757.9	47.3	8.5	78	NW	.....	.....	1	.....	2	SW	W	0	0	Slightly cld'y	T. Huguet, Director.
Tours	29.16	740.7	29.88	759.0	45.1	7.3	93	SE	.....	.....	1	.....	10	.....	.....	0	0	Covered	M. Juher Mercadier.
Versailles, Observatory	29.77	756.1	29.97	761 1	40.5	4.7	77	ENE	.....	.....	2	.....	5	.....	E	0	0	¼ covered	Cousin-Marquet.
Villefranche-sur-Saone, N.S	29.58	751.4	30.08	763.9	39.2	4.0	62	E	.....	.....	3	.....	.....	.....	.....	0.001	0.03	.....	Dr. A. Berigny, Director
SUB-SERIES.	29.20	741.7	29.93	760.3	41.9	5.5	93	NNW	.....	.....	1	.....	2	.....	S	0	0	Slightly cl'dy	Nicot, Director.
Fort de France, Martinique	29.88	758.9	29.91	759.6	77.0	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	L'Abbé Marchést
Zi-Ka-Wei (near Shanghai	30.05	763.2	30.08	763.9	54.7	12.6	94	NNW	4.5	2.0	.....	.....	10n	.....	.....	0.264	6.7	Covered	Marc Dechevrens.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centrigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.27	743.4	30.11	764.9	33.1	0.6	78	E			8		10ks			0	0	Foggy	Prof. Dr. Hoh.
Berlin	30.07	763.8	30.25	768.4	32.2	0.1	71	NE			2		9			0.421	10.7		Prof. Dr. Arndt.
Breslau	29.93	752.7	30.17	766.3	27.5	— 2.5	87	NNE			3		10			0.144	3.66	Snowing	Royal University Obs'y.
Carlsruhe	29.71	754.6	30.16	766.0	35.2	1.8	86	NE			1		10	NE		0	0		Albert Senz.
Cassel	29.65	753.0	30.26	768.5	34.2	1.2	75	ENE			3		8	NE		0	0		Dr. H. Möhl.
Emden			30.37	771.3	31.5	— 0.3	98	NE			3		4			0.197	5.0		Prof. Dr. Prestel.
Frankfort on the Main	29.84	757.8	30.21	767.4	36.5	2.5	66	NE			4		8			0.004	0.1		Physical Society.
Friedrichshafen	28.60	726.5	30.10	764.4	35.8	2.1	70	NE			5		10	E		0.008	0.2		Chief Telegrapher Wilhelm.
Hamburg	30.32	770.0	30.39	771.9	32.0	0.0	92	NE			3		8k			0.024	0.6	Snowing	Captain F. Hegemann.
Kiel	30.38	771.6	30.39	772.0	31.3	— 0.4	68	ENE			6		5			0.025	0.63		Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.28	769.0	30.37	771.3	24.4	— 4.2	55	NE			7		2			0	0		Prof. E. Luther.
Köslin			30.35	770.8	27.9	— 2.3		NE			6		1			0	0		H. Müller.
Leipsic Observatory	29.83	757.6	30.28	769.0	28.4	— 2.0	100	NNE			1		10			0.331	8.4	Snowing	Prof. Dr. Bruhns, Privy Counselor
Magdeburg	30.08	763.9	30.30	769.7	34.7	1.5	82	NE			3		6ks	NE		0.433	11.0	Snow flakes	Dr. Assmann.
Memel	30.38	771.7	30.43	772.9	23.4	— 4.8	64	NE			4–5		18						Reinbrecht & Issermann
Munich (München)	28.24	717.3	30.11	764.7	32.2	0.1	80	N			3		10			0	0		Dr. C. Lang.
Neufahrwasser	30.35	770.9	30.37	771.3	27.5	— 2.5	52	NE			5		5			0	0		A. Lothes.
Neustadt (Palatinate)	29.61	752.2	30.14	765.6	35.8	2.1	82	NNE			2		10			0	0	Foggy	Reallehrer Dicknether.
Posen	29.93	760.1	30.23	767.7	38.3	3.5	92	W			7		10			0.287	7.3	Snowing	Prof. Dr. Magener.
Strassburg (in Alsace)	29.59	751.6	30.16	766.1	36.5	2.5	75	NE			3		2			0.146	3.72		Imp. University Observatory.
Stuttgart	29.16	740.6	30.14	765.5	35.6	2.0	75	NE					10			0	0		Prof. Dr. Schoder.
Weissenburg (Bavaria)	28.59	726.1	30.15	765.9	33.6	0.9	85	Calm	0	0			10		NE	0.024	0.6		Reallehrer J. Hopfner.
Wustrow	30.36	771.1	30.38	771.7	33.4	0.8	89	E			3		10s			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.6 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.61	762.0	30.00	762.0	60.6	15.9		W			1.5		5					½ Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.98	761.6	30.04	762.9	74.9	23.8	40	SSW	10	4.5			0			0	0	Blue sky	
Deesa	29.54	750.4	30.03	762.8	71.2	21.8	13	NNW	7.5	3.4			0			0	0	Blue sky	
Bombay	29.88	759.0	29.92	760.0	74.9	23.8	67	NNW	18	8.0			0			0	0	Blue sky	
Poona (Yerrowda)	28.04	712.2	29.90	759.4	79.0	26.1	32	WNW	5	2.2			0			0	0	Blue sky	
Belgaum	27.37	695.1	29.93	760.2	71.7	22.1	64	SSW	5	2.2			0			0	0	D. clouds	
Lahore	29.26	743.1	30.04	763.0	59.4	15.2	29	Calm	0.8	0.4						0	0	Blue sky	
Roorkee	29.06	738.0	30.00	761.9	58.8	14.9	49	SW	0.8	0.4						0	0		
Agra	29.43	747.5	30.02	762.4	63.2	17.3	40	NW	2.0	0.9						0	0		
Nagpur	28.90	734.0	29.97	761.2	69.9	21.1	33	Calm	2.6	1.2						0	0	Blue sky	
Jubbulpore	28.50	724.0	29.92	759.9	62.0	16.7	46	Calm	1.9	0.9						0	0	Blue sky	
Lucknow	29.60	751.9	30.00	761.9	62.3	16.8	32	NW	0.6	0.3						0	0	Blue sky	
Allahabad	29.69	754.0	30.02	762.4	57.1	13.9	49	Calm	1.3	0.6			0			0	0	Blue sky	
Patna	29.80	757.0	29.99	761.8	67.2	19.6	40	W	0.3	0.1			0			0	0	Blue sky	
Hazaribagh	27.92	709.1	30.01	762.3	58.8	14.9	39	NW	6.1	2.7			0			0	0	Blue sky	
Cuttack	29.87	758.7	29.95	760.8	72.0	22.2	74	E	2	0.9			0			0	0	Blue sky	
Calcutta (Alipore)	29.93	760.3	29.95	760.8	60.8	16.0	88	NNW	3.0	1.3			0			0	0	Blue sky	
Goalpara	29.52	749.7	29.92	759.9	71.7	22.1	62	W	1.9	0.9			0			0	0	Blue sky	
Chittagong	29.83	757.7	29.92	760.0	68.8	20.4	70	WNW	2.8	1.2			0			0	0	Misty	
Silsagar	29.60	751.8	29.94	760.5	70.0	21.1	85	NW	1.3	0.6			3			0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversion are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,026 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,361 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	29.53	750.0	29.95	760.7	43.2	6.2	74	SE	31.8	14.2	.....	.....	10	.....	.....	2.067	52.5	.....	Prof. Giovanni Clodig.
Milan	29.38	746.2	29.91	759.8	34.2	1.2	78	NW	.....	.....	1	.....	10	.....	.....	0.256	6.5	.....	Prof. Schiaparelli.
Padua	29.79	756.7	29.91	759.6	47.5	8.6	83	NE	11.9	5.3	.....	.....	10	E	.....	0.240	6.1	.....	Prof. Dott. Lorenzoni.
Moncalieri	28.97	735.7	29.89	759.2	38.8	3.8	93	ENE	0.7	0.3	.....	.....	10	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.66	753.4	29.86	758.4	55.8	13.2	59	E	0.7	0.3	.....	.....	10	SE	.....	0.063	1.6	.....	Prof. G. M. Garibaldi.
Mondovi	27.94	709.6	29.90	759.4	42.1	5.6	81	NE	.....	.....	2	.....	8	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.83	757.7	29.88	759.0	47.3	8.5	87	NW	8.1	3.6	.....	.....	9	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.63	752.5	29.89	759.3	54.5	12.5	71	SW	.....	.....	2	.....	10	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.80	757.0	29.88	759.0	43.9	6.6	77	ENE	3.1	1.4	.....	.....	10	.....	.....	0.413	10.5	.....	Prof. P. Monte.
Rome	29.73	755.1	29.91	759.6	59.0	15.0	81	S	9.4	4.2	.....	.....	10	.....	.....	0.004	0.1	.....	Prof. P. S. Ferrari.
Lecce	29.72	755.0	29.98	761.5	62.1	16.7	77	SE	8.1	3.6	.....	.....	3	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.69	738.8	29.98	761.4	62.6	17.0	76	SE	5.6	2.5	.....	.....	5	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.67	753.5	29.86	758.4	66.2	19.0	74	SE	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.75	755.6	30.00	762.0	68.4	20.2	53	WSW	3.1	1.4	.....	.....	9	.....	.....	0	0	.....	Prof. G. Cincciatore.
Syracuse	29.94	760.5	30.01	762.3	62.8	17.1	76	SE	3.8	1.7	.....	.....	10	WSW	.....	0	0	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.43	747.5	29.95	760.8	60.3	15.7	96	SE	4.3	1.9	.....	.....	10	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.01	762.2	30.03	762.7	48.2	9.0	94	NNE	5.6	2.5	.....	.....	9ck;s	.....	.....	0.390	9.91	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.72	754.9	29.92	759.9	54.5	12.5	89	ENE	3.2	1.4	.....	.....	9cs	.....	.....	0.330	8.38	Cloudy	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.92	759.9	29.99	761.7	45.9	7.7	80	NNW	3.2	1.4	.....	.....	9ck	.....	WSW	0	0	Cloudy	The Staff.
Wakayama	29.95	760.7	30.00	762.0	48.1	18.9	95	SE	2.2	1.0	.....	.....	10cs;s	W	W	0.306	7.77	Cloudy	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	25.08	637.1	30.33	770.4	38.3	3.5	37	Calm	.....	.....	0	.....	1	.....	.....	0	0	Clear	Prof. L. Perez.
Leon	24.48	621.7	30.34	770.5	46.9	8.3	85	NW	.....	.....	1	0	0	.....	.....	0	0	Blue sky	Prof. M. Leal.
Mazatlan	29.75	755.6	30.01	762.2	67.5	19.7	90	Calm	.....	.....	0	8u	0	.....	.....	0	0	Cloudy	I. Guerrero, C. E.
Mexico, Central Observatory	23.11	587.0	30.31	769.8	43.5	6.4	81	Calm	0	0	.....	.....	10pk	.....	.....	0	0	Covered	The Staff.
Pabellon (Aguascallientes)	.....	.....	.....	.....	42.6	5.9	82	NW	.....	.....	1	4cs	0	SW	.....	0	0	Fair	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.49	596.6	30.54	775.6	37.2	2.9	65	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.22	615.1	30.52	775.1	35.2	1.8	70	E	.....	.....	2	.....	10	.....	E	0	0	Covered	G. Barroeta, M. D.
Tlacotalpam	30.13	765.2	30.14	765.5	66.4	19.1	94	Calm	.....	.....	0	9	0	SE	.....	0	0	Cloudy	Prof. M. M. Chàzaro
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell
Zacatecas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. Castrillon.

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised: the cirrus clouds have been transferred to the upper-cloud column; the instrumental correction —0.88 mm., or —0.035 inch, has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Groningen	30.26	768.7	30.26	768.7	32.9	0.5	.....	E	.....	.....	4	.....	.....	.....	.....	0	0	.....	.....
Helder	30.29	769.3	30.34	770.7	33.8	1.0	.....	E	.....	.....	.....	.....	.....	.....	.....	0.020	0.5	.....	.....
Hellevoetsluis	30.32	770.0	30.32	770.0	38.9	1.6	.....	ENE	.....	.....	5	.....	.....	.....	.....	0	0	.....	.....
Utrecht	30.26	769.0	30.28	769.0	30.3	— 0.4	96	ENE	.....	.....	3	.....	.....	.....	.....	0	0	.....	.....
.....	30.25	768.3	30.30	769.5	34.3	1.3	88	E	.....	.....	2	.....	10	.....	.....	0	0	Dull	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.53	775.4	30.58	776.8	32.7	0.4	75	Calm	0	0	.....	.....	8	.....	.....	0	0	.....	
Brönö	30.29	769.4	30.33	770.4	39.2	4.0	84	WNW	18	8	.....	.....	10	.....	.....	0.236	6.0	Raining	
Christiana	30.47	773.9	30.63	778.0	20.3	— 6.5	90	ENE	0	0	.....	.....	3	.....	.....	0	0	Light fog	
Tromsö	29.82	757.4	29.86	758.5	35.2	1.8	71	WSW	9	4	.....	.....	10	.....	.....	0.299	7.6	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	29.60	751.9	29.80	756.8	57.6	14.2	78	ENE	18.6	8.3	.....	.....	3	.....	.....	0.098	2.5	.....	Dr. J. A. Sampaio.
Campo Major	28.85	732.8	29.88	758.9	60.4	15.8	87	SSW	6.3	2.8	.....	.....	10	.....	.....	0.673	17.1	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	29.49	749.1	29.58	751.3	68.0	20.0	85	S	8.7	3.9	.....	.....	10	.....	.....	1.433	36.4	Raining	Capt. D. A. de Cunha.
Lisbon Observatory	29.47	748.5	29.82	757.5	64.4	18.0	90	SW	29.8	13.3	.....	.....	10	.....	.....	1.378	35.0	Raining	The Staff.
Ponta Delgada (Azores)	29.55	750.6	29.62	752.4	60.1	15.6	73	NE	29.3	13.1	.....	.....	10	.....	.....	0.024	0.6	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias				A. G. da Silva Costa, Com'd't.
D. Fernando				A. M. de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.				J. C. M. Cabrate, 1st Lt.
Mindello				J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos				H. de C. C. e Athayde.
Rio Duro				J. T. d'Oliveria, Com'd't
Rio Lima. Capt. S. C. da Silva Costa, Porto Praya. Cape Verd I'ds.			D. clouds. 4½ hr's rain-fall.	A. D. de Fonseca Saruento
Sá da Bandeira				Louiz Apra, Q. Ma.
Sado, Capt. J. A de Brito Capello, St. Paul de Loando			D. clouds	H. Mecudonco, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes, Hong Kong, China	0		Blue sky	J. G. Felgo, 2nd Lieut.

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between upper and lower clouds, and no humidity is given; duration of rain-fall in hours. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	30.02	762.5	30.04	763.0	13.3	—10.4	97	WSW	13	6	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow
Astrakhan	30.19	766.9	30.11	764.8	38.1	3.4	80	SE	7	3	.....	10cp	.....	.....	.....	.....	.....	.....	Capt. Wisganow.
Barnaul	29.93	760.1	30.47	774.0	11.7	—11.3	75	SW	11	5	.....	.....	10	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Dorpat	30.27	768.8	30.54	775.6	16.2	— 8.8	82	WNW	4	2	.....	.....	0	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	28.81	731.7	29.82	757.5	18.9	— 7.3	64	SW	27	12	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk																			
Kasan	29.61	752.0	29.89	759.2	20.3	— 6.5	96	NNW	9	4	.....	.....	10	.....	.....	.....	.....	Snowing	Physical Cabinet.
Kertch																			Lagorio.
Kieff	29.18	741.2	29.85	758.2	33.6	0.9	98	S	2	1	.....	.....	10n	.....	.....	.....	.....	Snowing	Physical Cabinet.
Krotkowo*	29.47	748.4	29.97	761.1	26.6	— 3.0	89	SW	2	1	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	29.73	756.3	29.99	761.7	37.4	3.0	83	E	9	4	.....	.....	10	.....	.....	[illegible]	[illegible]	.....	Meteorological Obs
Moscow	29.67	753.5	30.28	769.0	7.9	—13.4	80	N	7.8	3.5	.....	.....	2s	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	27.70	703.6	30.25	768.4	— 2.9	—19.4	86	SSW	2	1	.....	.....	4	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Nikolaiev	29.88	758.9	29.95	760.7	47.1	8.4	82	SSW	9	4	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	30.13	765.2	30.37	771.5	28.8	— 1.8	51	ESE	4	2	.....	.....	0	.....	.....	.....	.....	.....	
Orenberg																			
Pekin (China)	30.04	762.9	30.18	766.5	41.4	5.2	78	Calm	0	0	.....	.....	3cs	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	30.43	773.0	30.45	773.4	13.1	—10.5	97	NNW	4	2	.....	.....	2cs	.....	.....	.....	.....	.....	Central Physical Obs.
Tashkend	28.86	733.1	30.58	776.7	21.2	— 6	66	.....	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.69	728.8	30.14	765.5	48.6	9.2	84	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock																			
Warsaw	29.72	754.8	30.17	766.3	23.0	— 5.0	79	NE	18	8	.....	.....	10n	.....	.....	.....	.....	Light snow	Astronomical Obs.
Wilna	29.87	758.6	30.32	770.2	17.2	— 8.2	68	NNE	7	3	.....	.....	0	.....	.....	.....	.....	.....	Astronomical Obs.
Yenisiesk	29.63	752.5	29.93	760.3	14.4	— 9.8	86	W	4	2	.....	.....	10	.....	.....	.....	.....	.....	Marks.

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	29.74	755.4	29.85	758.1	52.7	11.5	87	ENE	3.3	1.47	.....	.....	10	.....	.....	0.024	0.61	Covered	Antonio Rave, Director
Bilbao, Met. Obs'y	29.73	755.2	29.79	756.7	48.2	9.0	93	SE	1.5	0.66	.....	.....	10	.....	.....	0	0	Covered	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.87	682.4	.....	.....	44.2	6.8	85	SW	2.6	1.14	.....	0	9	.....	.....	0.236	6.0	Almost cov'd	Domingo Martin y Perez.
Madrid, Royal Observatory	27.63	701.7	29.84	758.0	56.1	13.4	91	SW	14.2	6.33	.....	0	10	.....	.....	0.268	6.8	Rainy	The Staff.
Murcia, Met. Obs'y	29.75	755.7	29.91	759.6	59.2	15.1	86	WSW	18.1	0.81	.....	5	5	E	.....	0.017	0.42	Misty	Olayo Diaz, Director.
Santiago, Met. Obs'y	28.94	735.0	29.83	757.6	55.4	13.0	70	SW	3.8	1.7	.....	.....	3	.....	.....	0	0	Cloudy	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Huvana, Cuba, W. I.	30.09	764.3	30.16	766.0	72.6	22.6	63	ENE	11.9	5.3	.....	0	1k	.....	ENE	0	0	Clear	Benito Vines S. J.
Manilla, Phillippine Islands	29.76	756.0	29.82	757.4	81.0	27.2	87	N	3.8	1.7	.....	4ck	4ks	W	E	0	0	Very cloudy	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.84	757.9	29.94	760.4	68.5	20.3	80	Calm	0	0	.....	0	10	.....	Calm	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.85	758.3	29.95	760.6	75.9	24.4	92	SE	0	0	.....	4kn	3kn	SE	SE	0.149	3.75	Raining	Enrique Gadea, Chief Eng'r

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8·19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer, corrected for instrum'tal error and temperature. Inches.	Barometer, corrected for instrum'tal error and temperature. Millimeters.	Barometer, reduced to sea-level. Inches.	Barometer, reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.92	760.0	29.96	761.0	27.0	— 2.8	.....	W	.....	.....	4	.....	10	.....	.....	0	0	.....	
Umea	30.16	766.1	30.21	767.4	28.8	— 1.8	84	NW	.....	.....	2	.....	10	.....	.....	0	0	.....	
Hernosand	30.33	770.4	30.38	771.7	27.7	— 2.4	71	W	.....	.....	2	.....	8	.....	.....	0	0	.....	
Stockholm	30.39	772.0	30.57	776.5	23.7	— 4.6	54	WNW	.....	.....	2	.....	2	.....	.....	0	0	.....	
Wisby	30.40	772.1	30.46	773.6	28.4	— 2.0	72	E	.....	.....	6	.....	10	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	30.46	773.8	30.55	776.0	20.8	— 6.2	90	WSW	2.9	1.3	.....	.....	0	.....	.....	0	0	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.51	724.2	29.08	761.6	38.8	3.8	74	N	.....	.....	4	.....	10	.....	.....	0	0	Covered.....	The Observatory.
Zurich	28.40	721.3	30.17	766.4	35.2	1.8	81	SE	.....	.....	2	.....	10	.....	.....	0	0	Covered.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, —2.5 mm.; Thermometer, —1.3 Cent.; Relative Humidity, —4 per cent

NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.00	761.9	52.7	11.5	80	SW	4	2.0	.....	.....	9	.....	WSW	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.99	761.7	63.0	17.2	.....	SW	.....	.....	1	.....	5	.....	.....	0	0	Cloudy.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.85	758.2	29.97	761.1	67.5	19.7	66	SW	.....	.....	2	.....	4n	.....	SW	0.29	7.4	D. clouds.....	Prof. C. V. A. van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the cale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	30.14	765.5	30.21	767.3	2.2	—16.6	86	S	1	0.4	.....	2c	0	.....	.....	.....	.....	.....	G. A. Blair.
Charlottetown, P. E. Island	30.21	767.3	30.25	768.3	17.5	— 8.1	90	SW	4	1.8	.....	0	2s	.....	.....	0.06	1.5	Fair.....	H. J. Cundall, C. E.
Cornwall, Ontario	29.53	750.0	29.73	755.1	34.6	1.4	78	SW	.....	.....	5	.....	10s	.....	.....	0.09	2.3	Fair.....	James Smith, M. A.
Dalhousie, N. B	29.98	761.5	30.16	766.1	9.2	—12.7	.....	W	.....	.....	1	0	9s	.....	.....	0	0	Cloudy.....	H. A. Johnson.
Father Point, Quebec	29 84	757.9	29.86	758.4	15.7	— 9.1	74	SE	9	4.0	.....	.....	10s	.....	.....	0	0	Cloudy.....	J. McWilliams.
Fredericton, N. B	30.15	765.8	30.22	767.6	9.6	—12.4	98	E	3	1.3	.....	4ck,cs	0	.....	.....	0	0	Threatening	Prof. Harrison.
Fort Garry, Manitoba	29.26	743.2	30.18	766.6	4.0	—15.6	93	NW	4	1.8	.....	0	1s	.....	.....	0.34	8.6	Fair.....	James Stewart.
Granton, Ontario	28.73	729.7	29.87	758.7	31	— 0.6	.....	W	.....	.....	2	1c	0	W	.....	0	0	Fine.....	James Grant.
Halifax, N. S	30.18	766.6	30.32	770.1	17.8	— 7.9	90	W	2	0.9	.....	2cs	0	.....	.....	0	0	Clear.....	A. Allison.
Hamilton, Ontario	29.46	748.3	29.85	758.2	30.7	2.6	94	NW	.....	.....	1	0	0	.....	.....	0.01	0.3	Clear.....	Geo. Dickson, B. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	Clear.....	E. Weedon.
Kingston, Ontario	29.42	747.3	29.76	755.9	41.1	5.1	75	W	26	11.6	.....	.....	10n	.....	.....	.....	.....	.....	S. Woods, M. A.
Little Glace Bay, N. S	30.22	767.6	30.26	768.6	29.7	— 1.3	92	W	7	3.1	.....	.....	10n	.....	.....	0.01	0.3	Light rain...	C. H. Rigby.
Montreal, Quebec	29.59	751.6	29.80	756.9	29.8	— 1.2	77	S	17	7.6	.....	.....	10n	.....	.....	0	0	Overcast.....	C. H. McLeod, C. E.
Moose Factory, Ontario	29.38	746.2	29.41	747.0	20.5	— 6.4	91	SW	.....	.....	4	0	7	.....	.....	0.08	2.0	Light snow.	J. R. Nason.
Norwood	29.01	736.8	29.72	754.9	35.0	1.7	72	SW	.....	.....	3	4k	0	W	.....	0.20	5.1	Fair.....	Rev. T. F. Fotheringham, M. A.
Parry Sound, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	Clearing.....	Rev. R. Mosley.
Peterboro, Ontario	28.99	736.3	29.76	755.9	35.5	1.9	62	W	.....	.....	2	0	8ks	.....	.....	.....	.....	.....	J. F. Jeffers, M. A.
Port Dover, Ontario	29.17	740.9	29.88	758.9	38.0	3.3	72	W	18	8.0	.....	0	0	.....	.....	0	0	Cloudy.....	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	Clear.....	Peter Grant.
Port Stanley, Ontario	29.26	743.2	29.93	760.2	35.8	2.1	65	W	24	10.7	.....	2k	0	W	.....	.....	.....	.....	M. Payne.
Quebec, Quebec	29.56	750.8	29.90	759.4	19	— 7.2	85	NE	.....	.....	1	.....	10n	.....	.....	0	0	Fair.....	Capt. Ashe, R. N.
Rockliffe, Ontario	29.15	740.4	29.63	752.6	31.5	— 0.3	89	Calm	0	0	.....	.....	9s	.....	SW	0	0	Cloudy.....	W. H. McIntyre.
St. Andrews, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Inap.	Inap.	Light snow.	Dr. Gove.
St. John, N. B	30.04	763.0	30.22	767.6	13	—10.6	100	NE	3	1.3	.....	.....	10ks	.....	.....	.....	.....	.....	G. Murdock, C. E.
Saugeen, Ontario	29.05	737.9	29.78	756.4	35.0	1.7	80	W	34	15.2	.....	.....	9ks	.....	.....	0.32	8.1	Cloudy.....	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.03	0.8	Cloudy.....	R. J. Cole.
Stratford, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. MacGregor, M. A.
Sydney, C. B	28.54	724.9	29.86	758.4	32.0	0.0	86	NW	17	7.6	.....	0	7ks	.....	.....	0	0	Cloudy.....	T. C. Hill, C. E.,
Toronto, Ontario	30.21	767.3	30.25	768.3	27.0	— 2.8	81	SW	8	3.6	.....	.....	10ks	.....	.....	.....	.....	.....	Magnetic Observatory.
Windsor, N. S	29.42	747.3	29.82	757.4	34.8	1.6	70	N	11	4.9	.....	2ck	2s	SW	SW	0.47	11.9	Overcast.....	Prof. John E. Oram, M. A.
Woodstock, Ontario	30.16	766.1	30.26	768.6	17.0	— 8.3	100	SW	5	2.2	.....	5cs	0	.....	.....	0	0	Fair.....	Prof. J. Montgomery.
Yarmouth, N. S	28.77	730.7	29.87	758.7	31.5	— 0.3	90	SW	20	8.9	.....	0	1s	.....	.....	0	0	Fair.....	Lt. F. E. Wilmot, R. N.
Sub-Series.	30.19	766.8	30.25	768.3	24.5	— 4.2	75	SE	.....	.....	2	2c	4s	W	.....	0	0	Clear.....	
St. Johns, Newfoundland	29.88	758.9	30.14	765.5	32.5	0.3	94	NW	.....	.....	.....	0	2s	.....	.....	0.92	23.4	Fair.....	John Delany.
St. Pierre, N. F., l'Hopital Maritime.	.....	.....	30.10	764.4	33.8	1	.....	NW	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	The Commandant.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10, except Yarmouth and St. Johns on scale 0 to 20. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of BVT. BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0–10.	CLOUDS. Amount. Up'er 0–10.	CLOUDS. Amount. Lo'er 0–10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER
Albany, New York	29.77	756.1	30.01	762.2	32	0.0	59	S	18	8.0	.....	.....	10s	.....	SW	0	0	Cloudy	
Alpena, Michigan	29.18	741.1	29.84	757.9	31	— 0.6	89	W	10	4.5	.....	.....	10s	.....	W	0.01	0.3	Cloudy	
Atcha, Aleutian Is., Alaska																			
Atlanta, Georgia	29.16	740.7	30.36	771.1	42	5.6	65	SE	4	1.8	.....	.....	10s;sme	.....	Calm	0	0	Cloudy	
Atlantic City, New Jersey	30.20	767.1	30.21	767.3	42	5.6	69	SW	14	6.3	.....	8c	0	SW	.....	0	0	Fair	
Augusta, Georgia	30.20	767.1	30.41	772.4	36	2.2	71	Calm	0	0	.....	Haze	Fog	Calm	Calm	0	0	Fair	
Baltimore, Maryland	30.14	765.5	30.19	766.8	36	2.2	61	S	7	3.1	.....	.....	10s	.....	W	0	0	Cloudy	
Barnegat, New Jersey	30.17	766.3	30.19	766.8	36	2.2	80	SW	12	5.4	.....	2c	2s	W	SW	0	0	Fair	
Bismarck, Dakota	28.22	716.8	30.08	764.0	15	— 9.4	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Boerne, Texas	28.67	728.2	29.97	761.2	61	16.1	94	SE	.....	.....	1	.....	10ks	.....	SE	0	0	Cloudy	
Boise City, Idaho	27.17	689.8	30.13	765.3	29	— 1.7	78	S	2	0.9	.....	5cs	0	Calm	.....	0	0	Fair	
Boston, Massachusetts	30.03	762.7	30.19	766.8	36	2.2	61	S	6	2.7	.....	0	8s	.....	Calm	0	0	Fair	
Brackettville, Texas	28.89	733.8	29.94	760.5	58	14.4	94	E	6	2.7	.....	.....	10ks	.....	E	0	0	Cloudy	
Breckenridge, Minnesota	29.10	739.1	30.18	766.6	13	—10.6	100	W	6	2.7	.....	0	5s	.....	Calm	0	0	Fair	
Brownsville, Texas	30.08	764.0	30.12	765.0	70	21.1	80	SE	4	1.8	.....	10k	0	SE	.....	0.02	0.5	Cloudy	
Buffalo, New York	29.12	739.6	29.82	757.4	42	5.6	58	W	28	12.5	.....	5k	0	W	.....	0	0	Fair	
Burkes, Arizona					37	2.8	63	N	.....	.....	1	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.59	751.6	29.89	759.2	31	— 0.6	79	S	20	8.9	.....	.....	10ks	.....	.....	Inap.	Inap.	Cloudy	
Cairo, Illinois	29.88	758.9	30.28	769.1	50	10.0	86	Calm	0	0	.....	.....	10s	.....	Calm	0.05	1.3	Cloudy	
Campo, California	27.40	696.0	29.97	761.2	24	— 4.4	74	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.37	771.4	30.38	771.6	41	5.0	91	NW	1	0.4	.....	8c	0	W	.....	0	0	Fair	
Cape Henry, Virginia	30.28	769.1	30.30	769.6	35	1.7	53	SW	13	5.8	.....	0	5ks	.....	S	0	0	Fair	
Cape Lookout, N. Carolina	30.36	771.1	30.38	771.6	41	5.0	82	N	2	0.9	.....	8cs	0	W	.....	0	0	Cloudy	
Cape May, New Jersey	30.18	766.6	30.21	767.3	51	10.6	59	S	30	13.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Castroville, Texas																			
Cedar Keys, Florida	30.31	769.9	30.33	770.4	51	10.6	100	NE	8	3.6	.....	.....	Fog	.....	Calm	0	0	Dense fog	
Charleston, South Carolina	30.31	769.9	30.37	771.4	47	8.3	77	NE	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Charlotte, North Carolina	29.44	747.8	30.30	769.6	36	2.2	71	SW	3	1.3	.....	10cs	Sm'e	Calm	Calm	0	0	Cloudy	
Chattanooga, Tennessee	29.52	749.8	30.36	771.1	42	5.6	66	W	2	0.9	.....	5ck;cs	Sm'e	W.Calm	Calm	0	0	D. smoke	
Cheyenne, Wyoming	23.98	609.1	29.92	760.0	28	— 2.2	54	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.39	746.5	30.11	764.8	31	— 0.6	58	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Cincinnati, Ohio	29.52	749.8	30.19	766.8	46	7.8	54	W	6	2.7	.....	0	1s	.....	Calm	0	0	Clear	
Cleveland, Ohio	29.26	743.2	30.00	762.0	40	4.4	73	SW	18	8.0	.....	1cs	Haze	W	Calm	0	0	Clear	
Coleman City, Texas	28.29	718.6	29.99	761.7	47	8.3	70	S	4	1.8	.....	5ck	0	S	.....	0	0	Fair	
Columbus, Ohio	29.28	743.7	30.14	765.5	42	5.6	60	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Concho, Texas	28.21	716.5	29.91	759.7	51	10.6	59	SW	.....	.....	1	.....	10ks	.....	Calm	0	0	Cloudy	
Corsicana, Texas	29.71	754.6	30.18	766.6	62	16.7	83	S	4	1.8	.....	0	8ks	.....	S	0	0	Cloudy	
Davenport, Iowa	29.52	749.8	30.20	767.1	30	— 1.1	57	W	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Deadwood, Dakota	25.26	641.6	.....	.....	34	1.1	70	W	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas																			
Denison, Texas	29.30	744.2	30.09	764.3	59	15.0	82	S	6	2.7	.....	2k	2s	SW	SW	0	0	Fair	
Denver, Colorado	24.76	628.9	29.98	761.5	25	— 3.9	81	S	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	29.33	745.0	30.26	768.6	29	— 1.7	67	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Detroit, Michigan	29.29	744.0	29.97	761.2	34	1.1	79	W	8	3.6	.....	2k	0	Calm	.....	0	0	Clear	
Dodge City, Kansas	27.53	699.2	29.93	760.2	30	— 1.1	68	N	4	1.8	.....	0	Sm'e	.....	Calm	0	0	Clear	
Dubuque, Iowa	29.44	747.8	30.18	766.6	26	— 3.3	63	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Duluth, Minnesota	29.36	745.7	30.08	764.0	21	— 6.1	86	W	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Eagle Pass, Texas	29.25	742.9	29.98	761.5	58	14.4	88	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	30.10	764.5	30.17	766.3	31	— 0.6	79	SE	1	0.4	.....	.....	10ks	.....	S	0	0	Cloudy	
Edinburg, Texas	.....	.....	.....	.....	66	18.9	80	S	.....	.....	1	0	2s	.....	Calm	0	0	Fair	
El Paso, Texas																			
Erie, Pennsylvania	29.22	742.2	29.95	760.7	40	4.4	56	W	16	7.2	.....	0	5ks	.....	W	0	0	Fair	
Escanaba, Michigan	29.27	743.4	29.95	760.7	27	— 2.8	76	NW	10	4.5	.....	.....	10s	.....	NW	0.06	1.5	Cloudy	
Florence, Arizona	28.45	722.6	30.05	763.3	41	5.0	74	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Assiniboine, Montana																			
Fort Buford, Dakota	27.90	708.6	29.86	758.4	15	— 9.4	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Custer, Montana	26.66	677.2	.....	.....	20	— 6.7	70	SW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.22	640.6	30.18	766.6	37	2.8	63	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.56	750.8	30.10	764.5	57	13.9	81	SE	4	1.8	.....	.....	10s	.....	S	0	0	Cloudy	
Fort Grant, Arizona	25.18	639.6	29.98	761.5	45	7.2	33	E	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	28.80	731.5	30.10	764.5	46	7.8	77	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Keogh, Montana	27.31	693.7	.....	.....	12	—11.1	28	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	27.79	705.8	29.70	754.4	57	13.9	87	E	4	1.8	.....	.....	10ks	.....	SW	0	0	Cloudy	
Fort St. Michael, Alaska																			
Fort Shaw, Montana																			
Fort Sill, Indian Territory	28.83	732.3	29.95	760.7	47	8.3	85	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota																			
Fort Verde, Arizona					29	— 1.7	78	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fort Yates, Dakota																			
Fredericksburg, Texas	28.30	718.8	29.87	758.7	55	12.8	93	S	9	4.0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Galveston, Texas	30.15	765.8	30.19	766.8	67	19.4	84	S	5	2.2	.....	0	8ks	.....	SW	0	0	Cloudy	
Graham, Texas	29.00	736.6	30.07	763.8	46	7.8	92	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Grand Haven, Michigan	29.32	744.7	29.98	761.5	35	1.7	80	N	22	9.8	.....	0	5s	.....	N	0	0	Fair	
Helena, Montana																			
Henrietta, Texas	29.10	739.1	30.04	763.0	51	10.6	86	S	7	3.1	.....	0	5s	.....	S	0	0	Fair	
Indianapolis, Indiana	29.34	745.2	30.14	765.5	38.5	3.6	64	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Indianola, Texas	30.14	765.5	30.17	766.3	65	18.3	94	SE	6	2.7	.....	1c	0	W	.....	0	0	Clear	
Jacksboro, Texas	28.98	736.1	30.09	764.3	65	18.3	68	S	6	2.7	.....	8k	0	S	.....	0	0	Fair	
Jacksonville, Florida	30.32	770.1	30.35	770.9	55	12.8	81	NW	6	2.7	.....	.....	10s	.....	NW	0	0	Cloudy	
Keokuk, Iowa	29.55	750.6	30.19	766.8	34	1.1	70	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Key West, Florida	30.16	766.1	30.20	767.1	67	19.4	84	NE	16	7.2	.....	1k	0	NE	.....	0	0	Clear	
Kittyhawk, North Carolina	30.33	770.4	30.36	771.1	39	3.9	73	W	8	3.6	.....	2	Haze	W	Calm	0	0	Fair	
Knoxville, Tennessee	29.30	744.2	30.35	770.9	36.5	2.5	75	SW	2	0.9	.....	2k	5s	SW	SW	0	0	Fair	
La Crosse, Wisconsin	29.38	746.2	30.16	766.1	26	— 3.3	75	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	
La Mesilla, New Mexico	26.09	662.7	30.24	768.1	30	— 1.1	47	NW	1	0.4	.....	0	1s	.....	Calm	0	0	Clear	
Laredo, Texas	29.69	754.1	30.03	762.7	70	21.1	75	SW	4	1.8	.....	.....	10s	.....	SW	0	0	Cloudy	
Leavenworth, Kansas	29.36	745.7	30.4	768.1	35	1.7	80	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Little Rock, Arkansas	29.87	758.7	30.23	767.8	52	11.1	86	SW	7	3.1	.....	10ck	0	W	.....	0	0	Cloudy	
Los Angeles, California	29.66	753.4	30.02	762.5	38.5	3.6	87	N	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.63	752.6	30.19	766.8	52	11.1	66	SW	9	4.0	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Lynchburg, Virginia	29.54	750.3	30.26	768.6	38	3.3	53	SW	2	0.9	.....	.....	10s	.....	SW	0	0	Cloudy	
Madison, Wisconsin	29.04	737.6	30.07	763.8	28	— 2.2	66	NW	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Marquette, Michigan	28.20	716.3	29.93	760.2	26	— 3.3	75	NW	5	2.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Mason, Texas	28.45	722.6	30.19	766.8	63	17.2	83	SE	.....	.....	.....	.....	10s	.....	S	0	0	Cloudy	
Memphis, Tennessee	29.88	758.9	30.22	767.6	53	11.7	79	S	8	3.6	.....	5cs	2s	Calm	Calm	0	0	Cloudy	
Milwaukee, Wisconsin	29.30	744.2	30.07	763.8	28	— 2.2	77	NW	14	6.3	.....	0	1s	.....	Calm	0	0	Clear	
Mobile, Alabama	30.30	769.6	30.34	770.6	47	8.3	92	N	4	1.8	.....	0	Sm'e	.....	.....	0	0	Smoky	
Montgomery, Alabama	30.14	765.5	30.39	771.9	41	5.0	82	E	1	0.4	.....	10k	Fog	W	Calm	0	0	Cloudy	

UNITED STATES SERIES—CONTINUED.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit. °	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER
Morgantown, West Virginia	29.11	739.4	30.10	764.5	51	10.6	53	SW	10	4.5	.....	.....	10ks	.....	SW	0	0	Cloudy.....	
Mt. Washington, N. H.	23.45	595.6	29.81	757.2	15	— 9.4	83	W	72	32.2	.....	.....	10ks	.....	W	0	0	Cloudy.....	
Nashville, Tennessee	29.71	754.6	30.20	768.6	53	11.7	42	S	3	1.3	.....	.....	10ks	.....	SW	0	0	Cloudy.....	
New Haven, Connecticut	30.02	762.5	30.14	765.5	41	5.0	57	SW	12	5.4	.....	5ck	5s	SW	SW	0	0	Cloudy.....	
New London, Connecticut	30.12	765.0	30.17	766.3	42	5.6	70	SW	16	7.2	.....	4k	1ks	SW	SW	0	0	Fair.....	
New Orleans, Louisiana	30.24	768.1	30.30	769.6	58	14.4	82	E	4	1.8	.....	0	Foglsm	.....	Calm; E	0	0	Smoky	
Newport, Rhode Island	30.10	764.5	30.15	765.8	44	6.7	76	SW	14	6.3	.....	5k	5ks	SW	SW	0	0	Cloudy.....	
New York, New York	29.99	761 7	30.18	766.6	38	3.3	63	S	15	6.7	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Norfolk, Virginia	30.25	768.3	30.32	770.1	34	1.1	61	S	9	4.0	.....	0	0	.....	.....	0	0	Clear	
North Platte, Nebraska	27.12	688.8	29.92	760.0	20	— 6.7	85	W	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Olympia, Washington Ter.	30.12	765.0	30.16	766.1	40.5	4.7	91	S	2	0.9	.....	10k	0	W	.....	0	0	Cloudy.....	
Omaha, Nebraska	29.04	737.6	30.20	767.1	30	— 1.1	68	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Oswego, New York	29.51	749.5	29.84	757.9	41	5.0	65	S	16	7.2	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Pembina, Dakota	29.18	741.1	30.09	764.3	5	—15.0	100	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Pensacola, Florida	29.35	745.5	30.38	771.6	46	7.8	84	N	6	2.7	.....	0	Fog	.....	Calm	0	0	Clear	
Philadelphia, Pennsylvania	30.06	763.5	30.11	764.8	37	2.8	63	SW	20	8.9	.....	.....	10s	.....	W	0	0	Cloudy.....	
Phœnix, Arizona	28.82	732.0	30.67	779.0	45	7.2	61	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.60	447.0	29.82	757.4	12	—11.1	.....	SW	16	7.2	.....	8cs	0	Calm	.....	0	0	Fair.....	
Pilot Point, Texas	29.36	745.7	30.19	766.8	61	16.1	77	S	11	4.9	.....	5k	5s	S	SE	0	0	Cloudy.....	
Pioche, Nevada	.....	.....	.....	.....	34	1.1	52	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.25	742.9	30.07	763.8	46	7.8	40	W	10	4.5	.....	0	0	.....	.....	0	0	Clear.....	
Port Huron, Michigan	29.23	742.4	29.92	760.0	30	— 1.1	89	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Portland, Maine	30.05	763.3	30.10	764.5	32	0.0	69	W	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Portland, Oregon	30.14	765.5	30.21	767.3	40.0	4.4	88	SE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Portsmouth, N. Hampshire	.....	.....	.....	.....	42	5.6	74	NW	3	1.3	.....	8c	0	Calm	.....	0	0	Cloudy.....	
Prescott, Arizona	24.72	627.9	30.08	764.0	28	— 2.2	66	N	.....	.....	1	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.25	768.3	30.26	768.6	58	14.4	76	N	11	4.9	.....	1ck	0	E	.....	0	0	Clear.....	
Red Bluff, California	29.70	754.4	30.07	763.8	41	5.0	78	N	6	2.7	.....	1c	0	NW	.....	0	0	Clear	
Rio Grande City, Texas	29.89	759.2	30.10	764.5	60	15.6	88	E	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Rochester, New York	29.21	741.9	29.84	757.9	38	3.3	72	SW	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Roseburg, Oregon	29.63	752.6	30.22	767.6	36.5	2.5	95	S	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Sacramento, California	29.95	760.7	30.04	763.0	43	6.1	92	Calm	0	0	.....	0	5s	.....	Calm	0	0	Fair.....	
St. Louis, Missouri	29.66	753.4	30.26	768.6	41	5.0	65	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
St. Paul, Minnesota	29.25	742.9	30.14	765.5	21	— 6.1	77	W	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Salt Lake City, Utah	25.67	652.0	30.00	762.0	25	— 3.9	75	SE	4	1.8	.....	.....	Fog	.....	.....	0	0	Foggy	
San Antonio, Texas	29.42	747.3	30.00	762.0	63	17.2	83	SE	2	0.9	.....	.....	10ks	.....	Calm	0	0	Cloudy.....	
San Diego, California	29.96	761.0	30.04	763.0	48	8.9	100	NE	.....	.....	.....	.....	Fog	.....	.....	0	0	Foggy.....	
Sandusky, Ohio	29.34	745.2	30.03	762.7	38	3.3	54	W	17	7.6	.....	0	0	.....	.....	0	0	Clear	
Sandy Hook, New Jersey	30.14	765.5	30.18	766.6	36	2.2	61	SW	15	6.7	.....	0	8s	.....	W	0	0	Fair.....	
San Francisco, California	29.99	761.7	30.06	763.5	48	8.9	85	NW	2	0.9	.....	.....	10s	.....	W	0	0	Cloudy.....	
Santa Fé, New Mexico	23.31	592.1	29.85	758.2	26	— 3.3	52	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.29	769.4	30.39	771.9	47	8.3	77	Calm	0	0	.....	1c	Sm'e	Calm	Calm	0	0	Clear	
Shreveport, Louisiana	29.98	761.5	30.23	767.8	57	13.9	88	Calm	0	0	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.35	770.9	30.38	771.6	39	3.9	82	N	5	2.2	.....	1k	Haze	S	.....	0	0	Clear	
Socorro, New Mexico	25.45	646.4	29.62	749.8	31	— 0.6	48	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois	29.55	750.6	30.25	768.3	38	3.3	59	W	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Springfield, Massachusetts	29.99	761.7	30.12	765.0	34	1.1	70	SW	9	4.0	.....	0	8ks	.....	SW	0	0	Cloudy.....	
Stockton, Texas	27.05	687.1	30.05	763.3	42	5.6	14	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass.	30.05	763.3	30.11	764.8	41	5.0	82	SW	27	12.1	.....	10cs	0	SW	.....	0	0	Cloudy.....	
Toledo, Ohio	29.31	744.5	30.01	762.2	37	2.8	63	SW	10	7.2	.....	0	0	.....	.....	0	0	Clear	
Tucson, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon	29.80	756.9	30.32	770.1	29.0	— 1.7	94	W	3	1.3	.....	.....	10s	.....	.....	0	0	Cloudy.....	
Uvalde, Texas	29.17	740.9	29.98	761.5	62	16.7	83	E	1	0.4	.....	5ck	5s	SW	SW	0	0	Cloudy.....	
Vicksburg, Mississippi	30.04	763.0	30.31	769.9	54	12.2	87	S	8	3.6	.....	0	1s	.....	Calm	0	0	Clear	
Virginia City, Montana	24.08	611.6	29.56	750.8	39	3.9	38	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.62	752.3	30.00	762.0	35.5	1.9	90	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	30.07	763.8	30.19	766.8	36	2.2	61	S	9	4.0	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Wickenburg, Arizona	.....	.....	.....	.....	31	— 0.6	69	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, North Carolina	30.30	769.6	30.38	771.6	36	2.2	80	Calm	0	0	.....	2cs	Fog	Calm	Calm	0	0	Fair.....	
Winnemucca, Nevada	25.65	651.5	30.01	762.2	17	— 8.3	83	NE	4	1.8	.....	0	4s	.....	Calm	0	0	Fair.....	
Wood's Holl, Massachusetts	30.12	765.0	30.16	766.1	48	8.9	56	S	28	12.5	.....	.....	10ks	.....	SW	0	0	Threatening	
Yankton, Dakota	28.92	734.6	30.31	769.9	21	— 6.1	57	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Yuma, Arizona	29.81	757.2	29.98	761.5	40	4.4	56	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	30.07	763.8	30.12	765.0	73	22.8	63	NE	3.6	1.6	.....	0	0	.....	.....	0	0	Clear.	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.13	765.3	30.14	765.5	76	24.4	87	Calm	0	0	.....	2k	2s	Calm	.....	0	0	Fair.....	James Gall.
Medellin, Colombia, S. A.*	25.19	639.8	.....	.....	65.5	18.6	85	Calm	.....	.....	0	.....	10n	.....	.....	0.21	5.3	.....	Thomas Herran.
Navassa, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A.	29.90	759.4	29.90	759.4	85	29.4	72	E	.....	.....	2	3c	3k	E	.....	0	0	⅛ cloudy.....	C. J. Hering.
Santiago de Cuba, W. I.	29.98	761.5	30.01	762.2	76	24.4	81	NNW	1.2	0.5	.....	0	4ks	.....	NE	0	0	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	30.04	763.0	30.10	764.5	—10.0	—23.3	78	N	8	3.6	.....	3k	5s	W	NW	0	0	Threatening	J. Fortescue & W. Wood

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Medellin, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,383 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,7.7 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,100 (?) ft., or 354 (?) m.; Denver, 5,260 ft., or 1,606 m.; Dodge City, 2,480 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,336.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 n.m.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm. *The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.34‡	770.6‡	.....	.....	51	10.6	86	NE	3	1.3	.....	.....	0	.....	.....	0	0	.....	.....	Clear	.....
Navy Yard, Portsmouth, N.H	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Naval Hospital, Yokohama, Japan	29.99‡	761.7‡	.....	.....	48	8.9	78	N	.....	.....	1	.....	8k	.....	W	0	0	.....	.....	Clearing	.....
Adams, Mare I'd., Navy Yard, Cal.	30.08‡	764.0‡	.....	.....	48	8.9	78	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....	Cloudy	.....
Alaska, Iquique, Peru .....*.	29.99‡	761.7‡	.....	.....	65	18.3	73	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....	Overcast	.....
Alliance, N. 19° 53′, W. 54° 07′	29.98‡	761.5‡	.....	.....	76	24.4	86	E	.....	.....	4	.....	10	.....	E	.....	.....	Mod'ate	ENE	Raining	.....
Colorado, New York, N. Y.	30.09‡	764.3‡	.....	.....	37	2.8	74	S	10	4.5	.....	.....	10	.....	SW	0	0	.....	.....	Threatening	
Constitution, Navy Yard, Norfolk, Va.	30.35‡	770.9‡	.....	.....	40	4.4	91	SSW	14	6.3	.....	.....	7	.....	SW	.....	.....	.....	.....	Pleasant	.....
Enterprise, Alexandria, Egypt	30.07‡	763.8‡	.....	.....	68	20.0	79	NW	.....	.....	3	.....	2	.....	NW	.....	.....	Smooth	.....	Cloudy	.....
Franklin, Off Navy Yard, Norfolk, Va.	30.32‡	770.1‡	.....	.....	33	0.6	82	SW	8.4	3.8	.....	.....	8	.....	NW	0	0	.....	.....	Fair	.....
Hartford, Boston, Mass	30.16‡	766.1‡	.....	.....	34	1.1	82	SW	.....	.....	3	.....	10	.....	.....	0	0	Smooth	.....	Cloudy	.....
Independence, Mare I'd, Navy Yard, Cal.	30.07‡	763.8‡	.....	.....	60	15.6	82	NNW	0.6	0.3	.....	.....	10	.....	NNW	0	0	.....	.....	Overcast	.....
Kearsage, Savannah, Ga	30.36‡	771.1‡	.....	.....	49	9.4	71	NW	.....	.....	1	.....	2	.....	.....	.....	.....	Smooth	.....	Fair	.....
Lackawana, N. 36° 13′ W. 168° 30′..†	29.84‡	757.9‡	.....	.....	65	18.3	73	SSE	.....	.....	6	.....	10	.....	NW	.....	.....	Mod'at	SSE	Cloudy	.....
Marion, Navy Yard, Brooklyn, N.Y.	30.18‡	766.6‡	.....	.....	37	2.8	75	SSW	.....	.....	3	.....	10	.....	W	.....	.....	Smooth	.....	Cloudy	.....
Michigan, Erie, Pa	29.93‡	760.2‡	.....	.....	44	6.7	61	WNW	.....	.....	5	.....	8	.....	W	.....	.....	.....	.....	Cloudy	.....
Monocacy, Shanghai, China	30.05‡	763.3‡	.....	.....	56	13.3	94	NNE	.....	.....	1-2	.....	10	.....	NE	.....	.....	.....	.....	Threatening	
New Hampshire, Port Royal, S. C	30.36‡	771.1‡	.....	.....	49	9.4	85	NE	6	2.7	.....	.....	1	Calm	W	0	0	.....	.....	Clear	.....
Onward, Callao, Peru .....†.	29.93‡	760.2‡	.....	.....	65	18.3	89	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Long	W	Misty	.....
Palos, Tientsin, China	30.18‡	766.6‡	.....	.....	42	5.6	??	NW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Foggy	.....
Passaic, Washington, D. C	30.17‡	766.3‡	.....	.....	37	2.8	91	SW	.....	.....	3	.....	5	.....	NE	0	0	.....	.....	Fair	.....
Pensacola, Callao, Peru	29.92‡	760.0‡	.....	.....	64	17.8	89	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Smoo	.....	Hazy	.....
Powhatan, Navy Yard, Brooklyn, N.Y.	30.26‡	768.6‡	.....	.....	38	3.3	68	SSW	.....	.....	3	.....	10	.....	SW	0	0	.....	.....	Cloudy	.....
Quinnebaug, Genoa, Italy	29.83‡	757.7‡	.....	.....	59	15.0	70	ENE	.....	.....	2	.....	10	.....	W	.....	.....	.....	.....	Cloudy	.....
Ranger, N. 39° 25′, E. 173° 15′	29.79‡	756.7‡	.....	.....	56	13.3	75	W	.....	.....	4	.....	2	.....	Calm	.....	.....	Mod'ate	W	Fair	.....
Richmond, Shanghai, China	30.08‡	764.0‡	.....	.....	56	13.3	94	N	.....	.....	3	.....	10	.....	N	0.54	13.7	Smooth	.....	Cloudy	.....
Rio Bravo, Brownsville, Texas... †	30.25‡	768.3‡	.....	.....	66	18.9	100	SSW	2	0.9	.....	.....	8	.....	SE	0.02	0.5	.....	.....	Cloudy	.....
Santee, Annapolis, Md	30.20‡	767.1‡	.....	.....	40	4.4	83	SW	.....	.....	3	.....	8	.....	SW	0	0	.....	.....	Cloudy	.....
Shenandoah, S. 15° 42′. W. 36° 10′	29.93‡	760.2‡	.....	.....	82	27.8	83	NE	.....	.....	2	.....	2	.....	.....	.....	.....	Smooth	.....	Fair	.....
St. Louis, League Island, Pa	30.17‡	766.3‡	.....	.....	37	2.8	82	SW	20	8.9	.....	.....	8	.....	WSW	0	0	.....	.....	Cloudy	.....
Trenton, Gibraltar, Mediterranean	29.94‡	760.5‡	.....	.....	71	21.7	57	Calm	.....	.....	0	.....	10	.....	Calm	0	0	Smooth	.....	Cloudy	.....
Tuscarora, Encondido, Mexico	29.93‡	760.2‡	.....	.....	67	19.4	84	NE	.....	.....	2	.....	0	.....	.....	0	0	Smooth	.....	Clear	.....
Vandalia, Havana, Cuba	30.16‡	766.1‡	.....	.....	75	23.9	77	ENE	.....	.....	4	.....	2	.....	E	.....	.....	.....	.....	Clear	.....
Wabash, Boston, Mass	30.18‡	766.6‡	.....	.....	31	—0.6	74	S	5	2.2	.....	.....	2	.....	.....	0	0	.....	.....	Fair	.....
Wachusett, N. 2° —′, W 27° —′	29.94‡	760.5‡	.....	.....	80	26.7	91	SE	.....	.....	3	.....	2	.....	SE	.....	.....	Smooth	SEE	Fair	.....
Wyoming, Tangier, Morocco	29.91‡	759.7‡	.....	.....	63	17.2	72	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Smooth	.....	Cloudy	.....

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		Character.	Direction from—		
S. S. Samaria																			Capt. T. Roberts.

NOTE—†Aneroid. *The error of the barometer is not known.

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Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitebury.
S. S. Costa Rica																			W. House & R. Lawless.
S. S. Dakota, Capt. H. G. Morse																			Capt. Connolly.
S. S. Georgia																			F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin																			Capt. A. Fuller.
S. S. Wilmington																			R. C. Ghest, 1st Officer.
S. S. Zealandia, Sydney, New South Wales		29.56‡	750.8‡				NE			3				NE				Fine	

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The orginals give the barometer as read off; wind-force by the scale 0 to to 12; for the Brittanic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer Hong-Kong, China	†	29.85‡	758.2‡	71	21.7	90	WNW			2		8		WNW		Smooth		D. clouds	D. A. Joyce, 2nd Officer
S. S. Gaelic, Capt. Davidson																			J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undutsch.
S. S. Leipzig, Capt. F. Pfeiffer																			S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, Bremerhaven, Germany		30.09‡	764.3‡				E			3		5		E				Cloudy?	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa.		30.58‡	776.7‡	39	3.9	91	WNW			3		2		WNW	0			Clear.	Capt. R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents.

Belgenland, N. 49° 55', W. 10° 36'		29.98‡	761.5‡	55	12.8		NNE	35	15.6			10			NNE	8 hrs	Long	NNE	Cloudy	Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

Note.—The originals give the barometer as read off; do not distinguish between upper and lower clouds; sea-swell in general terms, as published. ‡Corrections for temperature, instrumental error and elevation applied at this office.

ALLAN LINE MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian, Halifax, N. S.		30.34‡	770.6‡	18	— 7.8		S			1		2		SW				Fair	J. Powell, 4th Officer.
S. S. Peruvian																			

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES—Miscellaneous.

Furnished by the co-operation of the Observers named.

Schooner Addie Fuller, N. 36° 02', W. 75° 24'		30.34‡	770.6‡	48	8.9	70	WSW	13	5.8		2cs				0	Snow		Clear	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George" of Halifax																			N. B. Foss.
Schooner Harry and Fred																			Capt. George Gardner.
Haytian																			
§ Iron Cross																			Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

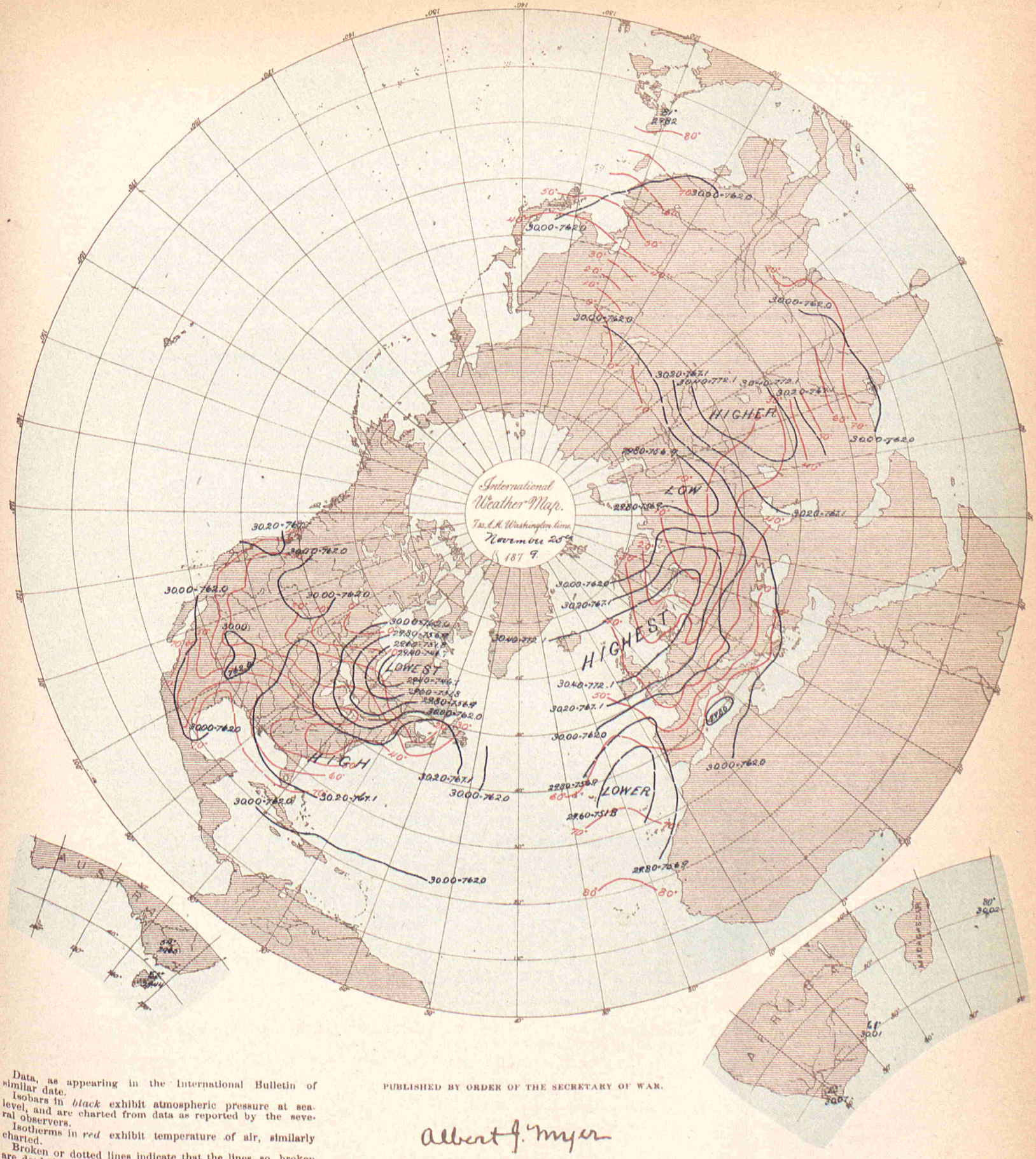
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assgd.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Treamont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 26, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			29.74	755.3	71.2	21.8	54	SW			3		8			0	0	Very cloudy	
Nemours			29.72	755.0	72.9	22.7	63	NW			1		8			0	0	Very cloudy	Kesxuche.
Algiers			29.77	756.1	79.5	26.4	17	SSW			3		0			Inap.	Inap.	Clear.	Tourilliere.
La Calle			29.79	756.7	76.6	24.8	52	W			3		8			0	0	Very cloudy	Foufrede.
Tunis																			Jacques.
Sfax			29.95	760.8															Gau.
Saida																			Herbin.
Tebessa			29.98	761.6	68.4	20.2	61	NNW			4		8			0	0	Very cloudy	Watrin.
Geriville					63.0	17.2	29	SSW			5		5			0	0	Cloudy	Brugniaux.
Laghouat			30.01	762.2	66.9	19.4	9	SW			4		8			0	0	Very cloudy	Bertrand.
Biskra			29.95	760.6	65.5	18.5	60	NW			2		2			0	0	Fair	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0-4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.19	741.3	29.76	755.8	32.0	0.0	90	N			1		10			0.343	8.7	Snowing	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.24	742.7	30.07	763.6	19.4	— 7.0	92	ENE	9.4	4.2			10				0		Dr. Wierzbicki.
Eperies	28.95	735.4	29.80	759.1	24.8	— 4.0	82	N			3		10			0.004	0.10		Julius Mikolik.
Gratz	28.52	724.4	29.82	757.4	32.4	0.2	78	SSE			1		10			0.433	11.0		Andreas Rospini.
Hermannstadt	28.27	718.0	29.74	755.3	34.3	1.3	100	W			1		10			0.949	24.10	Snowing	Prof. A. Gottschling.
Kremsmünster	28.45	722.7	29.86	758.4	28.2	— 2.1	94	Calm			0		10			0	0		Prof. C. Wagner.
Lemberg	28.85	732.9	29.90	759.5	24.3	— 4.3	93	S			1		10			0.091	2.3		Dr. T. Stanecki.
Pola	29.52	749.9	29.64	752.8	43.5	6.4	79	NE			1		10			0.157	4.0		I.R.Hydrographic Office.
Szathmar	29.30	744.1	29.78	756.4	32.0	0.0	100	NW			2		10			0.079	2.0		Pet. Panesics, S. J.
Szegedin	29.43	747.6	29.72	755.0	33.1	0.6	100	NE			3		10			0.331	8.40		Karl Stancel.
Trieste	29.56	750.8	29.66	753.4	40.5	4.7	56	ENE			3		10			0.039	1.0	Rainy	P. Busin.
Vienna	29.11	739.3	29.85	758.1	26.6	— 3.0	91	NNW			2		10			0.067	1.7		I.R.Central Met. Ob'sy

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C., as Second-Class Matter

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S,, Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instru-m'tal error and tem-perature. Inches.	Barometer. Corrected for instru-m'tal error and tem-perature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.24	768.1	30.34	770.6	37.6	3.1		WNW	14	6.3			6			0.020	0.51	D. clouds	W. Boswell.
Ardrossan	30.37	771.4	30.39	771.9	37	2.8		ENE			3		7					D. clouds	Wm.McNeil &G.Carrick.
Armagh, (Observatory)	30.15	765.8	30.40	772.1	36.9	2.7		NE	6	2.7			10					Overcast	S. Call.
Bidston (Liverpool Obs)			30.28	769.1	34.3	1.3		NE	14	6.3			10					Overcast	John Hartnup.
Bolton (Sharples)	29.71	754.6	30.24	768.1	33.6	0.9		NE	12	5.4			10					Snowing	Thomas Mackereth.
Bradford, Yorkshire	29.86	758.4	30.26	768.6	34.3	1.3		N			3		10			0.11	2.8	Overcast	J McLandsborough.
Bridgetown, Barbadoes	29.85	758.2	29.88	758.9	81.5	27.5		NE			1		3					D. clouds	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	30.08	764.0	30.18	766.6	35.0	1.7		N			1		10					Snowing	H. Todd.
Cardington			30.17	766.3	35.0	1.7		NE			0–1		10					Snowing	John McLaren.
Chatham (School M. E.)	30.01	762.2	30.14	765.5	33.1	0.6		NE			2		9					Overcast	J. Carmell, Sapper, R.E.
Donaghadee	30.31	769.9	30.36	771.1	39	3.9		ENE			5		5					D. clouds	J. Mac Gowan.
Dover	30.04	763.0	30.06	763.5	36	2.2		ENE			6		9					Snowing	J. Costello.
Falmouth (Observatory)	29.93	760.2	30.17	766.3	38.6	3.7		NNE			5		2					D. clouds	The Staff.
Fort Napier, Natal	27.52	699.0	29.74	755.4	80.2	26.8		NE			2		0					Blue sky	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone																			
Galway (Queen's College)			30.30	769.6	37	2.8		NE			1		10					Overcast	Prof. A. H. Curtis.
Gibraltar, Mediterranean																			Sergt.Wm. Allen, A. H.
Glasgow, (Observatory)	30.15	765.8	30.36	771.1	36.9	2.7		N			2		9k					Gloomy	D. G. Maclean. [C.
Great Yarmouth	30.15	765.8	30.16	766.1	36	2.2		ENE			4		6					Snowing	G. T. Watson.
Greenwich (Royal Obs'y)	29.96	761.0	30.14	765.5	33.8	1.0		NNE			1		10					Snowing	The Staff, for G.B.Airy.
Guernsey	29.85	758.2	30.08	764.0	36	2.2		NE			4		8					Snowing	Dr. S.E Hoskins, F.R.S.
Helston	30.28	769.1	30.40	772.1	40	4.4		ENE			7	1c				0.1	2.	Fine	M. P. Moyle.
Holyhead	30.21	767.3	30.27	768.8	38	3.3		ENE			5		4					D. clouds	John Tilston.
Jersey	29.79	756.7	30.10	764.5	35.3	1.8		ENE			3		7					Gloomy	J. Fisher.
Kew (Observatory)	30.13	765.3	30.16	766.1	34.4	1.3		NNE	14	6.3			10					Snowing	The Met'g'l Office.
Leicester (Museum)	29.89	759.2	30.16	766.1	34.1	1.2		NE			3		10					Snowing	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	29.76	755.9	29.85	758.2	70	21.1		SW			2		3k					Blue sky	A. King.
Nairn	30.27	768.8	30.37	771.4	33	0.6		Calm			0		5					⅛ clouded	W. D. Penny.
Nassau, Bahamas			30.17	766.3	75.0	23.9		NE			2		4					D. clouds	C. S. Duncombe.
Nottingham (Observatory)	30.03	762.7	30.22	767.6	34.2	1.2		NNE			3		10d		NE	0.078	1.98	Snowing	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.67	753.6	30.22	767.6	33.2	0.7		NNE			3–4		10					Snowing	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)			30.18	766.6	33	0.6		N			1		10					Snowing	H. E. Bellamy.
Plymouth	30.08	764.0	30.15	765.8	37.3	2.9		ENE			4		2					D. clouds	John Merrifield.
Prince Town																			W. H. Tooker.
*Roche's Point	30.22	767.6	30.29	769.4	39	3.9		NE			5		8					¾ clouded	Wm. Kennedy.
St. Ann's Head	30.05	763.3	30.22	767.6	38	3.3		NE			3		5					D. clouds	John C. Walker.
Sandwick Manse, Orkneys			30.36	771.1	41	5.0		N	22	9.8			5					Showery	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	29.74	755.4	29.81	757.2	57 0	13.9		SW			2		9					D. clouds	Serg't W. H. Lyne.
Sheffield	29.99	761.7	30.28	769.1	34.4	1.3		NE			1		10			0.03	0.8	Hailing	W. F. Cooper.
Silloth Rectory	30.30	769.6	30.33	770.4	36.3	2.4	82	E			3		10			0	0	Overcast	Francis Redford, A. M.
Stonyhurst (Observatory)			30.25	768.3	33.9	1.1		NNE	7	3.1			9			Blank	Blank	D. clouds	Rev. S. J. Perry.
Stratfield, Turgiss	29.97	761.2	30.19	766.8	34.9	1.6		NE			2–3		10					Snowing	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	30.11	764.8	30.18	766.6	42	5.6		NE			4		4					D. clouds	W. Newcombe.
Valencia Observatory)	30.30	769.6	30.32	770.1	39.7	4.3		NE	25	11.2			10					D. clouds	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	29.98	761.5	30.02	762.5	71	21.7	62	SE	27.6	12.3		0	1						The Staff, for D. Gill.
Colesberg Bridge, Cape Col.																		Raining	Robert Burnet.
Hobart Town, Tasmania			29.24	742.7	52.0	11.1	76	S			1		10kn					Cloudy	Francis Abbott, F.R.A.S.
Leith, (Restairig Park)			30.37	771.4	37.2	2.9		NE			1		10k			0.03	0.8	Squally	Andrew Gibb.
Mauritius (Observatory)	29.79	756.7	29.98	761.5	78.6	25.9	57	SSE	20.0	8.9		0	2		ESE	0.02	0.5	Squally	C. Meldrum.
Melbourne (Observatory)	29.51	749.5	29.60	751.8	49.0	9.4	79	WNW	13	5.8			9			0.29	7.4		R. L. J. Ellery.
Monach Lt-house, Hebrides			30.45	773.4	43	6.1		Calm			0	3	0		NE	0	0		J. Youngclause.
North Unst, Shetland Is.			30.33	770.4				N			7	3	7		N	Blank	Blank		

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Colesberg Bridge, unknown.

BRITISH MARINE SERIES. VESSELS.	Barometer. Corrected for instru-m'tal error and tem-perature. Inches.	Barometer. Corrected for instru-m'tal error and tem-perature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height. scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. Alert, Monteith Bay, Patagonia			29.49‡	749.0	48.8	9.3		WNW			2–6		10					Overcast	Capt.J.P. Maclear, R.N.
H. M. Sloop Gannet, S. 13° 25′, W. 76° 20′			29.98‡	761.5‡	64	17.8		Calm			0		1					Misty	Commander E. Bourke, R. N.
H. M. S. Magpie, Shaweishan I'd., China			30.17‡	766.3‡	57.5	14.2		N			4		0					Misty	Capt. R. H. Napier, R.N
Brig Alliance, N. 39° 00′, W. 45° 15′			30.10‡	764.5‡	58.9	14.9		N			6		8					D. clouds	Capt. W. Scott.
Barque Belle-Isle, N. 19° 10′, W. 73° 40′			30.01	762.2	85	29.4		NE			4		2			2	NE	Blue sky	Capt. A. J. Brown
City of Cashmere, N. 41° 25′, W. 127° 28′			30.10‡	766.8‡	49.1	9.5		N			6		5					D. clouds	
S. S. Ethiopia, N. 45° 55′, W. 51° 15′			30.29	769.4	37	2.8		SSE			3		4			4	wsw	D. clouds	Capt. Campbell.
S. S. German, N. 31° 35′, W. 16° 50.′			29.36‡	745.5‡	69	20.6		SW			7		10					Showery	Capt. O. D. Coxwell.
S. S. Strathleven, Sydney, N. S. W.			29.80‡	756.9‡	64.5	18.1		SW			5		7					D. clouds	Capt. C. W. Pearson.
S. S. Sunbeam, N. 43° 15′, W. 48° 20′			30.27	768.8	46	7.8		NW			6		8			5	NW	Blue sky	Capt. C. M. Dobson.
Light House Tender Richmond. Entrance Whale-Cay Ch'l. Bahama Is.			30.25	768.3	75	23.9		ENE			4		7					Showery	Capt. W. H. Stewart.
S. S. Gordon Castle																			
German Brig "W. von Freeden"																			Capt. H. V. Freeden.
S. S. Peruvian																			Capt. W. H. Smith.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.20	665.5	29.92	760.0	67.1	19.5	93	SE			2		9n		NE	0.5	13.		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.11	764.8	30.16	766.0	29.8	—1.2	73	N			2		10						
Farõe	30.18	766.6	30.20	767.1	29.5	—1.4	80	ENE			2		1						
Godthaab (Greenland)																			
Stykkisholm (Iceland)																			
Thorshavn (Farõe)	30.52	775.2	30.56	776.1	36.3	2.4	79	N			2		7						
Vestervig	30.06	763.5	30.17	766.8	25.7	—3.5	89	S			2		4						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.50	749.2	30.05	763.2	30.2	—1	61	NE			2		8n		E	0	0	Very cloudy	Collignon, Director.
Amiens, Normal School	29.84	758.0	29.96	761.0	31.3	—0.4	100	NNE			1		2			0	0	Slightly cl'y	Vaillant, Director.
Arras, Engin'r School	29.80	757.0	30.07	763.8	35.8	2.1	75	ENE			2		n		E	0	0		Klein, Commandant.
Avignon, Normal School	29.74	755.3	29.82	757.3	44.2	6.8	53	N			3		0			0.098	2.5	Clear	Giraud, Director.
Bar-sur-Seine	29.41	747.0	29.90	761.8	32.5	0.3	75	ENE			1		10			0	0	Covered	C. Saillard, Director
Beauvais, Normal School	29.77	756.2	30.06	763.5	30.6	—0.8	70	ENE			2		8		ENE	0	0	Very cloudy	Frère Eugene Marie
Besançon, Normal School	29.03	737.4	29.95	760.8	35.4	1.9	77	NE			1		5		E	0	0	Cloudy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.06	738.2	30.00	761.9	35.2	1.8	93	N			1		10	NW	NW	0	0	Foggy	Marlot, Director.
Bourges, Normal School	29.40	746.7	29.97	761.3	33.1	0.6	97	NNE			4		8cks		NNE	0	0	Very cloudy	M. Gence, Director.
Brest, Naval Observatory	29.81	757.2	30.00	763.4	40.6	4.8	74	NE			2		3		NE	0.039	1.00		Ch. de Rermaree, Dir.
Caen, Normal School	30.08	763.9			35.6	2	70	NE			1		5		NE	0	0	Cloudy	M. Bietrin, Director.
Carcassonne, N. School	29.41	747.0	29.83	757.6	48.0	8.9	84	W			1		10	W	W	0.295	7.5	Covered	September, Director.
Châlons-sur-Marne, N. Sch'	29.71	754.5	30.05	763.2	30.9	—0.6		ENE			1		10					Covered	Jadot, Director.
Chartres, Normal School	29.40	746.8	30.00	762.0	29.1	—1.6	80	NE			1		10	SE	SSE	0	0	Covered	Vergier, Director.
Clermont-Fd, Puy de D. Obs	28.50	724.0	29.92	760.0	32.4	0.2	85	N			1		10		N	0	0		Alluard, Director.
Commercy, Normal School	29.08	738.5	29.98	761.6	29.1	—1.6	92	ENE			3		10n	ENE	ENE	0	0	Covered	Dr. Coullet, Director.
Commune de Gréasque*	28.61	726.7	29.75	755.7	43.3	6.3	65	NW			3		5		NW	0.12	3.		L. Kina, Director.
Grenoble, Normal School	29.09	738.9	29.88	759.0	38.1	3.4	70	NW			1		10kn			0	0	Covered	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	29.76	755.9	29.99	761.7	34.9	1.6	93	ENE			1		10			0	0	Covered	Mouillot, Director.
Le Mans, Normal School	29.72	754.9	30.04	763.1	32.0	0.0	70	E			6		10		E	0	0	Covered	Poirrier, Director.
Lons-Le-Saulnier, N. School	28.98	736.0	29.91	759.7	34.3	1.3	75	N			1		10			0	0	Covered	A. Baudry, Director
Lorient, Naval Observatory	29.91	759.7	30.02	762.5	38.1	3.4	63	NE			2				NE	0.047	1.2		Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.27	743.4	29.91	759.8	35.6	2.0	82	NNW			1		10			0	0	Covered	Ch. André, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.50	749.2	29.77	756.1	48.7	9.3	60	NW			0–1		2		NW	0.008	0.20		E. Stephan, Director.
Mirecourt, Normal School	28.89	733.9	29.99	761.8	29.8	—1.2	96	N			3		k	N	N	0	0		Barbier, Director.
Mont-Louis	24.59	624.6	29.91	759.6	41.0	5.0	86	SW	26.2	11.7			10			0.654	16.6		M. Cave.
Nice	29.63	752.7	29.67	753.6	55.4	13.0	73	NW			2		2	W	NW	0.276	7.0	Slightly cl'y	M. Boissière, Director.
Nismes, Normal School	29.62	752.3	29.82	757.5	47.1	8.4	67	NW			1		2		NW	0.04	1.	Slightly cl'y	M. Boyer, Director.
Paris, Montsouris Obs'y	29.74	755.4			31.1	—0.5	64	NE			3		10		NE	Inap.	Inap.		Marié Davy, Director.
Perpignan	29.69	754.0	29.79	756.6	50.0	10.0	77	W	1.8	0.8			10		W	0.008	0.2	Raining	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.20	563.8			28.0	—1.7		NW			3		10		NW	0.437	11.1	Snowing	Gen'l de Nansouty.
Pic du Midi (Summit) H. P.																			M. Baylac.
Privas, Normal School	28.77	730.7	29.87	758.6	37.8	3.2	66	W			4		n	W	W	0	0		M. Taillieu
Puy de Dome (Summit) Obs	24.86	631.3			24.3	— 4.3	93	E			2		2			0	0	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	29.90	759.4	29.93	760.2	35.6	2.0	92	NE			4		8	NE	NE	0	0	¾ covered	Lt. E. Decante, Director
Rouen, Normal School	29.98	761.5	30.07	763.7	32.9	0.5	63	NNE			1		5		NE	0	0	Cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.04	763.1	30.08	763.9	37.6	3.1	51	ENE			3		2		NNE	0	0	Clear	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.86	758.4	30.02	762.6	31.3	—0.4	67	NE			3				NE	0	0		E. Renou, Director.
Tarbes, Normal School	28.65	727.7	29.74	755.4	45.5	7.5	80	NW			1		10	W	SW	0.59	15.	Raining	T. Huguet, Director.
Toulouse, Observatory	28.97	735.9	29.69	754.0	43.5	6.4	82	NW			2		10			0	0	Covered	M. Juhier Mercadier.
Tours	29.77	756.2	29.97	761.2	33.8	1.0	74	NE			2		10		E	0	0	Covered	Cousin-Marquet.
Versailles, Observatory	29.52	749.9	30.02	762.4	29.8	—1.2	72	NE			2		10			0	0	Covered	Dr. A. Berigny, Director
Villefranche-sur-Saone, N. S	29.17	740.9	29.91	759.6	37.0	2.8	91	N			3		8		S	0	0	Very cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.86	758.4	29.89	759.1	77.0	25										0.71	18.		L'Abbé Marchési
Zi-Ka-Wei (near Shanghai	30.16	766.1	30.19	766.7	48.2	9.0	99	N	2.2	1.0			0			0	0	Clear	Marc Dechevreus.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in gene al terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:58 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centrigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity Miles per hour.	Wind. Velocity Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.07	738.4	29.91	759.8	22.6	— 5.2	96	NE	.....	.....	4	.....	10ks	.....	.....	.....	.....	Snowing.....	Prof. Dr. Hoh.
Berlin	29.90	759.5	30.08	764.0	19.4	— 7.0	84	E	.....	.....	5	.....	0	.....	.....	0	0	.....	Prof. Dr. Arndt.
Breslau	29.51	749.6	30.04	763.1	12.9	—10.6	96	NNE	.....	.....	2	.....	10	.....	.....	0.070	1.78	Light snow.	Royal University Obs'y.
Carlsruhe	29.53	750.0	29.98	761.4	29.1	— 1.6	95	NE	.....	.....	0	.....	10	NE	.....	0.039	1.0	Snowing.....	Albert Senz.
Cassel	29.41	747.0	30.02	762.4	21.0	— 6.1	87	NE	.....	.....	2	.....	5	NE	.....	0	0	.....	Dr. H. Möhl.
Emden	.....	.....	30.13	765.2	30.7	— 0.7	75	NE	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. Dr. Prestel.
Frankfort on the Main	29.70	754.4	30.08	763.9	28.4	— 2.0	70	NNE	.....	.....	3	.....	10	.....	.....	0	0	.....	Physical Society.
Friedrichshafen	28.43	722.1	29.93	760.1	30.9	— 0.6	88	NNE	.....	.....	3	.....	10	NNW	.....	0.020	0.5	Snowing.....	Chief Telegrapher Wilhelm.
Hamburg	30.08	764.1	30.16	766.0	26.6	— 3.0	78	NNE	.....	.....	2	.....	6cks	NE	.....	0	0	Fair.....	Captain F. Hegemann.
Kiel	30.13	765.2	30.14	765.6	32.0	0.0	100	ESE	.....	.....	2	.....	10	.....	.....	0.060	1.52	Snowing.....	Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.07	763.7	30.16	766.0	21.2	— 6.0	57	E	.....	.....	3	.....	0	.....	.....	0	0	.....	Prof. E. Luther.
Köslin	.....	.....	30.13	765.2	25.0	— 3.9	.....	E	.....	.....	2	.....	0	.....	.....	0	0	.....	H. Müller.
Leipsic Observatory	29.62	752.4	30.08	764.0	15.8	— 9.0	91	NE	.....	.....	2	.....	10	.....	.....	0.370	9.4	.....	Prof. Dr. Bruhns, Privy Counselor
Magdeburg	29.94	760.4	30.17	766.2	20.8	— 6.2	74	NNE	.....	.....	2	.....	3ks	NNE	.....	0	0	.....	Dr. Assmann.
Memel	30.14	765.6	30.19	766.8	21.4	— 5.9	69	E	.....	.....	1–2	1c	.....	.....	.....	.....	.....	.....	Reinbrecht & Issermann.
Munich (München)	28.01	711.4	29.86	758.4	25.7	— 3.5	85	N	.....	.....	2	.....	10	.....	.....	0.031	0.8	.....	Dr. C. Lang.
Neufahrwasser	30.14	765.6	30.16	766.0	25.9	— 3.4	60	ENE	.....	.....	2	.....	0	.....	.....	0	0	.....	A. Lothes.
Neustadt (Palatinate)	29.44	747.7	29.96	761.0	27.7	— 2.4	.....	N	.....	.....	5	.....	10	N	.....	0.039	1.0	.....	Reallehrer Dicknether.
Posen	29.79	756.7	30.08	764.1	48.6	9.2	74	E	.....	.....	4	.....	2	.....	.....	0	0	.....	Prof. Dr. Magener.
Strassburg (in Alsace)	29.41	747.1	30.00	761.9	29.5	— 1.4	84	NE	.....	.....	3	.....	10	NE	.....	.....	.....	Snowing.....	Imp. University Observatory.
Stuttgart	28.96	735.5	29.95	760.6	28.4	— 2.0	76	N	.....	.....	.....	.....	10	.....	.....	0.028	0.7	.....	Prof. Dr. Schoder.
Weissenburg (Bavaria)	28.37	720.6	29.93	760.1	27.9	— 2.3	83	NE	.....	.....	.....	.....	10	.....	NE	0.004	0.1	Snowing.....	Reallehrer J. Hopfner
Wustrow	30.12	765.0	30.14	765.6	27.5	— 2.5	89	SE	.....	.....	2	.....	10s	.....	.....	0.059	1.5	.....	E. Schütz, Director.
German Naval Series.																			
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Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.53	750.1	29.92	760.0	62.6	17.0	.....	SW	.....	.....	1.0	.....	10	.....	.....	.....	.....	Covered.....	Dr. J. F. J. Schmidt.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.99	761.8	30.04	763.1	74.9	23.8	13	NE	13	5.8	.....	.....	1	.....	.....	0	0	D. clouds.....	
Deesa	29.52	749.9	30.01	762.3	71.7	22.1	12	NNE	9.0	4.0	.....	.....	0	.....	.....	0	0	Blue sky.....	
Bombay	29.84	758.0	29.88	759.0	76.2	24.6	69	NNW	19	8.5	.....	.....	0	.....	.....	0	0	Blue sky.....	
Poona (Yerrowda)	28.01	711.5	29.87	758.7	79.0	26.1	27	NNE	6	2.7	.....	.....	0	.....	.....	0	0	Blue sky.....	
Belgaum	27.34	694.4	29.89	759.2	72.9	22.7	65	W	7	3.1	.....	.....	2	.....	W	0	0	D. clouds	
Lahore	29.25	742.8	30.02	762.8	54.7	12.6	34	Calm	0.7	0.3	.....	.....	0	.....	.....	0	0	Blue sky.....	
Roorkee	29.04	737.6	29.99	761.7	56.8	13.8	26	NW	1.2	0.5	.....	.....	.....	.....	.....	0	0	.....	
Agra	29.43	747.4	30.02	762.4	62.8	17.1	53	W	2.9	1.3	.....	.....	.....	.....	.....	0	0	.....	
Nagpur	28.88	733.4	29.94	760.5	70.7	21.5	31	Calm	2.5	1.1	.....	.....	.....	.....	.....	0	0	Blue sky.....	
Jubbulpore	28.57	725.6	30.00	761.9	58.6	14.8	50	Calm	1.4	0.6	.....	.....	.....	.....	.....	0	0	Blue sky.....	
Lucknow	29.59	751.7	29.99	761.7	60.3	15.7	39	NNW	1.3	0.6	.....	.....	.....	.....	.....	0	0	Blue sky.....	
Allahabad	29.67	753.5	30.00	761.9	56.7	13.7	59	Calm	1.5	0.7	.....	.....	0	.....	.....	0	0	Blue sky.....	
Patna	29.78	756.5	29.97	761.3	67.4	19.7	37	W	0.3	0.1	.....	.....	0	.....	.....	0	0	Blue sky.....	
Hazaribagh	27.89	708.3	29.98	761.5	58.8	14.9	39	NW	5.2	2.3	.....	.....	0	.....	.....	0	0	Blue sky.....	
Cuttack	29.87	758.7	29.95	760.8	67.6	19.8	70	ENE	1	0.4	.....	.....	0	.....	.....	0	0	Blue sky.....	
Calcutta (Alipore)	29.91	759.8	29.93	760.3	63.7	17.6	73	NNW	1.0	0.4	.....	.....	0	.....	.....	0	0	Blue sky.....	
Goalpara	29.51	749.4	29.90	759.6	72.3	22.4	62	ENE	2.0	0.9	.....	.....	0	.....	.....	0	0	Blue sky.....	
Chittagong	29.80	757.0	29.90	759.4	72.2	22.3	74	NW	2.7	1.2	.....	.....	1	.....	.....	0	0	Misty	
Sibsagar	29.61	752.0	29.95	760.7	69.0	20.6	76	NW	1.1	0.5	.....	.....	2	.....	.....	0	0	Blue sky.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversion are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,361 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	29.30	744.2	29.72	754.9	41.0	5.0	61	E	4.3	1.9	.....	.....	9	.....	.....	0.059	1.5	.....	Prof. Giovanni Clodig.
Milan	29.19	741.4	29.72	754.9	39.9	4.4	97	SE	.....	.....	1	.....	9	SE	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.60	751.8	29.71	754.7	41.4	5.2	79	N	6.3	2.8	.....	.....	10	.....	.....	0.209	5.3	.....	Prof. Dott. Lorenzoni.
Moncalieri	28.75	730.2	29.68	753.8	42.4	5.8	83	ESE	1.3	0.6	.....	.....	10	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.47	748.6	29.67	753.5	47.1	8.4	53	NE	7.4	3.3	.....	.....	4	W	.....	0.071	1.8	.....	Prof. G. M. Garibaldi.
Mondovi	27.76	705.1	29.72	754.9	38.8	3.8	82	NNW	.....	.....	2	.....	10	.....	.....	0.094	2.4	.....	Prof. D. C. Bruno.
Pesaro	29.61	752.1	29.66	753.3	41.9	5.5	89	W	35.5	11.4	.....	.....	10	W	.....	0.933	23.7	.....	Prof. Luigi Guidi.
Florence	29.41	747.0	29.67	753.7	48.2	9.0	79	E	.....	.....	2	.....	10	.....	.....	0.307	7.8	.....	Cav. F. Meucci.
Leghorn	29.60	751.7	29.68	758.8	54.1	12.3	75	NW	0.7	0.3	.....	.....	10	.....	.....	0.118	3.0	.....	Prof. P. Monte.
Rome	29.47	748.6	29.65	753.1	61.2	16.2	85	S	9.4	4.2	.....	.....	10	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.50	749.3	29.76	755.8	60.1	15.6	81	ESE	18.6	8.3	.....	.....	9	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	28.91	734.2	29.80	756.8	64.2	17.9	76	SE	1.3	0.6	.....	.....	9	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.50	749.2	29.69	744.1	67.8	19.9	60	NW	.....	.....	4	.....	4	NW	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.54	750.4	29.80	756.8	71.1	21.7	32	SW	7.4	3.3	.....	.....	10	SW	.....	0	0	.....	Prof. G. Ciacciatore.
Syracuse	29.73	755.2	29.81	757.1	65.7	18.7	67	S	12.5	5.6	.....	.....	10	W	.....	0	0	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.18	741.2	29.69	754.2	63.0	17.2	82	NE	34.0	1.1	.....	.....	10	.....	.....	0.055	1.4	.....	Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.95	760.7	29.96	761.0	46.7	8.2	86	NNE	6.2	2.8	.....	0	0	.....	.....	0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.78	756.4	29.98	761.5	53.1	11.7	68	ENE	2.1	0.9	.....	.....	0	.....	.....	0	0	Clear	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.83	757.7	29.90	759.4	45.7	7.6	75	N	3.3	1.5	.....	4ck	.....	W	.....	0	0	Fair	The Staff.
Wakayama	29.87	758.7	29.92	759.9	45.8	7.7	89	NW	3.6	1.6	.....	.....	0	.....	.....	0	0	Clear	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bârcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima																			R. Banda, C. E.
Guadalajara	25.11	637.7	30.30	769.7	42.8	6.0	57	SW	.....	.....	1	.....	2	.....	SW	0	0	Clear	Prof. L. Perez.
Leon	24.49	622.0	30.33	770.3	48.6	9.2	81	NW	.....	.....	1	0	0	.....	.....	0	0	Blue sky	Prof. M. Leal.
Mazatlan	29.77	756.2	30.03	762.8	67.5	19.7	81	E	.....	.....	2	2s	0	.....	.....	0	0	Clear	I. Guerrero, C. E.
Mexico, Central Observatory	23.10	586.7	30.36	771.2	39.6	5.2	71	Calm	0	0	.....	0	0	.....	.....	0	0	Very fine	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	43.5	6.4	82	Calm	.....	.....	0	2cs	0	SW	.....	0	0	Clear	M. Y. de Leon, M. E.
Puebla (Catholic Institute)	23.52	597.4	30.59	776.9	36.7	2.6	62	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.22	615.1	30.31	769.8	49.3	9.6	75	E	.....	.....	1	.....	10	.....	E	0	0	Covered	G. Barroeta, M. D.
Tlacotalpam	30.11	764.8	30.12	765.0	66.4	19.1	91	SW	.....	.....	2	2	0	E	.....	0	0	Clear	Prof. M. M. Chazaro.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell
Zacatecas	22 54	572.4	30.21	767.4	48.2	9.0	54	Calm	.....	.....	0	5c	0	SW	.....	0	0	½ clouded	J. C. Castrillon.

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column; the instrumental correction —0.88 mm., or —0.035 inch, has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing																			
Groningen	30.12	765.0	30.12	765.0	29.3 — 1.5	.....		ENE	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Helder	30.12	765.0	30.17	766.4	30.4 — 0.9	.....		E	.....	.....	.....	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.17	766.2	30.17	766.2	30.9 — 0.6	.....		ENE	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Utrecht	30.11	764.9	30.11	764.9	27.3 — 2.6	73		ENE	.....	.....	8	.....	.....	.....	.....	0	0	.....	
	30.09	764.2	30.13	765.4	26.6 — 3.0	63		NE	.....	.....	4	.....	5	.....	.....	0	0	Cloudy	H. v. d. Brink

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.11	764.7	30.18	766.1	34.5	1.4	93	SSE	7.4	3.3	.....	.....	10	.....	.....	.....	.....	Light snow.	
Brönö	29.87	758.8	29.91	759.8	34.2	1.2	78	NNW	18	8	.....	.....	9	.....	.....	0	0	.....	
Christiana	29.95	760.6	30.10	764.6	16.5	— 8.6	94	ENE	0	0	.....	.....	7	.....	.....	0	0	Light fog.	
Tromsö	29.73	755.1	29.77	756.2	28.6	— 1.9	84	NE	9	4	.....	.....	10	.....	.....	0.091	2.3	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	29.48	748.7	29.67	753.6	55.4	13.6	84	NNE	26.2	11.7	.....	.....	10	.....	.....	1.063	27.0	.....	Dr. J. A. Sampaio.
Campo Major	28.70	728.9	29.72	755.0	61.5	16.4	77	SSW	6.3	2.8	.....	.....	10	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	29.22	742.2	29.31	744.4	65.7	18.7	84	SSW	18.1	8.1	.....	.....	10	.....	.....	0.472	12.0	Raining	Capt. D. A. de Cunha.
Lisbon Observatory	29.27	743.5	29.63	752.6	66.7	19.3	66	SSW	12.5	5.6	.....	.....	10	.....	.....	0.197	5.0	Raining	The Staff.
Ponta Delgada (Azores)	29.42	747.3	29.49	749.1	57.2	14.0	98	NE	29.8	13.3	.....	.....	10	.....	.....	0.457	11.6	Raining	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE Naval Series. Vessels.	Sea or swel Height scale 0-9	Sea or swel Direction from—		
Bartholomew Dias	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	A. M. de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	J. T. d'Oliveria, Com'd't
Rio Lima. Capt. S. C. da Silva Costa. Porto Praya. Cape Verd I'ds.	1	SE	D. Clouds. 1 hr's rain-fall.	A. D. de Fonseca Sarurento
Sá da Bandeira	.....	.....	.....	Louiz Apra, Q. Ma.
Sado, Capt. J. A de Brito Capello, St. Paul de Loando	4	W	D. clouds	H. Mecudonco, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes, Hong Kong, China	2	N	D. clouds.	J. G. Felgo, 2nd Lieut
.....	.....	.....	.....	.....

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between upper and lower clouds, and no humidity is given; duration of rain-fall in hours. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	29.80	756.8	29.82	757.3	— 2.9	—19.4	82	ENE	9	4	.....	.....	1cs	.....	.....	.....	.....	.....	Capt. Sseliwerstow
Astrakhan	30.01	762.3	29.93	760.2	33.4	0.8	96	Calm	0	0	.....	.....	10n	.....	.....	Bl'nk	Bl'nk	Heavy clouds.	Capt. Wisganow.
Barnaul	29.50	749.2	30.04	762.9	15.8	— 9.0	60	SW	13	6	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	29.78	756.4	30.04	763.0	23.0	— 5.0	88	SW	9	4	.....	8ck	.....	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	29.03	737.4	30.11	764.9	— 7.6	—22.0	75	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk																			
Kasan	29.84	757.8	30.13	765.4	— 0.2	—17.9	54	N	2	1	.....	.....	3	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch																			Lagorio.
Kieff	29.13	739.9	29.80	757.0	22.6	— 5.2	93	NW	7	3	.....	.....	10n	.....	.....	.....	.....	Snow & fog.	Physical Cabinet.
Krotkowo*	29.60	751.9	30.13	765.2	2.8	—16.2	61	N	0	0	.....	.....	1s	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	29.65	753.0	29.85	758.3	36.1	2.3	94	E	2	1	.....	.....	10	.....	.....	Bl'nk	Bl'nk	.....	Meteorological Obs
Moscow	29.55	750.5	30.16	766.0	2.8	—16.2	81	NNW	7.8	3.5	.....	.....	3s	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	27.76	705.0	30.26	768.6	6.1	—14.4	68	S	2	1	.....	.....	2	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Nikolaiev	29.76	755.9	29.83	757.7	37.8	3.2	93	Calm	0	0	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	29.70	754.4	29.94	760.5	43.9	6.6	34	SSE	4	2	.....	.....	5ks	.....	.....	.....	.....	.....	
Orenberg																			
Pekin (China)	30.12	765.1	30.26	768.7	45.1	7.3	27	Calm	0	0	.....	3c	.....	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	29.82	757.3	29.83	757.7	27.1	— 2.7	96	SW	11	5	.....	.....	10n	.....	.....	.....	.....	Snowing	Central Physical Obs.
Tashkend	28.54	725.0	30.24	768.1	27.3	— 2.6	85	.....	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.55	725.2	29.97	761.2	54.7	12.6	60	NW	4	2	.....	.....	4ks	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock																			
Warsaw	29.61	752.1	30.47	773.8	13.6	—10.2	73	NE	7	3	.....	.....	0	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.71	754.5	30.16	766.1	13.3	—10.4	66	ENE	2	1	.....	.....	0	.....	.....	.....	.....	.....	Astronomical Obs.
Yenisiesk	29.41	747.1	29.72	754.8	21.0	— 6.1	83	SW	27	12	.....	.....	10	.....	.....	.....	.....	.....	Marks.
.....																			
.....																			
.....																			

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	29.68	753.8	29.79	756.6	51.8	11	83	E	2.3	1.03	.....	.....	10	.....	.....	0.060	1.53	Covered	Antonio Rave, Director
Bilbao, Met. Obs'y	29.74	755.3	29.80	756.8	45.7	7.6	89	SE	1.1	0.48	.....	.....	10	.....	.....	0.047	1.2	Raining	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.77	680.0	.....	.....	30.0	2.2	96	E	3.8	1.71	.....	.....	10	.....	.....	0.197	5.0	Covered	Domingo Martin y Perez.
Madrid, Royal Observatory	27.50	698.6	29.71	754.5	57.4	14.1	76	SW	8.2	3.67	.....	0	10	.....	.....	0.094	2.4	Covered	The Staff.
Murcia, Met. Obs'y	29.63	752.5	29.78	756.3	65.3	18.5	68	WSW	0.9	0.42	.....	5	5	ENE	.....	0	0	Covered	Olayo Diaz, Director.
Santiago, Met. Obs'y	28.76	730.6	29.67	753.5	48.4	9.1	66	NE	20.6	9.2	.....	.....	9	.....	.....	0	0	Almost cov'd	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	30.08	764.1	30.15	765.7	75.2	24.0	67	ENE	13.9	6.2	.....	c	1k	W	E	0	0	Clear.	Benito Vines S. J.
Manilla, Phillippine Islands	29.76	756.0	29.82	757.4	82.2	27.9	80	N	6.7	3.0	.....	.....	9kn	.....	E	0.63	16.0	Very cloudy	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.65	753.0	29.74	755.4	72.9	22.7	55	ESE	12.4	5.6	.....	0	9	.....	SW	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.88	759.0	29.97	761.3	78.4	25.8	79	E	12.3	5.49	.....	3cs	2k	E	E	0.010	0.25	Clear.	Enrique Gadea, Chief Eng'r

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8 19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 360 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature.		Barometer. Reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind. Direction.	Wind. Velocity		Wind. Force.	Clouds. Amount.		Clouds. Direction.		Rain-fall or melted snow in the past 24 hours.		Weather.	OBSERVER.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0–10.	Up'er 0–10.	Lo'er 0–10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
Haparanda	29.74	755.5	29.78	756.5	21.2	— 6.0	.....	NE	.....	.....	2	.....	9	.....	.....	0	0	.....	
Umea	29.73	755.2	29.78	756.5	31.3	— 0.4	89	NW	.....	.....	2	.....	6	.....	.....	0	0	.....	
Hernosand	29.79	756.7	29.84	758.0	38.1	3.4	73	W	.....	.....	2	.....	10	.....	.....	0	0	.....	
Stockholm	29.86	758.4	30.04	762.9	24.8	— 4.0	73	WSW	.....	.....	2	.....	3	.....	.....	0	0	.....	
Wisby	29.98	761.4	30.04	762.9	30.2	— 1.0	84	W	.....	.....	7	.....	3	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.88	759.0	29.97	761.2	21.9	— 5.6	87	SW	5.1	2.3	.....	.....	7	.....	.....	0.019	0.47	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.42	721.8	29.90	759.4	36.7	2.6	70	N	.....	.....	3	.....	10	.....	.....	0	0	Covered	The Observatory.
Zurich	28.24	717.2	29.96	761.0	29.5	— 1.4	88	NW	.....	.....	2	.....	10	.....	.....	0.020	0.5	Snowing	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, —4.9 mm.; Thermometer, —2.4 Cent.; Relative Humidity, —8 per cent

NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.86	758.5	56.8	13.8	77	SW	13	6.0	.....	.....	7	.....	SW	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.82	757.3	66.4	19.1	.....	S	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.88	758.9	30.00	761.9	68.2	20.1	63	SW	.....	.....	3	.....	3n	.....	SW	0.03	0.8	D. clouds	Prof. C. V. A. van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the cale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B.	30.08	764.0	30.14	765.5	20.2	— 6.6	93	SW	2	0.9	.....	8c	0	SW	.....	0.22	5.6	Fair	G. A. Blair.
Charlottetown, P. E. Island	30.03	762.7	30.08	764.0	30.9	— 0.6	86	W	10	4.5	.....	0	8s	.....	.....	0	0	Fair	H. J. Cundall, C. E.
Cornwall, Ontario	30.19	766.8	30.40	772.1	23.2	— 4.0	79	NW	.....	.....	1	0	5s	.....	.....	0	0	Fair	James Smith, M. A.
Dalhousie, N. B.	29.94	760.5	30.11	764.8	25.7	— 3.5	.....	W	.....	.....	2	0	5ks	.....	.....	0.06	1.5	Fair	H. A. Johnson.
Father Point, Quebec	30 15	765.8	30.17	766.3	22.4	— 5.3	72	NW	20	8.9	.....	5k	5s	W	.....	0.15	3.8	Cloudy	J. McWilliams.
Fredericton, N. B.	30.14	765.5	30.21	767.3	19.0	— 7.2	100	N	1	0.4	.....	2cs	1s	.....	.....	0	0	Clear	Prof. Harrison.
Fort Garry, Manitoba	29.39	746.5	30.30	769.6	9.5	—12.5	83	N	4	1.8	.....	5k	5ks	W	.....	0	0	Cloudy	James Stewart.
Granton, Ontario	29.26	743.2	30.47	773.9	13	—10.6	.....	W	.....	.....	1	0	0	.....	.....	0	0	Clear	James Grant.
Halifax, N. S.	30.04	763.0	30.17	766.3	32.0	0.0	83	W	6	2.7	.....	0	0	.....	.....	0.18	4.6	Clear	A. Allison.
Hamilton, Ontario	30.07	763.8	30.47	773.9	27.1	— 2.7	90	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	Geo. Dickson, B. A.
Heart's Content, N. F.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	30.10	764.5	30.45	773.4	29.1	— 1.6	77	N	5	2.2	.....	8k	2s	NW	.....	0.01	0.3	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S.	30.01	762.2	30.04	763.0	33.4	0.8	79	N	4	1.8	.....	6ck	0	SW	.....	0.28	7.1	Fair	C. H. Rigby.
Montreal, Quebec	30.17	766.3	30.20	769.4	21.4	— 5.9	77	W	16	7.2	.....	0	0	.....	.....	0	0	Clear	C. H. McLeod, C. E.
Moose Factory, Ontario	30.36	771.1	30.40	772.1	— 6.7	—21.5	96	W	.....	.....	1	0	0	.....	.....	0.20	5.1	Clear	J. R. Nason.
Norwood	29.67	753.6	30.42	772.7	.....	.....	.....	NW	.....	.....	1	.....	9s	.....	.....	Inap.	Inap.	Cloudy	Rev. T. F. Fotheringham, M. A.
Parry Sound, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. R. Mosley.
Peterboro, Ontario	29.65	753.1	30.44	773.2	27.4	— 2.6	63	NE	.....	.....	1	.....	10s	.....	.....	0	0	Overcast	J. F. Jeffers, M. A.
Port Dover, Ontario	29.71	754.6	30.46	773.7	21.1	— 6.1	100	N	5	2.2	.....	8c	0	W	.....	0	0	Fair	H. Morgan.
Port Hastings, N. S.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.75	755.6	30.46	773.7	16.2	— 8.8	98	N	5	2.2	.....	2ck	0	W	.....	0	0	Fair	M. Payne.
Quebec, Quebec	29.95	760.7	30.30	769.6	20	— 6.7	85	NW	.....	.....	3	0	10s	.....	.....	0.20	5.1	Fair	Capt. Ashe, R. N.
Rockliffe, Ontario	29.96	761.0	30.42	772.7	18.1	— 7.7	53	W	8	3.6	.....	.....	10s	.....	W	0	0	Cloudy	W. H. McIntyre.
St. Andrews, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Gove.
St. John, N. B.	30.06	763.5	30.24	768.1	29	— 1.7	55	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	G. Murdock, C. E.
Saugeen, Ontario	29.67	753.6	30.42	772.7	29.0	— 1.7	97	SW	3	1.3	.....	.....	9ks	.....	.....	0.01	0.3	Cloudy	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	29.06	738.1	30.49	774.4	9.1	—12.7	96	Calm	0	0	.....	ics	2s	.....	.....	0	0	Fair	C. J. MacGregor, M. A.
Sydney, C. B.	30.03	762.7	30.07	763.8	33.4	0.8	83	W	6	2.7	.....	2c	7ks	.....	.....	0.02	0.5	Cloudy	T. C. Hill, C. E.
Toronto, Ontario	30.05	763.3	30.46	773.7	32.2	0.1	64	W	4	1.8	.....	.....	10ks	.....	W	0	0	Cloudy	Magnetic Observatory.
Windsor, N. S.	30.04	763.0	30.13	765.3	32.0	0.0	79	W	7	3.1	.....	0	2ks	.....	.....	0.12	3.0	Fair	Prof. John E. Oram, M. A.
Woodstock, Ontario	29.31	744.5	30.49	774.4	11.6	—11.3	100	SW	2	0.9	.....	3c	0	W	.....	0	0	Fine	Prof. J. Montgomery.
Yarmouth, N. S.	30.17	766.3	30.23	767.8	36.0	2.2	70	NW	.....	.....	2	0	3s	.....	.....	0.11	2.8	Fair	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	30.00	762.0	30.26	768.6	36.0	2.2	90	S	.....	.....	.....	10k	10s	.....	.....	0	0	Cloudy	John Delany.
St. Pierre, N. F., Hopital Maritime	.....	.....	29.93	760.3	40.3	4.6	.....	S	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	The Commandant.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10, except Yarmouth and St. Johns on scale 0 to 20. At St. Andrews the velocity of the wind is estimated, and at St Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.** UNITED STATES SERIES.

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Albany, New York	30.18	766.6	30.42	772.7	36	2.2	61	N	8	3.6	.....	.....	10s	.....	NW	0	0	Cloudy	
Alpena, Michigan	29.72	754.9	30.42	772.7	24	— 4.4	87	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	29.18	741.1	30.36	771.1	49	9.4	64	W	7	3.1	.....	8c	Sm'e	W	Calm	0	0	Fair	
Atlantic City, New Jersey	30.43	772.9	30.44	773.2	33	0.6	79	N	7	3.1	.....	Haze	0	Calm	.....	0	0	Clear	
Augusta, Georgia	30.24	768.1	30.45	773.4	41	5.0	82	Calm	0	0	.....	Haze	2s	Calm	N	0	0	Fair	
Baltimore, Maryland	30.45	773.4	30.50	774.7	39	3.9	46	N	2	0.9	.....	0	Haze	.....	Calm	0	0	Clear	
Barnegat, New Jersey	30.41	772.4	30.43	772.9	35	1.7	70	N	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Bismarck, Dakota	28.20	716.3	30.06	763.5	24	— 4.4	87	E	18	8.0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Boerne, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Boise City, Idaho	26.97	685.0	29.93	760.2	30	— 1.1	89	NW	6	2.7	.....	0	5s	.....	Calm	0.03	0.8	Fair	
Boston, Massachusetts	30.20	767.1	30.36	771.1	32	0.0	69	W	8	3.6	.....	0	1ks	.....	Calm	0	0	Clear	
Brackettville, Texas	28.81	731.8	29.85	758.2	63	17.2	94	SE	10	4.5	.....	.....	10ks	.....	SE	0	0	Cloudy	
Breckenridge, Minnesota	28.99	736.3	30.03	762.7	30	— 1.1	57	E	16	7.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Brownsville, Texas	29.96	761.0	30.01	762.2	71	21.7	71	S	3	1.3	.....	0	8ks	.....	S	0	0	Fair	
Buffalo, New York	29.71	754.6	30.45	773.4	32	0.0	59	NW	2	0.9	.....	0	2s	.....	SW	0	0	Fair	
Burkes, Arizona	.....	.....	.....	.....	43	6.1	43	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	30.08	764.0	30.39	771.9	32	0.0	79	N	6	2.7	.....	.....	10n	.....	W	Inap.	Inap.	Light snow	
Cairo, Illinois	29.83	757.7	30.22	767.6	55	12.8	81	S	5	2.2	.....	.....	10s	.....	SW	0.02	0.5	Cloudy	
Campo, California	27.23	691.6	29.80	756.9	43	6.1	92	SW	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Cape Hatteras, N. Carolina	30.38	771.6	30.39	771.9	48	8.9	70	N	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Cape Henry, Virginia	30.44	773.2	30.45	773.4	46	7.8	47	N	9	4.0	.....	0	Haze	.....	Calm	0	0	Clear	
Cape Lookout, N. Carolina	30.38	771.6	30.39	771.9	46	7.8	77	N	16	7.2	.....	.....	Haze	.....	Calm	0	0	Clear	
Cape May, New Jersey	30.42	772.7	30.45	773.4	39	3.9	63	N	13	5.8	.....	0	0	.....	.....	0	0	Dense haze	
Castroville, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Clear	
Cedar Keys, Florida	30.31	769.9	30.34	770.6	58	14.4	100	NE	12	5.4	.....	.....	Fog	.....	NE	0	0	Dense fog	
Charleston, South Carolina	30.34	770.6	30.40	772.1	49	9.4	71	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Charlotte, North Carolina	29.54	750.3	30.39	771.9	44	6.7	68	NE	3	1.3	.....	5ck	Sm'e	W	Calm	0	0	Fair	
Chattanooga, Tennessee	29.56	750.8	30.40	772.1	43	6.1	83	Calm	0	0	.....	8cs	Sm'e	W	Calm	0	0	Dense smoke	
Cheyenne, Wyoming	23.78	604.0	29.72	754.9	22	— 5.6	58	NW	18	8.0	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.58	751.3	30.30	769.6	36	2.2	61	SE	10	4.5	.....	.....	10s	.....	SE	0	0	Cloudy	
Cincinnati, Ohio	29.71	754.6	30.40	772.1	35	1.7	70	E	2	0.9	.....	2c	Sm'e	W	Calm	0	0	Clear	
Cleveland, Ohio	29.68	753.9	30.48	774.2	25	— 3.9	75	SE	5	2.2	.....	5c	Fog	SW	Calm	0	0	Fair	
Coleman City, Texas	28.17	715.5	29.81	757.2	61	16.1	88	S	12	5.4	.....	.....	10s	.....	S	0	0	Cloudy	
Columbus, Ohio	29.52	749.8	30.42	772.7	31	— 0.6	48	SW	2	0.9	.....	2cs	Sm'e	Calm	Calm	0	0	Clear	
Concho, Texas	28.05	712.5	29.68	753.9	64	17.8	68	S	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Corsicana, Texas	29.59	751.6	30.05	763.3	65	18.3	89	SE	8	3.6	.....	.....	10ks	.....	Calm	0.02	0.5	Cloudy	
Davenport, Iowa	29.49	749.0	30.11	764.8	35	1.7	80	E	5	2.2	.....	.....	10n	.....	Calm	0.22	5.6	Light rain	
Deadwood, Dakota	25.27	641.8	.....	.....	22	— 5.6	45	SW	4	1.8	.....	.....	10n	.....	Calm	0.01	0.3	Light snow	
Decatur, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Denison, Texas	29.23	742.4	30.00	762.0	65	18.3	84	S	12	5.4	.....	.....	10ks	.....	S	Inap.	Inap.	Cloudy	
Denver, Colorado	24.50	622.3	29.72	754.9	28	— 2.2	54	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	29.04	737.6	29.94	760.5	39	3.9	91	SE	5	2.2	.....	.....	10n	.....	Calm	0.17	4.3	Light rain	
Detroit, Michigan	29.72	754.9	30.44	773.2	25	— 3.9	87	W	1	0.4	.....	2cs	0	Calm	.....	0	0	Clear	
Dodge City, Kansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Dubuque, Iowa	29.41	747.0	30.14	765.5	34	1.1	90	SE	6	2.7	.....	.....	10n	.....	Calm	0.04	1.0	Light rain	
Duluth, Minnesota	29.52	749.8	30.24	768.1	27	— 2.8	88	SW	2	0.9	.....	.....	10n	.....	SW	0.07	1.8	Light snow	
Eagle Pass, Texas	29.28	743.7	30.00	762.0	65	18.3	84	E	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Eastport, Maine	30.17	766.3	30.24	768.1	30	— 1.1	68	NW	12	5.4	.....	2c	0	Calm	.....	0.12	3.0	Clear	
Edinburg, Texas	.....	.....	.....	.....	64	17.8	94	E	.....	.....	1	5c	5s	Calm	Calm	0	0	.....	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.70	754.4	30.45	773.4	35	1.7	70	S	4	1.8	.....	0	5ks	.....	W	0	0	Fair	
Escanaba, Michigan	29.63	752.6	30.34	770.6	20	— 6.7	70	N	5	2.2	.....	0	5s	.....	NW	Inap.	Inap.	Fair	
Florence, Arizona	28.26	717.8	29.86	758.4	47	8.3	62	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	28.11	714.0	30.07	763.8	20	— 6.7	85	N	11	4.9	.....	.....	10s	.....	NE	0	0	Cloudy	
Fort Custer, Montana	26.95	684.5	.....	.....	20	— 6.7	85	N	24	10.7	.....	.....	10s	.....	Calm	0.05	1.3	Cloudy	
Fort Davis, Texas	25.09	637.3	30.05	763.3	50	10.0	72	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.46	748.3	29.99	761.7	62	16.7	88	S	12	5.4	.....	.....	10s	.....	S	0.02	0.5	Cloudy	
Fort Grant, Arizona	25.04	636.0	29.84	757.9	43	6.1	30	NE	6	2.7	.....	0	2s	.....	NE	0	0	Fair	
Fort Griffin, Texas	28.66	728.0	29.90	759.4	63	17.2	78	SE	9	4.0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Keogh, Montana	27.50	698.5	.....	.....	22	— 5.6	60	NW	12	5.4	.....	.....	10n	.....	Calm	0.05	1.3	Light snow	
Fort McKavett, Texas	27.70	703.6	29.57	751.1	61	16.1	88	S	3	1.3	.....	.....	10ks	.....	S	0	0	Cloudy	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.73	729.7	29.81	757.2	62	16.7	94	S	18	8.0	.....	.....	10s	.....	S	Inap.	Inap.	Cloudy	
Fort Stevenson, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Verde, Arizona	.....	.....	.....	.....	36	2.2	71	SE	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.17	715.5	29.71	754.6	57	13.9	87	S	10	4.5	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Galveston, Texas	30.08	764.0	30.13	765.3	69	20.6	85	SE	9	2.7	.....	0	2ks	.....	SE	0	0	Clear	
Graham, Texas	28.87	733.3	29.90	759.4	62	16.7	88	S	6	2.7	.....	.....	10s	.....	S	0	0	Threatening	
Grand Haven, Michigan	29.66	753.4	30.36	771.1	25	— 3.9	75	SE	6	2.7	.....	0	5s	.....	Calm	0	0	Fair	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.02	737.1	29.94	760.5	62	16.7	88	SE	10	4.5	.....	.....	10s	.....	SW	0	0	Cloudy	
Indianapolis, Indiana	29.47	748.5	30.28	769.1	38	3.3	45	E	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Indianola, Texas	30.06	763.5	30.09	764.3	69	20.6	95	SE	9	4.0	.....	.....	10s	.....	SE	0	0	Threatening	
Jacksboro, Texas	28.86	733.0	29.94	760.5	73	22.8	59	S	10	4.5	.....	5k	0	S	.....	0	0	Fair	
Jacksonville, Florida	30.34	770.6	30.36	771.1	58	14.4	88	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Keokuk, Iowa	29.40	746.7	30.03	762.7	38	3.3	91	SE	16	7.2	.....	.....	10n	.....	SE	0.76	19.3	Light rain	
Key West, Florida	30.15	765.8	30.18	766.6	69	20.6	80	NE	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Kittyhawk, North Carolina	30.39	771.9	30.42	772.7	52	11.1	79	N	19	8.5	.....	0	Haze	.....	Calm	0	0	Clear	
Knoxville, Tennessee	29.36	745.7	30.40	772.1	45	7.2	84	N	3	1.3	.....	.....	10s	.....	W	0	0	Cloudy	
La Crosse, Wisconsin	29.37	746.0	30.14	765.5	34	1.1	79	SE	4	1.8	.....	.....	10n	.....	Calm	Inap.	Inap.	Light snow	
La Mesilla, New Mexico	25.96	659.4	30.11	764.8	30	— 1.1	57	Calm	0	0	.....	0	1s	.....	Calm	0	0	Clear	
Laredo, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Leavenworth, Kansas	29.02	737.1	29.84	757.9	55	12.8	93	S	12	5.4	.....	.....	10ks	.....	SW	0.05	1.3	Cloudy	
Little Rock, Arkansas	29.84	757.9	30.20	767.1	61	16.1	82	SE	6	2.7	.....	.....	10s	.....	W	0	0	Cloudy	
Los Angeles, California	29.52	749.8	29.86	758.4	49.0	9.4	78	E	2	0.9	.....	0	5s	.....	Calm	0	0	Clear	
Louisville, Kentucky	29.74	755.4	30.32	770.1	44	6.7	68	NE	1	0.4	.....	5ck	5s	Calm	Calm	0	0	Fair	
Lynchburg, Virginia	29.76	755.9	30.48	774.2	35	1.7	79	N	1	0.4	.....	2cs	Sm'e	W	Calm	0	0	Fair	
Madison, Wisconsin	29.17	740.9	30.20	767.1	35	1.7	80	SE	10	5.4	.....	.....	10s	.....	SE	0	0	Cloudy	
Marquette, Michigan	29.55	750.6	30.30	769.6	24	— 4.4	74	Calm	0	0	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Mason, Texas	28.35	720.1	30.08	764.0	63	17.2	83	SE	12	5.4	.....	.....	10s	.....	.....	0	0	Cloudy	
Memphis, Tennessee	29.89	759.2	30.23	767.8	57	13.9	69	SE	8	3.6	.....	10cs	0	W	.....	0	0	Cloudy	
Milwaukee, Wisconsin	29.51	749.5	30.28	769.1	32	0.0	79	S	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Mobile, Alabama	30.28	769.1	30.32	770.1	46	7.8	92	S	4	1.8	.....	0	Haze	.....	.....	0	0	Hazy	
Montgomery, Alabama	30.14	765.5	30.30	771.9	41	5.0	87	E	1	0.4	.....	2c	Fogsm	Calm	Calm	0	0	Clear	

UNITED STATES SERIES—CONTINUED.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	Lo'er 0—10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER
Morgantown, West Virginia	29.43	747.5	30.50	774.7	26	-- 3.3	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Mt. Washington, N. H.....	23.66	601.0	30.02	762.5	7	—13.9	100	NW	63	28.1	.....	.....	Fog	.....	NW	0	0	Foggy	
Nashville, Tennessee.....	29.77	756.1	30.32	770.1	51	10.6	72	Calm	0	0	.....	0	5ks	.....	Calm	Inap.	Inap.	Fair.....	
New Haven, Connecticut.....	30.26	768.6	30.39	771.9	34	1.1	70	NW	3	1.3	.....	0	1s; sm'e	.....	W	0	0	Clear.	
New London, Connecticut....	30.33	770.4	30.39	771.9	38	3.3	54	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
New Orleans, Louisiana.....	30.20	767.1	30.26	768.6	61	16.1	88	E	8	3.6	.....	.....	10ks	.....	S	0	0	Cloudy.....	
Newport, Rhode Island.....	30.32	770.1	30.37	771.4	37.5	3.1	67	NW	9	4.0	.....	0	0	.....	.....	0	0	Clear.	
New York, New York.....	30.24	768.1	30.43	772.9	35	1.7	52	W	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Norfolk, Virginia.....	30.39	771.9	30.45	773.4	45	7.2	46	NE	7	3.1	.....	0	0	.....	.....	0	0	Clear.	
North Platte, Nebraska.....	26.86	682.2	29.44	747.8	37	2.8	95	N	7	3.1	.....	.....	10s	.....	NW	0	0	Cloudy.....	
Olympia, Washington Ter...	30.27	768.8	30.31	769.9	28.0	— 2.2	94	NE	2	0.9	.....	0	0	.....	.....	0.05	1.3	Clear.	
Omaha, Nebraska.....	28.67	728.2	29.76	755.9	47	8.3	92	E	2	0.9	.....	.....	10n	.....	Calm	Inap.	Inap.	Light rain...	
Oswego, New York.....	30.11	764.8	30.44	773.2	37	2.8	63	N	11	4.9	.....	.....	10s	.....	NW	0	0	Cloudy.....	
Pembina, Dakota.....	29.27	743.4	30.15	765.8	18	— 7.8	100	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Pensacola, Florida.....	30.3	770.4	30.36	771.1	51	10.6	86	NE	7	3.1	.....	0	Fog	.....	Calm	0	0	Clear.	
Philadelphia, Pennsylvania	30.41	772.4	30.46	773.7	35	1.7	61	NW	12	5.4	.....	0	Fog	.....	Calm	0	0	Clear.	
Phœnix, Arizona.....	28.60	726.4	30.40	772.1	49	9.4	44	E	4	1.8	.....	5ck	0	Calm	.....	0	0	Fair.....	
Pike's Peak, Colorado.....	17.43	442.7	29.64	752.8	9	—12.8	.....	NW	48	21.5	.....	0	2s	.....	Calm	0	0	Clear.	
Pilot Point, Texas.....	29.25	742.9	30.06	763.5	66	18.9	78	S	19	8.5	.....	.....	10s	.....	.....	0	0	Cloudy.....	
Pioche, Nevada.....	.....	.....	.....	.....	33	0.6	42	S	16	7.2	.....	0	0	.....	.....	0	0	Clear.	
Pittsburg, Pennsylvania.....	29.62	752.3	30.50	774.7	26	— 3.3	88	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Port Huron, Michigan.....	29.71	754.6	30.43	772.9	22	— 5.6	86	W	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Portland, Maine.....	30.24	768.1	30.29	769.4	35	1.7	61	W	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Portland, Oregon.....	30.23	767.8	30.31	769.9	34.5	1.4	93	N	1	0.4	.....	.....	Fog	.....	Calm	0.03	0.8	Foggy	
Portsmouth, N. Hampshire..	.....	.....	.....	.....	50	10.0	65	NW	17	7.6	.....	0	Haze	.....	.....	0	0	Clear.	
Prescott, Arizona.....	24.49	622.0	29.85	758.2	43	6.1	28	S	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Punta Rassa, Florida.....	30.23	767.8	30.25	768.3	63	17.2	83	NE	10	4.5	.....	2ck	0	NE	.....	0	0	Clear.	
Red Bluff, California.....	29.64	752.8	30.00	762.0	46	7.8	33	N	14	6.3	.....	0	0	.....	.....	0	0	Clear.	
Rio Grande City, Texas.....	29.79	756.7	30.01	762.2	62	16.7	94	E	9	4.0	.....	0	5s	.....	Calm	0	0	Fair.....	
Rochester, New York.....	29.80	756.9	30.45	773.4	35	1.7	80	W	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Roseburg, Oregon.....	29.60	751.8	30.20	767.1	36	2.2	90	E	4	1.8	.....	5k	0	NE	.....	Inap.	Inap.	Fair.....	
Sacramento, California.....	29.77	756.1	29.85	758.2	41	5.0	91	N	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
St. Louis, Missouri.....	29.55	750.6	30.13	765.3	47	8.3	77	SE	9	4.0	.....	.....	10n	.....	Calm	Inap.	Inap.	Light rain...	
St. Paul, Minnesota.....	29.20	741.7	30.06	763.5	31	— 0.6	79	E	12	5.4	.....	.....	10s	.....	SE	0	0	Cloudy.....	
Salt Lake City, Utah.....	25.26	641.6	29.59	751.6	28	— 2.2	66	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
San Antonio, Texas.....	29.34	745.2	29.91	759.7	64	17.8	94	SE	3	1.3	.....	5k	5ks	SE	SE	Inap.	Inap.	Cloudy.....	
San Diego, California.....	29.84	757.9	29.91	759.7	55	12.8	74	SW	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Sandusky, Ohio.....	29.73	755.1	30.45	773.4	29	— 1.7	78	W	6	2.7	.....	5c	Sm'e	W	Calm	0	0	Fair	
Sandy Hook, New Jersey.....	30.39	771.9	30.42	772.7	38	3.3	54	NW	16	7.2	.....	0	0	.....	.....	0	0	Clear.....	
San Francisco, California....	29.82	757.4	29.88	758.9	49	9.4	78	N	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Santa Fé, New Mexico.....	23.12	587.2	29.66	753.4	28	— 2.2	32	NE	4	1.8	.....	8k	0	N	.....	0	0	Fair	
Savannah, Georgia.....	30.31	769.9	30.41	772.4	50	10.0	72	N	2	0.9	.....	0	Sm'e	.....	Calm	0	0	Clear.	
Shreveport, Louisiana.....	29.94	760.5	30.16	766.1	58	14.4	88	SE	5	2.2	.....	0	5s	.....	Calm	0	0	Fair.....	
Silver City, New Mexico.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina..	30.37	771.4	30.40	772.1	45	7.2	68	N	2	0.9	.....	0	Haze	.....	.....	0	0	Clear.	
Socorro, New Mexico.....	25.24	641.1	29.30	744.2	40	4.4	39	SE	5	2.2	.....	0	5s	.....	S	0	0	Fair.....	
Springfield, Illinois.....	29.49	749.0	30.18	766.6	39.5	4.2	82	E	12	5.4	.....	.....	10n	.....	S	0.79	20.1	Light rain...	
Springfield, Massachusetts..	30.26	768.6	30.40	772.1	34	1.1	70	NW	1	0.4	.....	0	5ks	.....	NW	0	0	Fair.....	
Stockton, Texas.....	26.86	682.2	29.86	758.4	48	8.9	36	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear.	
Thatcher's Island, Mass.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Toledo, Ohio.....	29.71	754.6	30.45	773.4	27	— 2.8	76	Calm	0	0	.....	8ck	0	W	.....	0	0	Fair.....	
Tucson, Arizona.....	27.37	695.2	29.92	760.0	50	10.0	32	SE	.....	.....	.....	2c	0	SE	.....	0	0	Fair.....	
Umatilla, Oregon.....	29.94	760.5	30.47	773.9	30.0	— 1.1	78	E	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Uvalde, Texas.....	29.12	739.6	29.93	760.2	65	18.3	68	E	4	1.8	.....	.....	10s	.....	E	0	0	Cloudy.....	
Vicksburg, Mississippi.....	30.12	765.0	30.28	769.1	53	11.7	93	SE	8	3.6	.....	5cs	0	Calm	.....	0	0	Fair.....	
Virginia City, Montana.....	24.11	612.4	29.59	751.6	10	—12.2	100	NE	25	11.2	.....	.....	10n	.....	Calm	.....	.....	Light snow.	
Visalia, California.....	29.42	747.3	29.80	756.9	33	0.6	89	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Washington, D. C.....	30.34	770.6	30.47	773.9	36	2.2	61	N	6	2.7	.....	2c	0	N	.....	0	0	Fair.....	
Wickenburg, Arizona.....	.....	.....	.....	.....	35	1.7	80	W	.....	.....	1	2cs	0	Calm	.....	0	0	Fair.....	
Wilmington, North Carolina	30.33	770.4	30.41	772.4	43	6.1	75	N	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	
Winnemucca, Nevada.....	25.46	646.7	29.82	757.4	24	— 4.4	74	NW	19	8.5	.....	.....	8s	.....	NW	0	0	Cloudy.....	
Wood's Holl, Massachusetts	30.30	769.6	30.34	770.6	38	3.3	63	NW	16	7.2	.....	0	0	.....	.....	0	0	Clear.	
Yankton, Dakota.....	28.55	725.2	29.87	758.7	35	1.7	52	E	4	1.8	.....	2k	0	Calm	.....	0	0	Fair.....	
Yuma, Arizona.....	29.58	751.3	29.75	755.6	51	10.6	59	W	5	2.2	.....	0	0	.....	.....	0	0	Clear.	
SUB-SERIES.																			
Fayetteville, Arkansas.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.....	30.06	763.5	30.11	764.8	76	24.4	72	NE	2.4	1.1	.....	8k	0	E	.....	0	0	Fair.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I.....	30.17	766.3	30.18	766.6	77	25.0	91	Calm	0	0	.....	2k	2cs	Calm	.....	0	0	Fair.....	James Gall.
Medellin, Colombia, S. A.*	25.22	640.6	.....	.....	65.5	18.6	85	Calm	.....	.....	0	.....	10n	.....	.....	0.10	2.5	.....	Thomas Herran.
Navassa, W. I.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.90	759.4	29.90	759.4	83	28.3	75	SE	.....	.....	2	5k	5ks	E	.....	0	0	½ cloudy.....	C. J. Hering.
Santiago de Cuba, W. I.....	29.90	759.4	30.03	762.7	76	24.4	81	N	4.8	2.1	.....	0	2s	.....	N	0	0	.....	Robert Mason.
St. Thomas, W. I.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.....	30.02	762.5	30.07	763.8	—12.0	—24.4	75	W	10	4.5	.....	2c	0	NW	.....	0.04	1.0	Fair.....	J. Fortescue & W. Wood

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Medellin, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,535.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1.856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3.488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 n.m.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm. *The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.34‡	770.6‡	.....	.....	53	11.7	80	NE	7	3.1	.....	.....	2	.....	SE	0	0	.....	.....	Fair	
Navy Yard, Portsmouth, N.H.	30.08‡	764.0‡	.....	.....	32	0.0	90	SW	3	1.3	.....	.....	5	.....	.....	0	0	.....	.....	Pleasant	
Naval Hospital, Yokohama, Japan	29.90‡	759.4‡	.....	.....	48.5	9.2	67	N	.....	.....	2	ck	4k	NW	SSW	0	0	.....	.....	Fair	
Adams, Mare I'd., Navy Yard, Cal.	29.88‡	758.9‡	.....	.....	47	8.3	100	W	.....	.....	1	.....	10	.....	W	.....	.....	.....	.....	Cloudy	
Alaska, Iquique, Peru *.	29.98‡	761.5‡	.....	.....	63	17.2	83	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....	Hazy	
Alliance. N. 20° 57′, W. 56° 14′	29.95†	760.7‡	.....	.....	78	25.6	86	SE	.....	.....	3–4	.....	10	.....	S;E	.....	.....	Smooth	SE	Raining	
Colorado, New York, N. Y.	30.35‡	770.9‡	.....	.....	36	2.2	67	NW	8	3.6	.....	.....	0	.....	.....	0	0	.....	.....	Misty	
Constitution, Hampton Roads, Va.	30.45‡	773.4‡	.....	.....	48	8.9	67	NNE	14	6.3	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Enterprise, Alexandria, Egypt	30.10‡	764.5‡	.....	.....	68	20.0	74	SW	.....	.....	3	.....	2	.....	W	.....	.....	Smooth	.....	Clear	
Franklin, Off Navy Yard, Norfolk, Va.	30.37‡	771.4‡	.....	.....	45	7.2	54	NE	6	2.7	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Independence, Mare I'd, Navy Yard, Cal.	29.89‡	759.2‡	.....	.....	59	15.0	76	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Kearsage, Savannah, Ga.	30.38‡	771.6‡	.....	.....	51	10.6	79	N	.....	.....	1	.....	2	.....	N	0	0	Smooth	.....	Foggy	
Lackawana, N. 36° 00′, W. 166° 30′	29.92‡	760.0‡	.....	.....	63	17.2	78	NW	.....	.....	6	.....	1	.....	NW	.....	.....	Long	N	Fair	
Marion, Navy Yard, Brooklyn, N.Y.	30.38‡	771.6‡	.....	.....	42	5.6	61	WNW	.....	.....	2	.....	0	.....	.....	.....	.....	Smooth	.....	Clear	
Michigan, Erie, Pa.	30.40‡	772.1‡	.....	.....	35	1.7	82	S	.....	.....	2	.....	8	.....	S	.....	.....	.....	.....	Cloudy	
Monocacy, Shanghai, China	30.17‡	766.3‡	.....	.....	53	11.7	93	N	.....	.....	1	.....	2	.....	N	.....	.....	.....	.....	Fair	
New Hampshire, Port Royal, S. C.	30.37‡	771.4‡	.....	.....	54	12.2	67	NE	5	2.2	.....	.....	1	.....	NE	0	0	.....	.....	Clear	
Onward, Callao, Peru †.	29.95‡	760.7‡	.....	.....	69	20.6	90	NW	.....	.....	1	.....	10	.....	.....	.....	.....	Long	W	Misty	
Palos. Tientsin, China	30.22‡	767.6‡	.....	.....	41	5.0	91	WSW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Passaic, Washington, D. C.	30.41‡	772.4‡	.....	.....	33	0.6	91	NE	.....	.....	1	.....	2	.....	.....	0	0	.....	.....	Clear	
Pensacola, Callao, Peru	29.98‡	761.5‡	.....	.....	62	16.7	94	WNW	.....	.....	2	.....	10	.....	.....	.....	.....	Smooth	.....	Hazy	
Powhatan, Navy Yard, Brooklyn, N.Y.	30.39‡	771.9‡	.....	.....	39	3.9	68	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	.....	Clear	
Quinnebaug, Genoa, Italy	29.67‡	753.6‡	.....	.....	50	10.0	64	NNE	.....	.....	4	.....	2	.....	W	.....	.....	.....	.....	Fair	
Ranger, N. 29° 28′, E. 175° 00′	29.85‡	758.2‡	.....	.....	60	15.6	88	S	.....	.....	6	.....	10	.....	S	.....	.....	Mod'ate	SW	Overcast	
Richmond, Shanghai, China	30.18‡	766.6‡	.....	.....	55	12.8	87	NNW	.....	.....	2	.....	0	.....	.....	0	0	.....	.....	Pleasant	
Rio Bravo, Brownsville, Texas	30.17‡	766.3‡	.....	.....	67	19.4	100	SSW	2	0.9	.....	.....	5	.....	SSE	0.75	19.1	.....	.....	Misty	
Santee. Annapolis, Md	30.47‡	773.9‡	.....	.....	37	2.8	67	N	.....	.....	2	.....	2	.....	W	0	0	.....	.....	Clear	
Shenandoah, S. 17° 25′, W. 36° 58′	29.99‡	761.7‡	.....	.....	82	27.8	83	ENE	.....	.....	2	.....	2	.....	.....	.....	.....	Smooth	.....	Fair	
St. Louis, League Island, Pa.	30.37‡	771.4‡	.....	.....	31	−0.6	90	NNW	2	0.9	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Trenton, Gibraltar, Mediterranean	29.78‡	756.4‡	.....	.....	75	23.9	72	E	.....	.....	1	.....	2	.....	E	0	0	Smooth	.....	Clear	
Tuscarora, N. 15° 44′, W. 96° 46′	29.89‡	759.2‡	.....	.....	69	20.6	85	NE	.....	.....	2	.....	2	.....	Calm	0	0	Smooth	.....	Fair	
Vandalia. N. 23° 42′, W. 81° 39′	30.21‡	767.3‡	.....	.....	78	25.6	95	ENE	.....	.....	5	.....	2	.....	ENE	.....	.....	Mod'ate	ENE	Clear	
Wabash, Boston, Mass.	30.26‡	768.6‡	.....	.....	31	−0.6	82	W	7	3.1	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Wachusett, S. 0° —′, W 27° —′	29.95‡	760.7‡	.....	.....	80	26.7	91	ESE	.....	.....	4	.....	2	.....	SE	.....	.....	Long	ESE	Fair	
Wyoming, Tangier, Morocco	29.73‡	755.1‡	.....	.....	72	22.2	62	ENE	.....	.....	1–2	.....	5	.....	E	.....	.....	Smooth	E	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL. Inches.	BAROMETER REDUCED TO SEA-LEVEL. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL. CHARACTER.	SEA-SWELL. DIRECTION FROM—	WEATHER.	OBSERVER.
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S. S. Samaria																			Capt. T. Roberts.
NOTE—†Aneroid. *The error of the barometer is not known.																			
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitebury.
S. S. Costa Rica																			W. House & R. Lawless.
S. S. Dakota, Capt. H. G. Morse																			Capt. Connolly.
S. S. Georgia																			F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin																			Capt. A. Fuller.
S. S. Wilmington																			R. C. Ghest, 1st Officer.
S. S. Zealandia, Sydney, New South Wales	29.61‡	752.1‡				NE			2				NE				Fine	
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Brittanic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer, Hong-Kong, China †.	29.09‡	761.7‡	68	20.0	95	NE			3		5		NE		Smooth		D. clouds		D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson																			J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undutsch.
S. S. Leipzig, Capt. F. Pfeiffer																			S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, Bremerhaven, Germany	30.09‡	764.3‡				E			4		5		E				Cloudy?		Capt. G. Meyer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa.		30.57‡	776.5‡	37	2.8	??	NW			2		2		NW	0			Clear.	Capt. R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from, sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents.																			
Belgenland, N. 50° 05′, W. 18° 36′		30.22‡	767.6‡	52	11.1		ENE	25	11.2			8		ENE	0	Mod'rate	ENE	Cloudy	Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
NOTE.—The originals give the barometer as read off; do not distinguish between upper and lower clouds; sea-swell in general terms, as published. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
ALLAN LINE MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian, N. 47° 20′, W. 58° 44′		30 10‡	764.5‡	37.5	3.1		NW			4		8		NNW		Mod'rate	SW	Fair	J. Powell, 4th Officer.
S. S. Peruvian																			
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
MARINE SERIES—Miscellaneous.																			
Furnished by the co-operation of the Observers named.																			
Schooner Addie Fuller, N. 38° 02′, W. 75° 00′		30.39‡	771.9‡	48	8.9	70	N	9	4.0		Sm'e				0	Short		Smoky	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George" of Halifax																			N. B. Foss.
Schooner Harry and Fred																			Capt. George Gardner.
Haytian																			
§ Iron Cross																			Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.
NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.																			

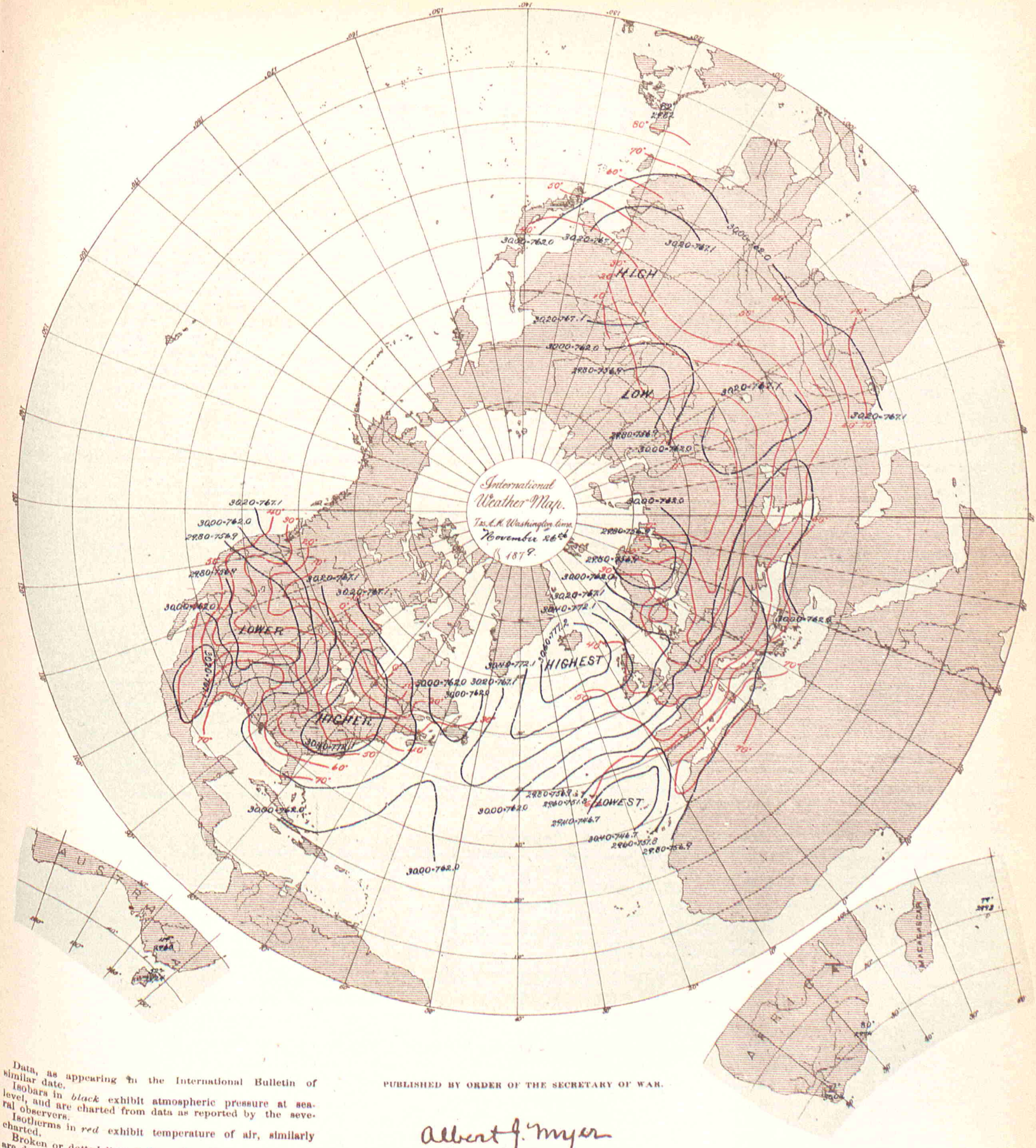
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^{d},) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 27, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	29.76	756.0	69.3	20.7	79	SW	.....	.....	6	.....	0	.....	.....	0.059	1.5	Clear.	
Nemours	.....	.....	29.85	758.2	71.2	21.8	74	NNW	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	Kesxuche.
Algiers	.....	.....	29.64	752.9	72.7	22.6	49	SSW	.....	.....	5	.....	10	.....	.....	Inap.	Inap.	Rain	Touriliere.
La Calle	.....	.....	29.70	754.3	82.2	27.9	56	W	.....	.....	1	.....	8	.....	.....	0	0	Very cloudy	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	29.85	758.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Herbin.
Tebessa	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Watrin.
Geriville	.....	.....	29.87	758.8	77.9	25.5	39	NW	.....	.....	5	.....	8	.....	.....	0	0	Very cloudy	Brugniuax.
Laghouat	.....	.....	.....	.....	60.1	15.6	80	SSW	.....	.....	5	.....	10	.....	.....	0	0	Covered	Bertrand.
Biskra	.....	.....	29.88	759.0	69.4	20.8	2	SSW	.....	.....	6	.....	10	.....	.....	0	0	Covered	Chanvaux.
.....	.....	.....	29.82	757.4	67.6	19.8	68	SE	.....	.....	1	.....	0	.....	.....	0	0	Clear	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.25	743.0	29.82	757.5	34.5	1.4	75	SE	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.04	737.6	29.86	758.5	16.9	—8.4	100	WSW	8.3	3.7	.....	.....	10	.....	.....	0.150	3.8	.....	Dr. Wierzbicki.
Eperies	28.75	730.5	29.68	753.9	22.1	—5.5	83	N	.....	.....	2	.....	10	.....	.....	0.093	2.35	.....	Julius Mikolik.
Gratz	28.57	725.6	29.88	759.0	25.9	—3.4	76	SSE	.....	.....	3	.....	7	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.13	714.5	29.61	752.2	29.1	—1.6	92	NW	.....	.....	4	.....	10	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.52	724.4	29.95	760.7	22.8	—5.1	88	NW	.....	.....	2	.....	10	.....	.....	0.059	1.5	.....	Prof. C. Wagner.
Lemberg	28.52	724.4	29.54	750.3	31.8	—0.1	94	NW	.....	.....	2	.....	10	.....	.....	0.260	6.6	.....	Dr. T. Stanecki.
Pola	29.63	752.6	29.74	755.5	45.0	7.2	42	NE	.....	.....	1	.....	4	.....	.....	0.039	1.0	.....	I.R.Hydrographic Office.
Szathmar	29.19	741.5	29.69	754.0	21.9	—5.6	60	W	.....	.....	2	.....	10	.....	.....	0.492	12.5	Snowing	Pet. Pancsics, S. J.
Szegedin	29.46	748.3	29.76	755.8	27.5	—2.5	79	N	.....	.....	4	.....	6	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.68	753.8	29.78	756.4	44.4	6.9	44	E	.....	.....	1	.....	0	.....	.....	0	0	.....	P. Busin.
Vienna	29.14	740.1	29.89	759.1	24.8	— 4.0	73	NNW	.....	.....	2	.....	8	.....	.....	0.075	1.9	.....	I.R.Central Met. Ob'sy
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

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BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.29	769.4	30.39	771.9	40.1	4.5	.....	N	11	4.9	.....	.....	9	.....	.....	0	0	Overcast.....	W. Boswell.
Ardrossan	30.35	770.9	30.37	771.4	41	5.0	.....	ENE	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds.....	Wm.McNeil &G.Carrick
Armagh, (Observatory)	30.11	764.8	30.35	770.9	40.9	4.9	.....	NE	14	6.3	.....	.....	7	.....	.....	.....	.....	D. clouds.....	S. Call.
Bidston (Liverpool Obs)	.....	.....	30.21	767.3	40.9	4.9	.....	NNE	17	7.6	.....	.....	3	.....	.....	.....	.....	Blue sky.....	John Hartnup.
Bolton (Sharples)	29.62	752.3	30.14	765.5	36.3	2.4	.....	NE	30	13.4	.....	.....	0	.....	.....	.....	.....	Squally.....	Thomas Mackereth.
Bradford, Yorkshire	29.78	756.4	30.17	766.3	40.1	4.5	.....	NW	.....	.....	2	.....	4	.....	.....	0.01	0.3	D. clouds.....	J McLandsborough.
Bridgetown, Barbadoes	29.81	757.2	29.84	757.9	81.5	27.5	.....	NE	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds.....	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	30.09	762.0	30.10	764.5	40.2	4.6	.....	N	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast,....	H. Todd.
Cardington	.....	.....	30.07	763.8	39.0	3.9	.....	N	.....	.....	0–1	.....	8	.....	.....	.....	.....	.....	John McLaren.
Chatham (School M. E.)	29.93	760.2	30.07	763 8	36.1	2.3	.....	NW	.....	.....	2	.....	8	.....	.....	.....	.....	D. clouds.....	J. Carmell, Sapper, R.E
Donaghadee	30.31	769.9	30.35	770.9	43	6.1	.....	ENE	.....	.....	6	.....	6	.....	.....	.....	.....	D. clouds.....	J. Mac Gowan.
Dover	30.03	762.7	30.06	763.5	35	1.7	.....	S	.....	.....	2	.....	5	.....	.....	.....	.....	½ clouded...	J. Costello.
Falmouth (Observatory)	29.85	758.2	30.09	764.3	39.0	3.9	.....	NE	.....	.....	5	.....	9	.....	.....	.....	.....	Overcast.....	The Staff.
Fort Napier, Natal	27.67	702.8	29.88	758.9	69.4	20.8	.....	NE	.....	.....	1	.....	4	.....	.....	.....	.....	Blue sky.....	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Galway (Queen's College)	.....	.....	30.26	768.6	41	5.0	.....	NE	.....	.....	4	.....	3	.....	.....	.....	.....	Blue sky.....	Prof. A. H. Curtis.
Gibraltar, Mediterranean	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Sergt.Wm. Allen, A. H.
Glasgow, (Observatory)	30.15	765.8	30.36	771.1	41.1	5.1	.....	NNE	.....	.....	5	.....	10	.....	.....	.....	.....	Gloomy	D. G. Maclean. [C.
Great Yarmouth	30.06	763.5	30.06	763.5	42	5.6	.....	NE	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds.....	G. T. Watson.
Greenwich (Royal Obs'y)	29.90	759.4	30.08	764.0	36.8	2.7	.....	N	.....	.....	1	.....	9	.....	.....	Blank	Blan	Light clouds	The Staff, for G.B.Airy.
Guernsey	29.77	756.1	30.00	762.0	38	3.3	.....	NE	.....	.....	5	.....	5	.....	.....	.....	.....	D. clouds.....	Dr.S.E Hoskins, F.R.S.
Helston	30.21	767.3	30.34	770.6	40	4.4	.....	N	.....	.....	1	.....	3k	.....	.....	0	0	Fine.....	M. P. Moyle.
Holyhead	30.18	766.6	30.23	767.8	43	6.1	.....	ENE	.....	.....	6	.....	5	.....	.....	.....	.....	D. clouds.....	John Tilston.
Jersey	29.62	752.3	30.03	762.7	35.9	2.2	.....	ENE	.....	.....	6	.....	6	.....	.....	.....	.....	Gloomy	J. Fisher.
Kew (Observatory)	30.06	763.5	30.09	764.3	36.2	2.3	.....	NNE	12	5.4	.....	.....	7	.....	.....	.....	.....	D. clouds.....	The Met'g'l Office.
Leicester (Museum)	29.87	758.7	30.13	765.3	36.2	2.3	.....	NE	.....	.....	1	.....	10	.....	.....	Blank	Blank	Overcast.....	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.70	754.4	29.77	756.1	69	20.6	.....	SW	.....	.....	2	4c	.....	.....	.....	.....	.....	D. clouds.....	A. King.
Nairn	30.33	770.4	30.42	772.7	40	4.4	.....	NNE	.....	.....	4	.....	10	.....	.....	.....	.....	Overcsst.....	W. D. Penny.
Nassau, Bahamas	.....	.....	30.18	766.6	74.8	23.8	.....	NE	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds.....	C. S. Duncombe.
Nottingham (Observatory)	29.97	761.2	30.16	766.1	42.5	5.8	.....	NNE	.....	.....	2	.....	7kd	.....	NE	0.071	1.81	D. clouds.....	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.60	751.8	30.14	765.5	40.6	4.8	.....	NNE	.....	.....	4	.....	1	.....	.....	.....	.....	Blue sky.....	Rev.Stephen J.Whitty.
Oxford (Radcliffe Obs'y)	.....	.....	30.10	764.5	38	3.3	.....	N	.....	.....	1	.....	7	.....	.....	.....	.....	Snow-showers..	H. E. Bellamy.
Plymouth	30.00	762.0	30.07	763.8	39.6	4.2	.....	ENE	.....	.....	5	.....	2	.....	.....	.....	.....	D. clouds.....	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	30.12	765.0	30.19	766.8	41	5.0	.....	NE	.....	.....	4	.....	5	.....	.....	.....	.....	½ clouded...	Wm. Kennedy.
St. Ann's Head	29.99	761.7	30.15	765.8	42	5.6	.....	NE	.....	.....	5	.....	5	.....	.....	.....	.....	D. cloud	John C. Walker.
Sandwick Manse, Orkneys	.....	.....	30.46	773.7	37.5	3.1	.....	N	7	3.1	.....	.....	10	.....	.....	.....	.....	Overcast.....	Rev. C.Clouston,L.L.D
Scutari Cemetery, Turkey	29.52	749.8	29.58	751.3	61.2	16.2	.....	SW	.....	.....	3	.....	9	.....	.....	Blank	Blan	D. clouds.....	Serg't W. H. Lyne.
Sheffield	29.92	760.0	30.20	767.1	41.9	5.5	.....	NE	.....	.....	1	.....	8	.....	.....	0.02	0.5	Overcast.....	W. F. Cooper.
Silloth Rectory	30.25	768.3	30.28	769.1	40.6	4.8	87	NE	.....	.....	5	.....	0	.....	.....	.....	.....	Blue sky.....	Francis Redford, A. M
Stonyhurst (Observatory)	.....	.....	30.19	766.8	39.9	4.4	.....	NE	8	3.6	.....	.....	8	.....	.....	.....	.....	D. clouds.....	Rev. S. J. Perry.
Stratfield, Turgiss	29.88	758.9	30.11	764.8	35.8	2.1	.....	NE	.....	.....	2–3	.....	9	.....	.....	.....	.....	D. clouds.....	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	30.04	763.0	30.11	764.8	42	5.6	.....	NE	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds.....	W. Newcombe.
Valencia Observatory)	30.20	767.1	30.23	767.8	40.9	4.9	.....	NE	24	10.7	.....	.....	4	.....	.....	.....	.....	D. clouds.....	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	29.82	757.4	29.86	758.4	78	25.6	63	SE	17	7.6	.....	0	2cs	.....	.....	.....	.....	.....	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet
Hobart Town, Tasmania	.....	.....	29.46	748.3	50.0	10.0	81	SW	.....	.....	2	.....	9k	.....	.....	0.04	1.0	Heavy clouds	Francis Abbott, F.R.A.S.
Leith, (Restalrig Park)	.....	.....	30.37	771.4	40.4	4.7	.....	NE	.....	.....	4	.....	10k	.....	.....	0.01	0.3	Cloudy.....	Andrew Gibb.
Mauritius (Observatory)	29.76	755.9	29.95	760.8	78.3	25.7	50	ENE	14.5	6.5	.....	1	1	.....	.....	0	0	Fine.....	C. Meldrum.
Melbourne (Observatory)	29.86	758.4	29.95	760.7	49.8	9.9	72	W	12	5.4	.....	.....	3	.....	.....	0.16	4.1	Fine.....	R. L. J. Ellery.
Monach Lt-house, Hebrides	.....	.....	30.47	773.9	42	5.6	.....	NE	.....	.....	4	5	5	NE	.....	0	0	.....	J. Youngclause.
North Unst, Shetland Is	.....	.....	30.24	768.1	.....	.....	.....	NW	.....	.....	6	.....	10	.....	.....	Blank	Blank	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Colesberg Bridge, unknown.

BRITISH MARINE SERIES. VESSELS.

	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. Alert, Monteith Bay, Patagonia	.....	.....	29.75‡	755.6‡	43.8	6.6	.....	WNW	.....	.....	1–4	.....	10	.....	.....	.....	.....	Raining	Capt.J.P Maclear, R.N.
H. M. Sloop Gannet, S. 15° 08′, W. 75° 30′	.....	.....	30.02‡	762.5‡	69	20.6	.....	SE	.....	.....	4	.....	1	.....	.....	.....	.....	Blue sky.....	Commander E. Bourke, R. N.
H. M. S. Magpie, Shaweishan I'd., China	.....	.....	30.25‡	768.3‡	55.5	13.1	.....	NNE	.....	.....	3	.....	0	.....	.....	.....	.....	Blue sky.....	Capt. R. H. Napier,R.N
Brig Alliance, N. 39° 15′, W. 43° 55′	.....	.....	30.09‡	764.3‡	62	16.7	.....	NNW	.....	.....	3	.....	8	.....	.....	.....	.....	Showery.....	Capt. W. Scott.
Barque Belle-Isle, N. 19° 35′, W. 74° 10′	.....	.....	30.04	763.0	83	28.3	.....	NE	.....	.....	8	.....	8	.....	.....	6	NE	Showery.....	Capt. A. J. Brown
City of Cashmere, N. 38° 30′, W. 127° 30′	.....	.....	30.04‡	763.0‡	51	10.6	.....	Calm	.....	.....	0	.....	7	.....	.....	.....	.....	D. clouds.....	.....
S. S. Ethiopia, N. 47° 55′, W. 45° 10′	.....	.....	30.06	763.5	45	7.2	.....	SW	.....	.....	3	.....	4	.....	.....	4	ESE	D. clouds.....	Capt. Campbell.
S. S. German, N. 35° 40′, W. 14° 25.′	.....	.....	29.33‡	745.6‡	65	18.3	.....	WNW	.....	.....	6	.....	8	.....	.....	.....	.....	D. clouds.....	Capt. O. D. Coxwell
S. S. Strathleven, Sydney, N. S. W.	.....	.....	29.80‡	756.9‡	64.5	18.1	.....	WNW	.....	.....	5	.....	6	.....	.....	.....	.....	D. clouds.....	Capt. C. W. Pearson.
S. S. Sunbeam, N. 48° 05′, W. 52° 25′	.....	.....	30.20	767.1	45	7.2	.....	NNW	.....	.....	6	.....	8	.....	.....	4	NW, W	Squally.....	Capt. C. M. Dobson.
Light House Tender Richmond. Off S.W. P't of Abaco, Bahama Is.	.....	.....	30.23	767.8	77	25.0	.....	ENE	.....	.....	5	.....	4	.....	.....	4	.....	D. clouds.....	Capt. W. H. Stewart.
S. S. Gordon Castle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
German Brig "W. von Freeden"	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. V. Freeden.
S. S. Peruvian	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. H. Smith.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level.
‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.21	665.7	29.93	760.2	65.8	18.8	93	SE	.....	.....	1	1c	8d	.....	E	Inap.	Inap.	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.90	759.4	29.95	760.6	33.4	0.8	80	NNE	.....	.....	6	.....	0	.....	.....	.....	.....	Snowing	.....
Fanöe	30.06	763.4	30.08	763.9	34.2	1.2	79	N	.....	.....	4	.....	0	.....	.....	.....	.....	.....	.....
Godthaab (Greenland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stykkisholm (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thorshavn (Faröe)	30.35	770.9	30.39	771.8	42.4	5.8	75	W	.....	.....	2	.....	7	.....	.....	.....	.....	.....	.....
Vestervig	29.99	761.7	30.10	764.5	35.1	1.7	70	N	.....	.....	2	.....	1	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.44	747.8	29.99	761.8	28.4	—2	50	NE	.....	.....	3	.....	0	.....	.....	0	0	Clear	Collignon, Director.
Amiens, Normal School	29.81	757.1	29.93	760.1	30.9	—0.6	85	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Vaillant, Director.
Arras, Engin'r school	29.79	756.6	30.06	763.5	36.1	2.3	59	E	.....	.....	2	.....	8	.....	.....	0	0	.....	Klein, Commandant.
Avignon, Normal School	29.64	752.8	29.72	754.8	37.4	3	63	N	.....	.....	4	.....	10	.....	.....	0	0	Covered	Giraud, Director.
Bar-sur-Seine	29.39	746.4	29.97	761.3	30.2	—1.0	72	E	.....	.....	1	.....	10	.....	E	0	0	Covered	C. Saillard, Director
Beauvais, Normal School	29.75	755.7	30.04	762.9	27.5	—2.5	51	ENE	.....	.....	3	.....	0	.....	.....	0	0	Clear	Frère Eugene Marie
Besançon, Normal School	28.99	736.4	29.93	760.1	32.2	0.1	82	NE	.....	.....	2	.....	2	.....	S	0	0	lightly cld'y	A. Carré, Director.
Bourg-en-Bresse, N. School	29.01	736.9	29.94	760.4	29.1	—1.6	92	N	.....	.....	2	.....	10	.....	N	0	0	Foggy	Marlot, Diretor.
Bourges, Normal School	29.58	751.3	30.16	766.1	30.6	—0.8	93	NNE	.....	.....	4	2ck	.....	.....	NE	0	0	Slightly cld'y	M. Gence, Director.
Brest, Naval Observatory	29.72	754.8	29.96	761.0	39.6	4.2	65	NE	.....	.....	4	.....	4	.....	NE	0	0	.....	Ch. de Rermaree, Dir.
Caen, Normal School	29.03	762 8	.....	.....	34.3	1.3	78	E	.....	.....	0-1	.....	0	.....	.....	0	0	Clear	M. Bietrin, Director.
Carcassonne, N. School	30.25	743.0	29.67	753.6	49.3	9.6	81	WNW	.....	.....	1	.....	10	WNW	WNW	0.217	5.5	Covered	September, Director.
Châlons-sur-Marne, N. Sch'	29.70	754.3	30.08	764.0	30.9	—0.6	.....	NW	.....	.....	1	.....	5	.....	.....	.....	.....	Cloudy	Jadot, Director.
Chartres, Normal School	29.39	746.4	29.98	761.6	27.9	—2.3	90	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Vergier, Director.
Clermont-Fd, Puy de D. Obs	28.43	722.1	29.85	758.1	29.7	—1.3	86	N	.....	.....	1	.....	10	.....	.....	0	0	.....	Alluard, Director.
Commercy, Normal School	29.07	738.3	29.98	761.5	26.8	—2.9	83	ENE	.....	.....	3	.....	10n	ENE	ENE	0	0	Covered	Dr. Coullet, Director.
Commune de Gréasque*	28.54	725.0	29.69	754.0	46.9	8.3	63	NE	.....	.....	1	.....	10	.....	E	0	0	.....	L. Kina, Director.
Grenoble, Normal School	28.97	735.7	29.76	755.9	39.2	4	65	ENE	.....	.....	1	.....	8kn	.....	NW	0	0	Very cloudy	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	29.65	753.0	29.87	758.7	30.9	—0.6	89	NE	.....	.....	3	.....	10	.....	.....	0	0	Covered	Mouillot, Director.
Le Mans, Normal School	29.66	753.4	29.99	761.7	27.0	—2.8	82	E	.....	.....	6	.....	0	.....	.....	0	0	Clear	Poirrier, Director.
Lons-Le-Saulnier, N. School	28.97	735.7	29.89	759.3	31.5	—0.3	73	N	.....	.....	1	.....	5n	E	W	0	0	Cloudy	A. Baudry, Director
Lorient, Naval Observatory	29.80	756.8	29.91	759.6	33.4	0.8	88	NE	.....	.....	6	.....	0	.....	.....	0	0	.....	Lt. T. Carré, Director.
Lyons Obs'ty (Park Station)	29.25	742.9	29.90	759.5	29.8	—1.2	80	NNW	.....	.....	1	.....	10	.....	.....	0	0	Covered	Ch. André, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	29.36	745.8	29.63	752.7	50.7	10.4	73	NNW	.....	.....	0-1	.....	10	.....	W	Inap.	Inap.	Sprinkling	E. Stephan, Director.
Mirecourt, Normal School	28.86	733.0	29.97	761.1	25.9	—3.4	82	NE	.....	.....	3	.....	1	NE	NE	0	0	Clear	Barbier, Director.
Mont-Louis	24.47	621.6	29.79	756.6	41.4	5.2	86	SSW	20.6	9.2	.....	.....	10	.....	.....	0.709	18.0	.....	M. Cave.
Nice	29.66	753.5	29.70	754.3	54.0	12.2	67	SE	.....	.....	2	.....	10	E	SE	0	0	Covered	M. Boissière, Director.
Nismes, Normal School	29.49	749.0	29.70	754.4	38.5	3.6	57	N	.....	.....	4	.....	5	.....	NW	0	0	Cloudy	M. Boyer, Director.
Paris, Montsouris Obs'ty	29.72	755.0	.....	.....	24.1	—4.4	67	NNE	.....	.....	2	.....	0	.....	.....	Inap.	Inap.	.....	Marié Davy, Director.
Perpignan	29.57	751.0	29.67	753.6	47.8	8.8	79	SE	7.4	3.3	.....	.....	10	.....	E	0	0	.....	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.06	560.3	.....	.....	33.4	0.8	.....	SW	.....	.....	7	.....	10	.....	SW	0.283	7.2	Snowing	Gen'l de Nansouty.
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Privas, Normal School	28.71	729.1	29.83	757.7	36.0	2.2	71	N	.....	.....	1	.....	10	N	NW	.....	.....	Snowing	M. Tallieu
Puy de Dome (Summit) Obs	24.77	629.1	.....	.....	22.3	—5.4	76	ESE	.....	.....	3	.....	8	.....	.....	0	0	Rain at distance	Alluard, Director.
Rochefort, Naval Obs'ty	29.78	756.3	29.81	757.1	33.4	0.8	89	NE	.....	.....	6	.....	10	NE	NE	0	0	Covered	Lt E. Decante, Director
Rouen, Normal School	29.95	760.7	30.04	762.9	32.0	0.0	60	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Frere Lucard, Director.
Saint Malo (Port) Obs'ty	29.95	760.6	29.97	761.3	35.4	1.9	53	ENE	.....	.....	4	.....	0	.....	.....	0	0	Clear	Lt. Hercouet, Director
Saint Maur (near Paris)	29.84	758.0	30.01	762.2	26.4	—3.1	70	NNE	.....	.....	2	.....	.....	.....	.....	0	0	.....	F. Renou, Director.
Tarbes, Normal School	28.60	726.4	29.68	753.9	41.9	5.5	94	SW	.....	.....	1	.....	5	W	NW	0	0	Cloudy	T. Huguet, Director.
Toulouse, Observatory	28.97	735.9	29.69	754.0	43.5	6.4	82	N	.....	.....	1	.....	10	.....	.....	0.205	5.2	Covered	M. Julier Mercadier.
Tours	29.70	754.4	29.90	759.4	.....	.....	.....	NE	.....	.....	3	.....	10	.....	E	0	0	Covered	Cousin-Marquet.
Versailles, Observatory	29.50	749.2	29.99	761.8	23.7	—4.6	52	NE	.....	.....	2	.....	0	.....	.....	0	0	Clear	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.29	744.0	30.04	763.1	31.3	—0.4	99	NNW	.....	.....	4	.....	5	.....	SSE	0	0	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.84	758.0	29.87	758.7	75.9	24.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.51	13.	.....	L'Abbé Marchési
Zi-Ka-Wei (near Shanghai)	30.23	767.9	30.26	768.5	48.0	8.9	87	N	1.3	0.6	.....	.....	0	.....	.....	0	0	Clear	Marc Dechevrens
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in gene al terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centrigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.10	739.0	29.94	760.4	22.3 — 5.4		85	W			4		3ks	W		0.020	0.5	Foggy	Prof. Dr. Hoh.
Berlin	29.73	755.1	29.91	759.6	23.9 — 4.5		94	NW			2		10			0.008	0.2	Snowing	Prof. Dr. Arndt.
Breslau	29.39	746.5	29.92	759.9	16.7 — 8.5		75	WNW			3		9			0	0		Royal University Obs'y.
Carlsruhe	29.57	751.0	30.02	762.6	22.6 — 5.2		85	NE			2		10	NE		0	0		Albert Senz.
Cassel	29.43	747.5	30.04	763.0	21.9 — 5.6		94	NNE			2		10	NE		0	0		Dr. H. Möhl.
Emden			30.08	763.9	32.9	0.5	76	NW			0		8			0	0		Prof. Dr. Prestel.
Frankfort on the Main	29.74	755.3	30.11	764.8	21.9 — 5.6		58	NNE			2		4			Inap.	Inap		Physical Society.
Friedrichshafen	28.43	722.2	29.93	760.3	29.1 — 1.6		96	NE			5		9	NE		0	0		Chief Telegrapher Wilhelm.
Hamburg	29.96	761.0	30.04	762.9	30.4 — 0.9		86	NW			2		10ks			0	0	Hazy	Captain F. Hegemann.
Kiel	29.99	761.7	30.00	762.1	37.9	3.3	84	NW			2		10			0.010	0.25	Snowing	Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.69	754.0	29.77	756.2	26.2 — 3.2		92	W			5		10			0	0		Prof. E. Luther.
Köslin			29.84	757.8	33.4	0.8		Calm			0		4			0	0		H. Müller.
Leipsic Observatory	29.61	752.1	30.07	763.7	15.4 — 9.2		50	SSW			2		7	NE		0.012	0.3		Prof. Dr. Bruhns, Privy Counselor
Magdeburg	29.81	757.2	30.04	763.0	26.6 — 3.0		68	Calm			0		10						Dr. Assmann.
Memel	29.69	754.1	29.74	755.3	27.3 — 2.6		87	SE			4		10n					Snow & hail	Reinbrecht & Issermann
Munich (München)	28.06	712.8	29.92	759.9	21.7 — 5.7		67	NW			3		10			0.016	0.4		Dr. C. Lang.
Neufahrwasser	29.80	756.9	29.82	757.3	31.3 — 0.4		85	W			1		10			0.028	0.7		A. Lothes.
Neustadt (Palatinate)	29.45	748.1	29.98	761.5	22.1 — 5.5			NNE			2		10			0	0		Reallehrer Dicknether.
Posen	29 60	751.7	29.89	759.2	42.4	5.8	75	NW			4		10			0.016	0.4	Snowing	Prof. Dr. Magener.
Strassburg (in Alsace)	29.45	748.0	30.04	763.0	23.5 — 4.7		69	NE			3		9	N		0.004	0.10		Imp. University Observatory.
Stuttgart	29.02	737.1	30.02	762 5	24.4 — 4.2		77	N					10			0	0		Prof. Dr. Schoder.
Weissenburg (Bavaria)	28.43	722.0	29.98	761.6	21.2 — 6.0		90	Calm	0	0			6k	W		0.039	1.0		Reallehrer J. Hopfner
Wustrow	29.91	759.8	29.94	760.4	32.4	0.2	92	NNW			4		10			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.35	745.6	29.74	755.5	66.9	19.4		SW			2.0		5					½ Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	30.05	763.2	30.10	764.5	75.0	23.9	12	E	12	5.4			0			0	0	Blue sky	
Deesa	29.61	752.0	30.10	764.4	71.8	22.1	16	NNE	12.0	5.4			0			0	0	Blue sky	
Bombay	29.90	759.5	29.94	760.5	77.1	25.1	73	NNW	18	8.0			0			0	0	Blue sky	
Poona (Yerrowda)	28.09	713.4	29.95	760.8	76.7	24.8	20	E	7	3.1			0			0	0	Blue sky	
Belgaum	27.39	695.7	29.95	760.6	73.2	22.9	43	E	3	1.3			0			0	0	Blue sky	
Lahore	29.32	744.6	30.10	764.7	55.2	12.9	32	Calm	0.6	0.3			0			0	0	Blue sky	
Roorkee	29.17	740.8	30.12	764.9	57.8	14.3	42	W	1.4	0.6						0	0		
Agra	29.51	749.6	30.10	764.6	61.8	16.6	37	NW	3.5	1.6						0	0		
Nagpur	28.96	735.5	30.03	762.8	67.7	19.8	28	Calm	2.8	1.2						0	0	Blue sky	
Jubbulpore	28.59	726.2	30.00	762.1	64.0	17.8	59	NE	1.7	0.8						0	0	Blue sky	
Lucknow	29.66	753.3	30.05	763.3	62.5	16.9	30	NW	1.3	0.6						0	0	Blue sky	
Allahabad	29.75	755.6	30.08	764.0	55.7	13.2	51	Calm	1.9	0.9			0			0	0	Blue sky	
Patna	29.84	757.9	30.03	762.6	69.7	20.9	44	Calm	0.3	0.1			0			0	0	Blue sky	
Hazaribagh	27.96	710.1	30.06	763.5	58.0	14.4	42	NW	4.3	1.9			0			0	0	Blue sky	
Cuttack	29.91	759.7	30.00	761.9	66.2	19.0	65	NE	1	0.4			0			0	0	Blue sky	
Calcutta (Alipore)	29.96	761.0	29.98	761.6	66.0	18.9	64	NNE	1.0	0.4			0			0	0	Blue sky	
Goalpara	29.56	750.8	29.96	761.0	71.9	22.2	58	ENE	4.6	2.1			0			0	0	Blue sky	
Chittagong	29.84	758.0	29.94	760.4	74.8	23.8	79	Calm	2.6	1.2			4			0	0	Misty	
Sibsagar	29.66	753.3	30.00	762.1	68.4	20.2	77	NE	1.1	0.5			3			0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversion are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,361 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	Lo'er 0—10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER.
Udine	29.38	746.2	29.80	756.9	41.5	5.3	45	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.24	742.7	29.77	756.2	39.6	4.2	72	NE	.....	.....	1	.....	7	SE	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.69	754.0	29.80	756.9	42.8	6.0	63	NNE	3.1	1.4	.....	.....	0	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	28.84	732.6	29.77	756.1	42.6	5.9	76	E	1.3	0.6	.....	.....	8	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.53	750.0	29.72	754.9	43.9	6.6	66	NE	11.2	5.0	.....	.....	10	SE	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	27.82	706.7	29.78	756.5	35.8	2.1	82	W	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. D. C. Bruno
Pesaro	29.71	754.5	29.76	755.8	42.4	5.8	85	W	7.4	3.3	.....	.....	10	W	.....	0.016	0.4	.....	Prof. Luigi Guidi.
Florence	29.47	748.5	29.73	755.2	46.4	8.0	64	NE	.....	.....	4	.....	10	NE	.....	0.008	0.2	.....	Cav. F. Meucci.
Leghorn	29.61	752.2	29.70	754.4	47.7	8.7	81	ENE	9.4	4.2	.....	.....	10	.....	.....	0.047	1.2	.....	Prof. P. Monte.
Rome	29.50	749.2	29.67	753.7	48.4	9.1	100	N	10.5	4.7	.....	.....	10	.....	.....	0.081	4.6	.....	Prof. P. S. Ferrari.
Lecce	29.48	748.7	29.73	755.2	57.2	14.0	81	NE	6.3	2.8	.....	.....	10	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	28.84	732.4	29.72	755.0	66.0	18.9	75	SE	3.1	1.4	.....	.....	9	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.45	748.1	29.65	753.0	65.7	18.7	70	SE	.....	.....	2	.....	10	W	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.45	748.1	29.71	754.5	74.1	23.4	28	SW	5.6	2.5	.....	.....	5	.....	.....	0	0	.....	Prof. G. Ciacciatore.
Syracuse	29.67	753.6	29.74	755.5	66.6	19.2	69	WSW	11.2	5.0	.....	.....	10	SW	.....	0	0	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.13	739.8	29.64	752.9	58.1	14.5	84	NE	0.7	0.3	.....	.....	10	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.13	765.3	30.14	765.5	50.9	10.5	65	NNE	9.2	4.1	.....	.....	9ck	.....	N	0	0	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.91	759.7	30.12	765.0	49.0	9.4	86	ENE	0.4	0.2	.....	.....	0	.....	.....	0	0	Clear.	S. Takehayashi.
Tokei, (Yeddo) Observatory.	30.01	762.2	30.08	764.0	46.9	8.3	59	NNE	12.6	5.6	.....	.....	10ck;s	.....	W	0	0	Cloudy	The Staff.
Wakayama	30.09	764.3	30.15	765.8	44.4	6.9	74	ENE	5.4	2.4	.....	.....	8ck	.....	NW	.....	0	Fair	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	25.11	637.8	30.30	769.5	43.7	6.5	59	SW	.....	.....	1	.....	7	.....	.....	0	0	Cloudy	Prof. L. Perez.
Leon	24.48	621.8	30.27	768.8	52.2	11.2	84	N	.....	.....	1	1c	0	SW	.....	0	0	Clear.	Prof. M. Leal.
Mazatlan	29.78	756.5	30.04	763.1	69.4	20.8	63	NE	.....	.....	2	2c	0	.....	.....	0	0	Clear.	I. Guerrero, C. E.
Mexico, Central Observatory	23.12	587.1	30.30	769.5	44.6	7.0	62	Calm	0	0	.....	2c	0	.....	.....	0	0	Fine	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	48.9	9.4	81	Calm	.....	.....	0	1cs	0	.....	.....	0	0	Clear	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.52	597.5	30.46	773.6	44.6	7.0	60	Calm	0	0	.....	1s	0	E	.....	0	0	Clear	Prof. P. Spina.
San Luis Potosi	24.19	614.5	30.28	769.0	49.3	9.6	68	SW	.....	.....	2	4	1	W	E	0	0	Fair	G. Barroeta, M. D.
Tlacotalpam	29.98	761.4	29.99	761.7	71.4	21.9	94	E	.....	.....	1	5	2	W	E	0	0	Cloudy	Prof. M. M. Chàzaro.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell
Zacatecas	22.54	572.5	30.24	768.1	46.4	8.0	68	Calm	.....	.....	0	1s	0	.....	.....	0	0	Clear.	J. C. Castrillon

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column; the instrumental correction —0.88 mm., or —0.035 inch, has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.10	764.5	30.10	764.5	31.5	— 0.3	.....	ESE	.....	.....	3	.....	.....	.....	.....	0	0	.....	
Groningen	30.06	763.5	30.11	764.9	31.1	— 0.5	.....	NW	.....	.....	.....	.....	.....	.....	.....	0	0	.....	
Helder	30.08	764.0	30.08	764.0	33.8	1.0	.....	S	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.09	764.2	30.09	764.2	30.9	— 0.6	93	E	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Utrecht	30.07	763.6	30.11	764.8	31.1	— 0.5	61	NE	.....	.....	1	.....	8	.....	.....	0	0	Very cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.16	766.0	30.21	767.4	35.2	1.8	78	NNW	2.5	1.1	.....	.....	8	.....	.....	0	0	.....	
Brönö	29.72	755.0	29.76	756.0	35.2	1.8	85	SW	18	8	.....	.....	10	.....	.....	0.197	5.0	.....	
Christiana	29.93	760.1	30.08	764.0	35.4	1.9	63	NNE	7	3	.....	.....	0	.....	.....	0	0	.....	
Tromsö	29.56	750.8	29.60	751.9	27.7	— 2.4	79	SW	18	8	.....	.....	10	.....	.....	0.016	0.4	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	29.61	752.1	29.80	757.0	56.3	13.5	78	ENE	16.1	7.2	.....	.....	3	.....	.....	0.413	10.5	.....	Dr. J. A. Sampaio.
Campo Major	28.35	720.1	29.38	746.2	61.5	16.4	89	SSW	19.2	8.6	.....	.....	10	.....	.....	0.354	9.0	.....	Dr. A. M. R. dos Santos.
Funchal (Madeira)	29.40	746.7	29.48	748.9	68.2	20.1	75	W	11.9	5.3	.....	.....	5	.....	.....	1.791	45.5	.....	Capt. D. A. de Cunha.
Lisbon Observatory	28.84	732.4	29.19	741.4	64.8	18.2	89	SSW	23.7	10.6	.....	.....	10	.....	.....	1.465	37.2	.....	The Staff.
Ponta Delgada (Azores)	29.64	752.9	29.71	754.7	59.7	15.4	58	NE	13.0	5.8	.....	.....	3	.....	.....	0.532	13.5	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—																	
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't
Rio Lima. Capt. S. C. da Silva Costa, Porto Praya, Cape Verd I'ds.	.....	.....	.....	.....	78.1	25.6	.....	E	.....	.....	3	.....	4	.....	E	2	E	D. clouds	
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. de Fonseca Sarurento
Sado, Capt. J. A de Brito Capello, St. Paul de Loando	.....	.....	29.81	757.2	81.5	27.5	.....	NW	.....	.....	4	.....	5	.....	NW	.....	.....	.....	Louiz Apra, Q. Ma.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	.....	.....	30.20	767.0	75.2	24.0	.....	N	.....	.....	1	.....	6	.....	.....	0	.....	D. clouds, 4 hr's rain-fell.	H. Mecudoneo, 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Blue sky	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between upper and lower clouds, and no humidity is given; duration of rain-fall in hours. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	29.91	759.8	29.93	760.3	—20.6	—29.2	76	ENE	4	2	.....	.....	9ks	.....	.....	.....	.....	.....	Capt. Sseliwerstow
Astrakhan	29.95	760.7	29.87	758.6	42.1	5.6	91	SSE	2	1	.....	10cp	.....	.....	.....	.....	.....	Heavy clouds...	Capt. Wisganow.
Barnaul	29.34	745.2	29.87	758.8	17.4	— 8.1	100	SW	0	0	.....	.....	10	.....	.....	.....	.....	Snowing.....	Meteorological Obs.
Dorpat	29.42	747.3	29.67	753.7	30.4	— 0.9	98	WNW	4	2	.....	.....	10n	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	28.95	735.2	30.04	762.9	—10.3	—23.5	87	SE	4	2	.....	.....	9	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Physical Cabinet.
Kasan	29.61	752.2	29.91	759.7	3.2	—16.0	76	SE	2	1	.....	.....	10	.....	.....	.....	.....	.....	Lagorio.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Physical Cabinet.
Kieff	28.71	729.2	29.37	746.1	22.8	— 5.1	100	NNE	9	4	.....	.....	10n	.....	.....	.....	.....	Snow & fog.	Cand. Fatjanow.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs
Lugan	29.18	741.2	29.39	746.4	48.4	9.1	93	SSE	34	15	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Moscow	29.17	740.9	29.76	755.9	13.3	—10.4	77	S	7.8	3.5	.....	.....	3ks	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	27.58	700.4	30.00	761.9	19.8	— 6.8	56	SSW	2	1	.....	.....	2	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Nikolaiev	29.32	744.7	29.39	746.5	35.8	2.1	98	NW	13	6	.....	.....	10n	.....	.....	.....	.....	Raining.....	Kurdakof.
Nukuss	29.54	750.4	29.79	756.6	35.6	2.0	53	WSW	4	2	.....	.....	2s	.....	.....	.....	.....	.....	
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Pekin (China)	30.13	765.3	30.27	768.9	41.9	5.5	48	Calm	0	0	.....	.....	5ks	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	29.55	750.5	29.56	750.9	29.5	— 1.4	90	NW	4	2	.....	.....	10n	.....	.....	.....	.....	.....	Central Physical Obs.
Tashkend	28.37	720.5	29.97	761.3	45.3	7.4	65	.....	.....	.....	.....	.....	10	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.54	725.0	29.98	761.4	50.4	10.2	72	E	4	2	.....	5c	.....	.....	.....	.....	.....	Light clouds	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Warsaw	29.31	744.5	29.76	756.0	16.7	— 8.5	67	NNW	11	5	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.30	744.3	29.76	755.8	16.3	— 8.7	63	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Heavy clouds...	Astronomical Obs.
Yenisiesk	29.72	754.8	30.04	763.1	—13.9	—25.5	70	WNW	4	2	.....	.....	2	.....	.....	.....	.....	.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	29.54	750.3	29.65	753.0	48.6	9.2	82	ENE	5.3	2.39	.....	.....	10	.....	.....	0.120	3.05	Covered.....	Antonio Rave, Director
Bilbao, Met. Obs'y	29.53	750.0	29.59	751.5	44.8	7.1	100	E	0.5	0.21	.....	.....	10	.....	.....	0.043	1.1	Raining.....	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.55	674.3	.....	.....	37.4	3.0	98	NE	5.0	2.22	.....	.....	10	.....	.....	1.083	27.5	Covered.....	Domingo Martin y Perez.
Madrid, Royal Observatory	27.27	692.6	29.45	748.0	57.7	14.3	87	S	17.9	8.00	.....	0	10	.....	.....	0.520	13.2	Covered.....	The Staff.
Murcia, Met. Obs'y	29.42	747.3	29.57	751.1	64.4	18.0	71	NE	2.1	0.92	.....	5	5	ENE	.....	0	0	Covered.....	Olayo Diaz, Director.
Santiago, Met. Obs'y	28.38	720.9	29.28	743.6	44.8	7.1	92	NE	23.0	10.3	.....	.....	10	.....	.....	1.134	28.8	Raining.....	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I	30.10	764.5	30.17	766.2	69.2	20.7	84	E	3.4	1.5	.....	1c	1k	W	ENE	0	0	Fair	Benito Vines S. J.
Manilla, Phillippine Islands	29.81	757.1	29.86	758.5	82.4	28.0	86	SSE	6.7	3.0	.....	.....	2k	.....	E	0	0	Clear	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.44	747.7	29.54	750.2	66.2	19.0	84	SSW	19.5	8.7	.....	0	10	.....	S	1.203	30.6	Raining.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I	29.88	759.0	29.97	761.3	79.5	26.4	72	E	13.2	5.88	.....	3c	2c	E	E	0	0	Clear	Enrique Gadea, Chief Eng'r

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.93	760.2	29.97	761.2	— 6.2	—21.2	.....	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	
Umea	29.94	760.5	29.99	761.8	10.0	—12.2	85	N	.....	.....	2	.....	0	.....	.....	0.083	2.1	.....	
Hernosand	29.93	760.2	29.98	761.5	25.2	— 3.8	82	Calm	.....	.....	0	.....	1	.....	.....	0	0	.....	
Stockholm	29.74	755.3	29.91	759.8	29.1	— 1.6	72	NNE	.....	.....	4	.....	7	.....	.....	0.031	0.8	.....	
Wisby	29.77	756.1	29.83	757.6	33.8	1.0	85	NNE	.....	.....	6	.....	10	.....	.....	0.012	0.3	.....	
Sub-Series.																			
Upsala	29.83	757.7	29.92	759.9	27.1	— 2.7	94	NNW	8.5	3.8	.....	.....	10	.....	NNE	0.004	0.10	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	28.38	720.9	29.87	758.6	34.9	1.6	79	NNE	.....	.....	3	.....	9	.....	.....	0	0	Covered.....	The Observatory.
Zurich	28.22	716.7	29.94	760.4	30.7	— 0.7	80	NE	.....	.....	2	.....	10	.....	.....	0	0	Covered.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, —5.9 mm.; Thermometer, —3.2 Cent.; Relative Humidity, +1 per cent.
NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Constantinople	.....	.....	29.63	752.7	63.0	17.2	63	SW	19	8.5	.....	.....	10	.....	SW	0.835	21.2	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.74	755.4	59.4	15.2	.....	SW	.....	.....	1	.....	10	.....	.....	0	0	Covered.....	A. Bertrand.
Sub-series.																			
Beirut, (Syria) Lee Obs'y	29.95	760.7	30.07	763.7	69.1	20.6	67	SW	.....	.....	3	ck	9n	N	SW	0	0	D. clouds.....	Prof. C. V. A. van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bathurst, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B.	30.46	773.7	30.53	775.4	5.6	—14.7	88	SW	2	0.9	.....	5c	Haze	.....	.....	0	0	Fair.....	G. A. Blair.
Charlottetown, P. E. Island	30.41	772.4	30.46	773.7	21.5	— 5.8	81	W	7	3.1	.....	.....	10s	.....	.....	0	0	Cloudy.....	H. J. Cundall, C. E.
Cornwall, Ontario	30.12	765.0	30.33	770.4	21.1	— 6.1	94	E	.....	.....	2	.....	10n	.....	.....	Inap.	Inap.	Cloudy.....	James Smith, M. A.
Dalhousie, N. B.	30.34	770.6	30.52	775.2	14.7	— 9.6	.....	W	.....	.....	2	0	9ks	.....	.....	0	0	Cloudy.....	H. A. Johnson.
Father Point, Quebec	30.50	774.7	30.53	775.4	14.2	— 9.9	91	NW	10	4.5	.....	.....	10s	.....	.....	0	0	Cloudy.....	J. McWilliams.
Fredericton, N. B.	30.48	774.2	30.55	776.0	13.5	—10.3	92	W	1	0.4	.....	1ck	0	.....	.....	0	0	Clear.....	Prof. Harrison.
Fort Garry, Manitoba	29.32	744.7	30.22	767.6	10.5	—11.9	90	N	3	1.3	.....	5k	5n	N	.....	0.02	0.5	Light snow.	James Stewart.
Granton, Ontario	28.94	735.1	30.08	764.0	34	1.1	.....	SE	.....	.....	1	.....	10n	.....	.....	0.10	2.5	Light rain...	James Grant.
Halifax, N. S.	30.37	771.4	30.51	774.9	21.0	— 6.1	86	NW	5	2.2	.....	5cs	0	.....	.....	0	0	Fair.....	A. Allison.
Hamilton, Ontario	29.78	756.4	30.16	766.1	34.7	1.5	94	Calm	.....	.....	0	.....	10cs	.....	.....	0.31	7.9	Cloudy.....	Geo. Dickson, B. A.
Heart's Content, N. F.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.91	759.7	30.26	768.6	31.1	— 0.5	97	S	4	1.8	.....	.....	10ks	.....	.....	0.08	2.0	Cloudy.....	S. Woods, M. A.
Little Glace Bay, N. S.	30.32	770.1	30.35?	770.9?	30.2	— 1.0	76	NW	6	2.7	.....	.....	10n	.....	.....	0	0	Overcast....	C. H. Rigby.
Montreal, Quebec	30.20	767.1	30.42	772.7	18.4	— 7.6	86	E	9	4.0	.....	.....	10s	.....	.....	Inap.	Inap.	Overcast....	C. H. McLeod, C. E.
Moose Factory, Ontario	30.14	765.5	30.18	766.6	11.0	—11.7	98	E	.....	.....	3	.....	10	.....	.....	.....	.....	Snowing.....	J. R. Nelson.
Norwood	29.45	748.0	30.18	766.6	28.2	— 2.1	100	E	.....	.....	2	.....	10s	.....	.....	0.17	4.3	Cloudy.....	Rev. T. F. Fotheringham, M. A.
Parry Sound, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	SW	.....	.....	.....	Rev. R. Mosley.
Peterboro, Ontario	29.40	746.7	30.19	766.8	31.7	— 0.2	79	Calm	.....	.....	0	0	0	.....	.....	0.05	1.3	Hazy.....	J. F. Jeffers, M. A.
Port Dover, Ontario	29.40	746.7	30.10	764.5	41.9	5.5	100	S	8	3.6	.....	.....	10n	.....	SW	0.25	6.3	Threatening	H. Morgan.
Port Hastings, N. S.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.43	747.5	30.09	764.3	41.1	5.1	94	E	10	4.5	.....	.....	10n	.....	SE	0.38	9.7	Foggy	M. Payne.
Quebec, Quebec	30.16	766.1	30.51	774.9	13	—10.6	81	N	.....	.....	1	0	2s	.....	.....	0	0	Fair.....	Capt. Ashe, R. N.
Rockliffe, Ontario	29.78	756.4	30.27	768.8	23.1	— 4.9	80	SE	20	8.9	.....	.....	10s	.....	.....	0	0	Light snow.	W. H. McIntyre.
St. Andrews, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Gove.
St. John, N. B.	30.34	770.6	30.52	775.2	18	— 7.8	92	NW	5	2.2	.....	3ck	0	.....	.....	0	0	Fine	G. Murdock, C. E.
Saugeen, Ontario	29.25	742.9	29.98	761.5	36.0	2.2	90	S	18	8.0	.....	.....	10s	.....	.....	0.02	0.5	Raining	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.74	730.0	30.06	763.5	33.0	0.6	93	SE	5	2.2	.....	.....	Fog	.....	.....	0.29	7.4	Foggy	C. J. MacGregor, M. A.
Sydney, C. B.	30.34	770.6	30.38	771.6	30.5	— 0.8	68	NW	8	3.6	.....	.....	10s	.....	.....	0.18	4.6	Overcast....	T. C. Hill, C. E.
Toronto, Ontario	29.74	755.4	30.14	765.5	36.9	2.7	97	E	7	3.1	.....	.....	10n	.....	.....	0.05	1.3	Light rain...	Magnetic Observatory.
Windsor, N. S.	30.38	771.6	30.48	774.2	13.5	—10.3	91	W	3	1.3	.....	0	6k;ks	.....	.....	0	0	Fair.....	Prof. John E. Oram, M. A.
Woodstock, Ontario	28.98	736.1	30.08	764.0	33.9	1.1	98	NE	1	0.4	.....	.....	10s	.....	.....	0.64	16.3	Overcast....	Prof. J. Montgomery.
Yarmouth, N. S.	30.45	773.4	30.52	775.2	27.5	— 2.5	75	N	4	1.8	.....	6k	4s	N	.....	0	0	Cloudy.....	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.90	759.4	30.16	766.1	31.0	— 0.6	88	W	.....	.....	.....	5k	5s	.....	.....	0.20	5.1	Fine.....	John Delany.
St. Pierre, N. F., l'Hopital Maritime.	.....	.....	30.06	763.6	29.1	— 1.6	.....	NW	.....	.....	4	.....	.....	.....	.....	.....	.....	.....	The Commandant.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10, except Yarmouth and St. Johns on scale 0 to 20. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	30.21	767.3	30.46	773.7	32	0.0	79	S	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Alpena, Michigan	29.22	742.2	29.88	758.9	37	2.8	90	SE	14	6.3	.....	.....	10n	.....	Calm	0.26	6.6	Light rain...	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	29.12	739.6	30.29	769.4	51	10.6	72	E	13	5.8	.....	5k;Hz	0	E	.....	0	0	Fair...	
Atlantic City, New Jersey	30.46	773.7	30.48	774.2	37	2.8	90	NW	2	0.9	.....	10k	0	NW	.....	0	0	Cloudy.....	
Augusta, Georgia	30.20	767.1	30.40	772.1	55	12.8	81	Calm	0	0	.....	.....	10s	.....	S	Inap.	Inap.	Cloudy.....	
Baltimore, Maryland	30.40	772.1	30.46	773.7	38	3.3	72	SE	2	0.9	.....	8ck	Haze	W	Calm	0	0	Fair...	
Barnegat, New Jersey	30.44	773.2	30.46	773.7	36	2.2	61	N	5	2.2	.....	5ck	5s	W	Calm	0	0	Cloudy.....	
Bismarck, Dakota	28.30	718.8	30.15	765.8	4	—15.6	87	NW	2	0.9	.....	0	0	.....	.....	0.05	1.3	Clear.	
Boerne, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Boise City, Idaho	27.24	691.9	30.20	767.1	18.5	— 7.5	75	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Boston, Massachusetts	30.35	770.9	30.51	774.9	30	— 1.1	68	W	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Brackettville, Texas	28.74	730.0	29.77	756.1	64	17.8	83	E	10	4.5	.....	.....	10s	.....	SE	0	0	Cloudy.....	
Breckenridge, Minnesota	29.02	737.1	30.10	764.5	13	—10.6	100	N	16	7.2	.....	2ks	0	Calm	.....	0.01	0.3	Clear.	
Brownsville, Texas	29.89	759.2	29.93	760.2	73	22.8	72	S	12	5.4	.....	5k	0	S	.....	0	0	Fair...	
Buffalo, New York	29.30	746.7	30.11	764.8	43	6.1	83	S	9	4.0	.....	.....	10n	.....	SW	0.11	2.8	Light rain...	
Burkes, Arizona	.....	.....	.....	.....	38	3.3	38	W	.....	.....	1	0	2s	.....	Calm	0	0	Clear.	
Burlington, Vermont	30.10	764.5	30.41	772.4	27	— 2.8	76	SE	10	4.5	.....	.....	10n	.....	S	Inap.	Inap.	Light snow..	
Cairo, Illinois	29.66	753.4	30.05	763.3	59	15.0	82	S	16	7.2	.....	.....	10s	.....	S	0	0	Cloudy.....	
Campo, California	27.40	696.0	29.97	761.2	35	1.7	100	NW	2	0.9	.....	2cs	0	Calm	.....	0.47	11.9	Fair...	
Cape Hatteras, N. Carolina	30.43	772.9	30.44	773.2	51	10.6	79	NE	5	2.2	.....	0	0	.....	.....	0	0	Clear.	
Cape Henry, Virginia	30.44	773.2	30.46	773.7	49	9.4	71	SE	6	2.7	.....	0	2s;hz'	.....	Calm	0	0	Clear.	
Cape Lookout, N. Carolina	30.40	772.1	30.42	772.7	48	8.9	93	NE	13	5.8	.....	8cs	0	W	.....	0	0	Cloudy...s...	
Cape May, New Jersey	30.42	772.7	30.46	773.7	40	4.4	73	NE	5	2.2	.....	8cs	Haze	Calm	.....	0	0	Cloudy.....	
Castroville, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Cedar Keys, Florida	30.26	768.6	30.28	769.1	65	18.3	84	NE	7	3.1	.....	.....	10s	.....	E	0	0	Cloudy.....	
Charleston, South Carolina	30.30	769.6	30.35	770.9	60	15.6	65	NE	4	1.8	.....	0	5ks	.....	NE	0	0	Fair...	
Charlotte, North Carolina	29.54	750.3	30.39	771.9	44	6.7	86	NE	3	1.3	.....	10cs	Haze	SW	Calm	0	0	Cloudy.....	
Chattanooga, Tennessee	29.47	748.5	30.28	769.1	53	11.7	67	S	7	3.1	.....	5k	Sm'e	S	Calm	0	0	Fair...	
Cheyenne, Wyoming	23.82	605.0	29.76	755.9	14	—10.0	82	N	4	1.8	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy.....	
Chicago, Illinois	29.14	740.1	29.72	754.9	52	11.1	73	S	14	6.3	.....	.....	10s	.....	Calm	0.60	15.2	Cloudy.....	
Cincinnati, Ohio	29.48	748.8	30.13	765.3	54	12.2	67	SE	6	2.7	.....	5k	1s	SW	Calm	0	0	Fair...	
Cleveland, Ohio	29.36	745.7	30.10	764.5	45	7.2	76	SE	13	5.8	.....	.....	10s	.....	S	0.29	7.4	Cloudy.....	
Coleman City, Texas	28.04	712.2	29.66	753.4	62	16.7	83	S	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Columbus, Ohio	29.27	743.4	30.12	765.0	50	10.0	72	S	8	3.6	.....	10ck	Sm'e	S	Calm	0	0	Cloudy.....	
Concho, Texas	27.94	709.7	29.58	751.3	58	14.4	70	SW	.....	.....	2	0	0	.....	.....	0	0	Clear.	
Corsicana, Texas	29.45	748.0	29.90	759.4	66	18.9	89	S	8	3.6	.....	.....	10ks	.....	Calm	0.16	4.1	Cloudy..	
Davenport, Iowa	29.09	738.9	29.71	754.6	54	12.2	87	SW	20	8.9	.....	.....	10n	.....	Calm	0.48	12.2	Heavy rain..	
Deadwood, Dakota	25.26	641.6	.....	.....	10	—12.2	58	Calm	0	0	.....	.....	10n	.....	Calm	0.13	3.3	Light snow..	
Decatur, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Denison, Texas	29.08	738.6	29.85	758.2	64	17.8	89	S	11	4.9	.....	5k	0	SW	.....	0.17	4.3	Fair...	
Denver, Colorado	24.60	624.8	29.82	757.4	23	— 5.0	86	NE	6	2.7	.....	.....	10n	.....	Calm	0.01	0.3	Light snow..	
Des Moines, Iowa	28.90	734.0	29.79	756.7	37	2.8	90	N	6	2.7	.....	.....	10n	.....	Calm	0.71	18.0	Light rain...	
Detroit, Michigan	29.32	744.7	29.99	761.7	44	6.7	92	SW	8	3.6	.....	.....	10s	.....	SW	0.62	15.7	Cloudy.....	
Dodge City, Kansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Dubuque, Iowa	29.02	737.1	29.71	754.6	48	8.9	100	NE	4	1.8	.....	.....	10n	.....	Calm	1.16	29.5	Heavy rain..	
Duluth, Minnesota	29.22	742.2	29.92	760.0	28	— 2.2	88	N	12	5.4	.....	.....	10s	.....	N	0.11	2.8	Cloudy.....	
Eagle Pass, Texas	29.14	740.1	29.87	758.7	55	12.8	93	S	2	0.9	.....	.....	Fog	.....	Calm	0	0	Foggy.....	
Eastport, Maine	30.45	773.4	30.52	775.2	21	— 6.1	71	N	5	2.2	.....	8c	0	W	.....	0	0	Fair...	
Edinburg, Texas	.....	.....	.....	.....	73	22.8	85	S	.....	.....	1	.....	10s	.....	Calm	0	0	Cloudy.....	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.39	746.5	30.12	765.0	45	7.2	68	S	16	7.2	.....	.....	8ks	.....	SW	0.36	9.1	Cloudy.....	
Escanaba, Michigan	29.15	740.4	29.82	757.4	33	0.6	89	N	14	6.3	.....	.....	10n	.....	NE	0.12	3.0	Light rain...	
Florence, Arizona	28.45	722.6	30.05	763.3	38	3.3	72	Calm	0	0	.....	0	0	.....	.....	0.04	1.0	Clear.	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	28.04	712.2	30.08	764.0	0	—17.8	69	Calm	0	0	.....	5c	0	NW	.....	0.02	0.5	Fair...	
Fort Custer, Montana	26.81	681.0	.....	.....	— 8	—22.2	58	S	7	3.1	.....	0	0	.....	.....	0	0	Clear.	
Fort Davis, Texas	25.05	636.3	30.01	762.2	48	8.9	29	SW	4	1.8	.....	5cs	0	SW	.....	0	0	Fair...	
Fort Gibson, Indian Ter	29.31	744.5	29.83	757.7	62	16.7	94	S	10	4.5	.....	.....	10s	.....	SW	0.40	10.2	Cloudy.....	
Fort Grant, Arizona	25.10	637.5	29.90	759.4	34	1.1	36	NW	14	6.3	.....	.....	10n	.....	Calm	0.04	1.0	Light rain...	
Fort Griffin, Texas	28.53	724.6	29.76	755.9	62	16.7	83	S	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Fort Keogh, Montana	27.45	697.2	.....	.....	— 5	—20.6	64	Calm	0	0	.....	0	0	.....	.....	0.01	0.3	Clear.	
Fort McKavett, Texas	27.61	701.2	29.49	749.0	57	13.9	94	S	10	4.5	.....	0	0	.....	.....	0	0	Clear.	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.59	726.2	29.66	753.4	62	16.7	94	S	10	4.5	.....	.....	10s	.....	S	0.02	0.5	Cloudy.....	
Fort Stevenson, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Verde, Arizona	.....	.....	.....	.....	28	— 2.2	88	W	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.07	713.0	29.62	752.3	50	10.0	65	S	12	5.4	.....	2cs	5ks	S	S	0	0	Fair	
Galveston, Texas	29.96	761.0	30.00	762.0	70	21.1	90	S	6	2.7	.....	.....	10s	.....	S	0.11	2.8	Cloudy.....	
Graham, Texas	28.75	730.2	29.77	756.1	61	16.1	94	S	6	2.7	.....	5ck	0	SW	.....	0	0	Fair...	
Grand Haven, Michigan	29.16	740.7	29.79	756.7	56	13.3	63	SW	20	8.9	.....	.....	10s	.....	SW	0.76	19.3	Cloudy.....	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	28.87	733.3	29.82	757.4	61	16.1	88	SE	12	5.4	.....	0	0	.....	.....	0	0	Clear.	
Indianapolis, Indiana	29.21	741.9	29.98	761.5	52	11.1	73	S	8	3.6	.....	2cs	5s	W	S	0.35	8.9	Fair...	
Indianola, Texas	29.94	760.5	29.97	761.2	68	20.0	90	S	4	1.8	.....	10c	0	SW	.....	Inap.	Inap.	Cloudy.....	
Jacksboro, Texas	28.71	729.2	29.79	756.7	70	21.1	70	S	12	5.4	.....	5k	0	S	.....	0	0	Fair...	
Jacksonville, Florida	30.28	769.1	30.31	769.9	64	17.8	83	NE	6	2.7	.....	2cs	2s	Calm	NE	0	0	Fair...	
Keokuk, Iowa	29.12	739.6	29.72	754.9	56	13.3	87	SW	19	8.5	.....	.....	10n	.....	SW	0.14	3.6	Light rain...	
Key West, Florida	30.15	765.8	30.19	766.8	70	21.1	90	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Kittyhawk, North Carolina	30.43	772.9	30.45	773.4	52	11.1	66	E	5	2.2	.....	8ck	Haze	Calm	.....	0	0	Fair...	
Knoxville, Tennessee	29.28	743.7	30.32	770.1	42	5.6	95	Calm	0	0	.....	.....	Haze	.....	.....	0	0	Dense haze..	
La Crosse, Wisconsin	29.02	737.1	29.76	755.9	35	1.7	90	N	4	1.8	.....	.....	10s	.....	Calm	0.80	20.3	Cloudy.....	
La Mesilla, New Mexico	25.89	657.6	30.04	763.0	44	6.7	52	Calm	0	0	.....	1c	0	Calm	.....	0	0	Clear.	
Laredo, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Leavenworth, Kansas	28.92	734.6	29.75	755.6	48	8.9	93	NW	4	1.8	.....	.....	10ks	.....	.....	1.65	41.9	Cloudy.....	
Little Rock, Arkansas	29.65	753.1	30.01	762.2	60	15.6	94	SE	2	0.9	.....	.....	10n	.....	S	0.32	8.1	Light rain...	
Los Angeles, California	29.73	755.1	30.08	764 0	43.5	6.4	75	NE	6	2.7	.....	5	0	Calm	.....	0	0	Fair...	
Louisville, Kentucky	29.84	750.3	30.10	764.5	56	13.3	63	S	11	4.9	.....	2k	2s	SW	Calm	Inap.	Inap.	Light rain...	
Lynchburg, Virginia	29.74	755.4	30.47	773.9	35	1.7	90	N	1	0.4	.....	8cs	2s	W	Calm	0	0	Cloudy.....	
Madison, Wisconsin	28.72	729.5	29.69	754.1	45	7.2	92	NE	6	2.7	.....	.....	10n	.....	Calm	0.99	25.1	Light rain...	
Marquette, Michigan	29.15	740.4	29.87	758.7	33	0.6	89	W	4	1.8	.....	.....	10s	.....	Calm	0.11	2.8	Cloudy.....	
Mason, Texas	28.26	717.8	29.97	761.2	66	18.9	79	SW	16	7.2	.....	.....	10s	.....	S	0	0	Cloudy.....	
Memphis, Tennessee	29.72	754.9	30.06	763.5	61	16.1	77	SE	5	2.2	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Milwaukee, Wisconsin	29.03	737.3	29.74	755.4	51	10.6	93	S	14	6.3	.....	.....	10n	.....	Calm	0.34	8.6	Light rain...	
Mobile, Alabama	30.14	765.5	30.19	766.8	62.5	16.9	96	SE	5	2.2	.....	2c	8s	W	S	0	0	Cloudy.....	
Montgomery, Alabama	30.04	763.0	30.28	769.1	56	13.3	87	SE	3	1.3	.....	10k	0	SW	.....	0*	0	Cloudy.....	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Morgantown, West Virginia	29.22	742.2	30.24	768.1	45	7.2	68	Calm	0	0	.....	0	0	.....	.....	0	0	Cloudy.....	
Mt. Washington, N. H.....	23.90	607.0	30.26	768.6	18	— 7.8	100	W	39	17.4	.....	.....	Fog	.....	W	0	0	Foggy	
Nashville, Tennessee.....	29.63	752.6	30.17	766.3	57	13.9	63	SE	4	1.8	.....	.....	10ks	.....	Calm	0	0	Cloudy.....	
New Haven, Connecticut.....	30.38	771.6	30.50	774.7	34	1.1	61	N	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
New London, Connecticut...	30.46	773.7	30.52	775.2	33	0.6	70	N	6	2.7	.....	5cs	5s	W	NE	0	0	Cloudy.....	
New Orleans, Louisiana.....	30.08	764.0	30.14	765.5	66	18.9	90	SE	7	3.1	.....	2c	8s	SW	S	0	0	Threatening	
Newport, Rhode Island.....	30.46	773.7	30.51	774.9	35.5	1.9	66	NE	6	2.7	.....	.....	10s	.....	NW	0	0	Cloudy.....	
New York, New York.....	30.31	769.9	30.50	774.7	39	3.9	55	NE	3	1.3	.....	Haze	Haze	.....	.....	0	0	Dense haze..	
Norfolk, Virginia.....	30.33	771.9	30.45	773.4	41	5.0	74	SE	4	1.8	.....	0	5s	.....	Calm	0	0	Fair.....	
North Platte, Nebraska.....	27.01	686.0	29.73	755.1	19	— 7.2	85	NW	15	6.7	.....	.....	10s	.....	NW	0.02	0.5	Cloudy.....	
Olympia, Washington Ter...	30.11	764.8	30.15	765.8	27.5	— 2.5	94	N	1	0.4	.....	10cs	0	SW	.....	0	0	Cloudy.....	
Omaha, Nebraska.....	28.71	729.2	29.84	757.9	32	0.0	79	N	16	7.2	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy.....	
Oswego, New York.....	29.94	760.5	30.27	768.8	37	2.8	81	SE	12	5.4	.....	.....	10s	.....	Calm	0.10	2.5	Threatening	
Pembina, Dakota.....	29.22	742.2	30.13	765.3	7	—13.9	100	NW	8	3.6	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy.....	
Pensacola, Florida.....	30.20	767.1	30.23	767.8	63	17.2	94	E	7	3.1	.....	Haze	8ks	Calm	S	0	0	Cloudy.....	
Philadelphia, Pennsylvania	30.42	772.7	30.48	774.2	32	0.0	89	NE	5	2.2	.....	.....	10s;Fog	.....	W;Calm	0	0	Cloudy	
Phœnix, Arizona.....	28.82	732.0	30.68	779.3	43	6.1	51	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado.....	17.33	440.2	29.54	750.3	4	—15.6	100	SW	10	4.5	.....	.....	10n	.....	SW	0.01	0.3	Light snow.	
Pilot Point, Texas.....	29.10	739.1	29.90	759.4	65	18.3	90	S	14	6.3	.....	2k	8s	SE	S	0.04	1.0	Cloudy.....	
Pioche, Nevada.....	.....	.....	.....	.....	18	— 7.8	68	NW	9	4.0	.....	0	0	.....	.....	0.06	1.5	Clear.....	
Pittsburg, Pennsylvania.....	29.38	746.2	30.21	767.3	43	6.1	67	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy.....	
Port Huron, Michigan.....	29.31	744.5	29.98	761.5	42	5.6	91	S	12	5.4	.....	.....	10s	.....	S	0.38	9.7	Cloudy.....	
Portland, Maine.....	30.48	774.2	30.54	775.7	29	— 1.7	67	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Portland, Oregon.....	30.11	764.8	30.19	766.8	29.5	— 1.4	97	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Portsmouth, N. Hampshire..	.....	.....	.....	.....	52	11.1	79	NE	16	7.2	.....	5c	0	NW	.....	0	0	Fair.....	
Prescott, Arizona.....	24.67	626.6	30.03	762.7	18	— 7.8	69	S	.....	.....	1	0	0	.....	.....	0.04	1.0	Clear	
Punta Rassa, Florida.....	30.21	767.3	30.23	767.8	68	20.0	90	E	3	1.3	.....	8ck	0	1.	.....	0	0	Fair.....	
Red Bluff, California.....	29.74	755.4	30.11	764.8	39	3.9	38	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas.....	29.74	755.4	29.96	761.0	65	18.3	80	SE	4	1.8	.....	0	8s	.....	Calm	0	0	Fair.....	
Rochester, New York.....	29.56	750.8	30.20	767.1	35	1.7	90	SE	7	3.1	.....	.....	10s	.....	Calm	0.05	1.3	Cloudy.....	
Roseburg, Oregon.....	29.59	751.6	30.20	767.1	28	— 2.2	94	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy.....	
Sacramento, California.....	30.00	762.0	30.09	764.3	35	1.7	70	S	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
St. Louis, Missouri.....	29.34	745.2	29.91	759.7	54	12.2	87	S	19	8.5	.....	.....	10n	.....	SW	0.27	6.9	Light rain...	
St. Paul, Minnesota.....	29.00	736.6	29.84	757.9	32	0.0	79	NW	10	4.5	.....	.....	10s	.....	NW	0.01	0.3	Cloudy.....	
Salt Lake City, Utah.....	25.54	648.7	29.87	758.7	27	— 2.8	64	NW	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
San Antonio, Texas.....	29.33	745.0	29.90	759.4	67	19.4	89	SE	2	0.9	.....	.....	10s	.....	SE	0	0	Cloudy.....	
San Diego, California.....	30.01	762.2	30.08	764.0	48	8.9	78	NE	6	2.7	.....	2cs	2ks	N.	SW	0.02	0.5	Fair.....	
Sandusky, Ohio.....	29.39	746.5	30.06	763.5	50	10.0	72	S	18	8.0	.....	.....	10ks	.....	S	0	0	Cloudy.....	
Sandy Hook, New Jersey.....	30.45	773.4	30.48	774.2	41	5.0	74	Calm	0	0	.....	10ck	0	Calm	.....	0	0	Cloudy.....	
San Francisco, California....	30.01	762.2	30.08	764.0	47	8.3	55	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Santa Fé, New Mexico.....	22.97	583.4	29.51	749.5	35	1.7	61	S	16	7.2	.....	.....	10s	.....	S	0	0	Cloudy.....	
Savannah, Georgia.....	30.26	768.6	30.35	770.9	58	14.4	88	NE	1	0.4	.....	2k	Fog	S	.....	0	0	Fair	
Shreveport, Louisiana.....	29.75	755.6	29.96	761.0	63	17.2	94	S	5	2.2	.....	.....	10s	.....	Calm	0.23	5.8	Cloudy.....	
Silver City, New Mexico.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina..	30.37	771.4	30.40	772.1	56	13.3	87	N	9	4.0	.....	1c	Haze	Calm	.....	0	0	Clear.....	
Socorro, New Mexico.....	25.12	638.0	29.19	741.4	40	4.4	48	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois.....	29.22	742.2	29.88	758.9	52.5	11.4	83	S	19	8.5	.....	.....	10n	.....	SW	0.66	16.8	Light rain...	
Springfield, Massachusetts..	30.37	771.4	30.51	774.9	32	0.0	59	Calm	0	0	.....	.....	10s	.....	SW	0	0	Threatening	
Stockton, Texas.....	26.83	681.5	29.83	757.7	43	6.1	36	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Toledo, Ohio.....	29.33	745.0	30.01	762.2	49	9.4	85	S	12	5.4	.....	.....	10ks	.....	SW	0.51	13.0	Threatening	
Tucson, Arizona.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon.....	29.85	758.2	30.38	771.6	24.0	— 4.4	87	SE	3	1.3	.....	.....	10s	.....	.....	0	0	Cloudy.....	
Uvalde, Texas.....	29.00	736.6	29.80	756.9	67	19.4	74	E	3	1.3	.....	.....	10s	.....	.....	0	0	Cloudy.....	
Vicksburg, Mississippi.....	29.83	757.7	30.08	764.0	64	17.8	94	SE	6	2.7	.....	.....	10s	.....	SE	0.01	0.3	Threatening	
Virginia City, Montana.....	24.11	612.4	29.59	751.6	5	—15.0	75	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Visalia, California.....	29.68	753.9	30.06	763.5	34	1.1	95	SE	2	0.9	.....	0	Fog	.....	Calm	0	0	Light fog....	
Washington, D. C.....	30.33	770.4	30.45	773.4	35	1.7	80	SE	1	0.4	.....	2c	Sm'e	W	Calm	0	0	Fair ...	
Wickenburg, Arizona.....	.....	.....	.....	.....	32	0.0	50	W	.....	.....	1	0	0	.....	.....	0	0	Clear.....	
Wilmington, North Carolina	30.32	770.1	30.40	772.1	46	7.8	84	NE	4	1.8	.....	2c	Fog	NE	Calm	0	0	Fair	
Winnemucca, Nevada.....	25.69	652.5	30.05	763.3	11	—11.7	79	SW	10	4.5	.....	0	0	.....	.....	0	0	Clear.....	
Wood's Holl, Massachusetts	30.46	773.7	30.50	774.7	38	3.3	63	E	4	1.8	.....	.....	10s	.....	.....	0	0	Cloudy.....	
Yankton, Dakota.....	28.69	728.7	30.05	763.3	24	— 4.4	74	NW	16	7.2	.....	.....	10s	.....	N	0	0	Cloudy.....	
Yuma, Arizona.....	29.88	758.9	30.05	763.3	49	9.4	24	N	7	3.1	.....	5k	0	W	.....	0	0	Fair	
SUB-SERIES.																			
Fayetteville, Arkansas.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.....	30.09	764.3	30.14	765.5	72	22.2	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	Chas. Hasselbrink.
Kingston, Jamaica, W. I.....	30.17	766.3	30.18	766.6	77	25.0	87	N	4	1.8	.....	8c	2s	Calm	.....	0	0	Hazy.....	James Gall.
Medellin, Colombia, S. A.*..	25.21	640.3	.....	.....	63.2	17.3	82	Calm	.....	.....	0	5cs;k	2ks	.....	.....	0.03	0.8	.....	Thomas Herran.
Navassa, W. I.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.92	760.0	29.92	760.0	83	28.3	75	SE	.....	.....	2	4k	5ks	E	.....	0	0	½ cloudy....	C. J. Hering.
Santiago de Cuba, W. I.....	30.04	763.0	30.06	763.5	75	23.9	72	NE	8	3.6	.....	0	2s	.....	NE	0	0	.....	Robert Mason.
St. Thomas, W. I.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.....	30.03	762.7	30.08	764.0	— 8.0	—22.2	79	NW	11	4.9	.....	1c	0	W	.....	0	0	Fair	J. Fortescue & W. Wood

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Medellin, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,535.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm. *The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.24‡	768.1‡	.....	.....	62	16.7	88	E	6	2.7	.....	.....	8	.....	S	0	0	.....	.....	Fair.....	
Navy Yard, Portsmouth, N.H.	30.14‡	765.5‡	.....	.....	31	—0.6	81	SSW	3	1.3	.....	.....	5	.....	.....	0	0	.....	.....	Pleasant.....	
Naval Hospital, Yokohama, Japan.....	30.01‡	762.2‡	.....	.....	48	8.9	56	NW	.....	.....	4	.....	8k	.....	W	0	0	.....	.....	Cloudy.....	
Adams, Mare I'd., Navy Yard, Cal.	30.08‡	764.0‡	.....	.....	46	7.8	84	N	.....	.....	1	.....	1	.....	N	.....	.....	.....	.....	Clear	
Alaska, Iquique, Peru .....*	30.02‡	762.5‡	.....	.....	63	17.2	83	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....	Hazy.....	
Alliance. N. 21° 29′, W. 57° 52′.....	29.95‡	760.7‡	.....	.....	76	24.4	77	NNE	.....	.....	3	.....	6	.....	N	.....	.....	Smooth	N	D. clouds	
Colorado, New York, . Y.....	30.45‡	773.4‡	.....	.....	37	2.8	75	Calm	0	0	.....	.....	10	.....	W	0	0	.....	.....	Misty.....	
Constitution, Hampton Roads, Va....	30.46‡	773.7‡	.....	.....	49	9.4	78	ESE	1	0.4	.....	.....	2	.....	SW	.....	.....	.....	.....	Clear	
Enterprise, Alexandria, Egypt.....	30.11‡	764.8‡	.....	.....	70	21.1	57	SSW	.....	.....	3	.....	2	.....	WSW	.....	.....	Smooth	.....	Clear	
Franklin, Off Navy Yard, Norfolk, Va.	30.48‡	774.2‡	.....	.....	39	3.9	100	Calm	0	0	.....	.....	2	.....	W	0	0	.....	.....	Fair.....	
Independence, Mare I'd, Navy Yard, Cal.	30.09‡	764.3‡	.....	.....	54	12.2	67	E	3.6	1.6	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Kearsage, Savannah, Ga.....	30.34‡	770.6‡	.....	.....	60	15.6	94	Calm	.....	.....	0	.....	8	.....	NE	.....	.....	Smooth	.....	Fair.....	
Lackawana, N. 36° 00′ W. 163° 15′..†	30.15‡	765.8‡	.....	.....	58	14.4	88	N	.....	.....	4–5	.....	10	.....	NW	.....	.....	Long	NW	Cloudy.....	
Marion, Navy Yard, Brooklyn, N.Y.	30.45‡	773.4‡	.....	.....	38	3.3	75	NE	.....	.....	1	.....	10	.....	Calm	.....	.....	Smooth	.....	Cloudy.....	
Michigan, Erie, Pa.....	30.07‡	763.8‡	.....	.....	45	7.2	84	SSE	.....	.....	4	.....	10	.....	.....	.....	.....	.....	.....	Cloudy.....	
Monocacy, Shanghai, China..	30.2‡	767.6‡	.....	.....	51	10.6	86	N	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Fair?.....	
New Hampshire, Port Royal, S. C.....	30.31‡	770.6‡	.....	.....	58	14.4	100	NE	5	2.2	.....	.....	10	.....	Calm	0	0	.....	.....	Overcast	
Onward, Callao, Peru ....†.	29.97‡	761.2‡	.....	.....	65	18.3	78	SSE	.....	.....	2	.....	10	.....	.....	.....	.....	Long	W	Misty.....	
Palos. Tientsin, China.	30.28‡	769.1‡	.....	.....	40	4.4	100	W	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Cloudy.....	
Passaic, Washington, D. C.....	30.44‡	773.2‡	.....	.....	34	1.1	91	NE	.....	.....	1	.....	2	.....	.....	0	0	.....	.....	Clear	
Pensacola, Callao, Peru	29.96‡	761.0‡	.....	.....	62	16.7	94	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Smooth	.....	Hazy.....	
Powhatan, Navy Yard, Brooklyn, N.Y.	30.48‡	774.2‡	.....	.....	40	4.4	75	Calm	.....	.....	0	.....	10	.....	Calm	0	0	.....	.....	Cloudy.....	
Quinnebaug, Genoa, Italy	29.67‡	753.6‡	.....	.....	45	7.2	76	N	.....	.....	5	.....	10	.....	NE	.....	.....	.....	.....	Cloudy.....	
Ranger, N. 29° 00′, E. 176° 15′.....	29.77‡	756.1‡	.....	.....	59	15.0	88	ENE	.....	.....	6	.....	10	.....	ENE	.....	.....	Mod'ate	E	Overcast	
Richmond. Shanghai, China.....	30.25‡	768.3‡	.....	.....	53	11.7	80	NE	.....	.....	1	.....	0	.....	.....	0	0	Smooth	.....	Pleasant	
Rio Bravo, Brownsville, Texas... †	30.05‡	763.3‡	.....	.....	72	22.2	95	SSE	4	1.8	.....	.....	8	Calm	SSE	0	0	.....	.....	Cloudy.....	
Santee. Annapolis, Md	30.46‡	773.7‡	.....	.....	43	6.1	83	SSE	.....	.....	2	.....	8	.....	Calm	0	0	.....	.....	Cloudy.....	
Shenandoah, S. 19° 17′, W. 37° 57′.. .	29.86‡	758.4‡	.....	.....	80	26.7	78	NE	.....	.....	3	.....	2	.....	.....	.....	.....	Mod'at	NE	Fair.....	
St. Louis, League Island, Pa.....	30.44‡	773.2‡	.....	.....	33	0.6	90	Calm	0	0	.....	.....	10	.....	W	0	0	.....	.....	Cloudy.....	
Trenton. Gibraltar, Mediterranean	29.61‡	752.1‡	.....	.....	71	21.7	71	SW	.....	.....	6	.....	8	.....	SW	0.05	1.3	Mod'ate	SW	Cloudy.....	
Tuscarora. Port Angeles, Mexico..	29.88‡	758.9‡	.....	.....	73	22.8	90	N	.....	.....	1	.....	2	.....	Calm	0	0	Smooth	.....	Fair.....	
Vandalia. N. 26° 35′, W. 79° 47′.... ..	30.23‡	767.8‡	.....	.....	73	22.8	100	ENE	.....	.....	5	.....	2	.....	ENE	.....	.....	Rough	ENE	Clear	
Wabash, Boston, Mass.....	30.44‡	773.2‡	.....	.....	29	—1.7	82	W	1	0.4	.....	.....	8	.....	.....	0	0	.....	.....	Cloudy.....	
Wachusett, S. 1° —′, W 28° —′.....	29.95‡	760.7‡	.....	.....	80	26.7	91	SE	.....	.....	4	.....	8	.....	SE	.....	.....	Long	ESE	Cloudy.....	
Wyoming, Tangier, Morocco.....	29.54‡	750.3‡	.....	.....	69	20.6	65	SSW	.....	.....	6–8	.....	5	.....	SW	.....	.....	Mod'ate	SW	Fair.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		Character.	Direction from—		
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S. S. Samaria																			Capt. T. Roberts.
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitebury.
S. S. Costa Rica																			W. House & R. Lawless.
S. S. Dakota, Capt. H. G. Morse																			Capt. Connolly.
S. S. Georgia																			F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin																			Capt. A. Fuller.
S. S. Wilmington																			
S. S. Zealandia, Sydney, New South Wales.		29.79‡	756.7‡				W			3			NW					Fine	R. C. Ghest, 1st Officer.
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer, Hong-Kong, China		30.03‡	762.7‡	68	20.0	84	NE			2		5		NE		Smooth		D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson																			J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andresser.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undutsch.
S. S. Leipzig, Capt. F. Pfeiffer																			S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 52° 40′, E. 3° 30′		30.07‡	763.8‡				Calm			0		10		E		2	NE	Raining	Capt G. Meyer

NOTE.—†Aneroid. *The error of the barometer is not known.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The orginals give the barometer as read off; wind-force by the scale 0 to to 12; for the Brittanic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness by the scale 0 to 4, do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		Character.	Direction from—		
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa		30.56‡	776.2‡	33	0.6	77	NNE			2		5		NNW	0			Fair	Capt. R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents.																			
Belgenland, N. 49° 23', W. 25° 53'		30.15‡	765.8‡	59	15.0		ENE	20	8.9			2		ENE	0	Mod'ate	ENE	Fair	Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

Note.—The originals give the barometer as read off; do not distinguish between upper and lower clouds; sea-swell in general terms, as published. ‡Corrections for temperature, instrumental error and elevation applied at this office.

ALLAN LINE MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian. N. 46° 56', W. 52° 48'		30.17‡	766.8‡	31.5	— 0.3		WNW			5		5		WNW		Smooth	SSE	Fair	J. Powell, 4th Officer.
S. S. Peruvian																			

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES—Miscellaneous.																			
Furnished by the co-operation of the Observers named.																			
Schooner Addie Fuller, N. 38° 02', W. 75° 00'		30.44‡	773.2‡	49	9.4	85	E	2	0.9			Sck		E		Smooth		Cloudy	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George" of Halifax																			N. B. Foss.
Schooner Harry and Fred																			Capt. George Gardner.
Haytian																			
§ Iron Cross																			Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

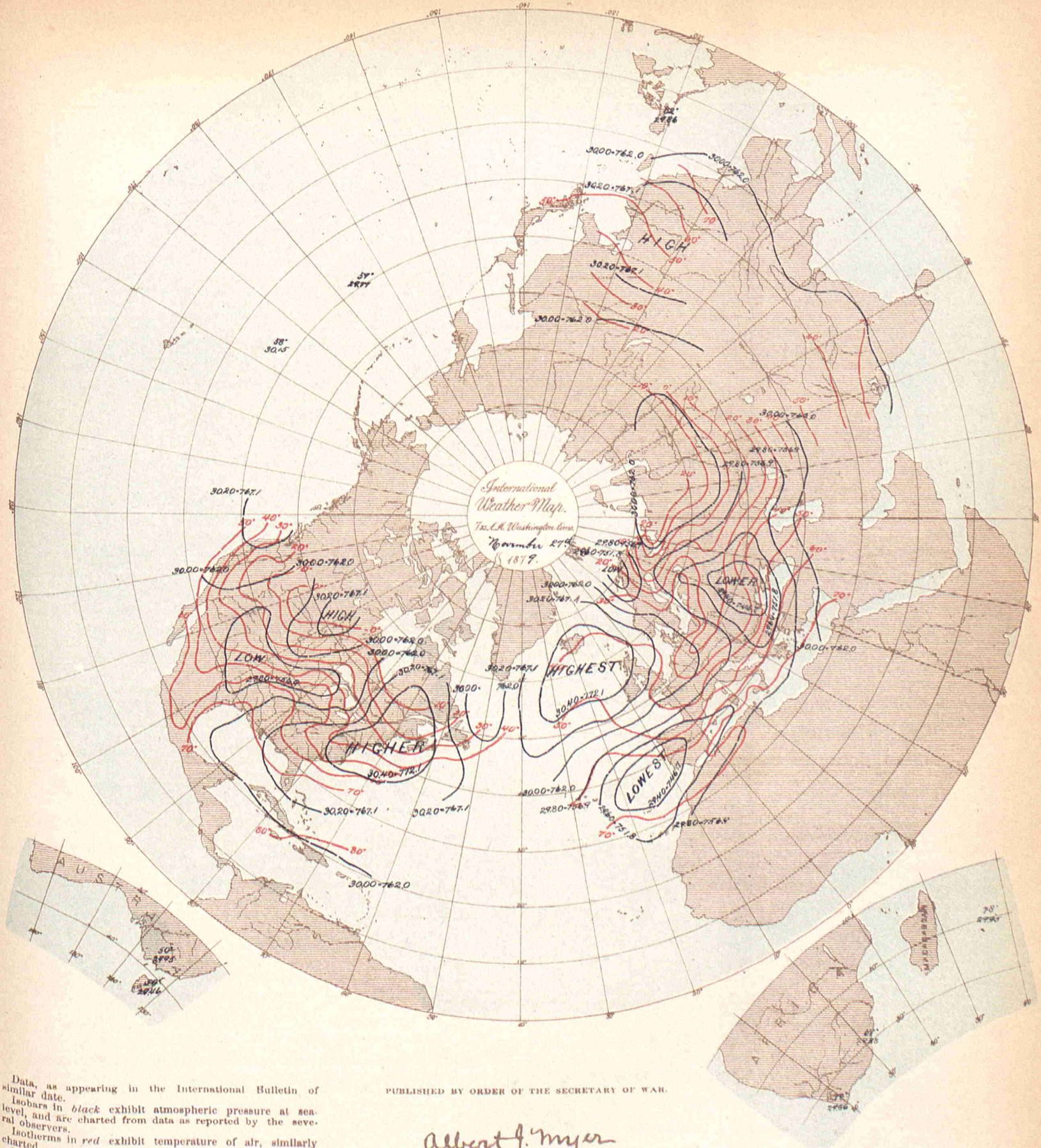
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASS'G'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 28, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			29.83	757.7	67.8	19.9	84	SW			5		5			0.217	5.5	Cloudy	
Nemours			29.72	754.8	78.4	25.8	70	NNW			1		5			0	"	Cloudy	Kesxuche.
Algiers			29.66	753.3	69.8	21.0	57	Calm			0		0			0	0	Clear.	Tourlliere.
La Calle			29.67	753.6	80.6	27.0	55	WSW			3		10			0	0	Covered	Foufrede.
Tunis																			Jacques.
Sfax																			Gau.
Saida			29.83	757.7															Herbin.
Tebessa																			Watrin.
Geriville			29.84	757.9	72.9	22.7	53	NW			8		8			0	0	Very cloudy	Brugniuax.
Laghouat					58.8	14.9	44	NW			3		2			0	0	Fair	Bertrand.
Biskra			29.85	758.1	74.1	23.4	20	SW			7		2			0	0	Fair	Chanvaux.
			29.78	756.4	66.2	19.0	67	SE			1		0			0	0	Clear	

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram																			Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.39	746.6	29.98	761.4	26.1	— 3.3	93	N			2		10			0	0		Dr. Wierzbicki.
Eperies	29.11	739.5	29.93	760.1	25.7	— 3.5	95	W	9.8	4.4			10			0.016	0.4		Julius Mikolik.
Gratz	28.97	735.9	29.91	759.6	25.2	— 3.8	78	S			2		10			0	0		Andreas Rospini.
Hermannstadt	28.67	728.1	29.99	761.8	25.9	— 3.4	72	SSE			3		0			0	0		Prof. A. Gottschling.
Kremsmünster	28.44	722.3	29.96	760.9	28.2	— 4.9	95	NW			2		10			0	0		Prof. C. Wagner.
Lemberg	28.56	725.5	30.00	762.1	19.6	— 6.9	84	N			2		0			0.031	0.8		Dr. T. Stanecki.
Pola	28.76	730.4	29.79	756.6	30.9	— 0.6	96	NW			2		10			Inap.	Inap.		I.R.Hydrographic Office.
Szathmar	29.70	754.4	29.82	757.4	39.6	4.2	55	ENE			1		10			0	0		Pet. Pancsics, S. J.
Szegedin	29.50	749.4	30.00	762.0	22.3	— 5.4	96	S			2		0			0.169	4.3		Karl Stancel.
Trieste	29.64	752.9	29.94	760.5	19.9	— 6.7	95	Calm			0		8			0	0		P. Busin.
Vienna	29.75	755.6	29.85	758.2	35.1	1.7	85	ENE			2		0			0	0		I.R.Central Met. Ob'sy.
	29.21	742.0	29.96	761.0	26.6	— 3.0	55	NNW			1		10			0	0		

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

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BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S,, Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.01	762.2	30.11	764.8	39.7	4.3	.....	WNW	12	5.4	.....	.....	7	.....	.....	0.140	3.56	D. clouds.....	W. Boswell.
Ardrossan	30.16	766.1	30.17	766.3	39	3.9	.....	NNW	.....	.....	2	.....	3	.....	.....	.....	.....	Blue sky.....	Wm.McNeil &G.Carrick
Armagh, (Observatory)	30.01	762.2	30.26	768.6	39.0	3.9	.....	NE	4	1.8	.....	.....	9	.....	.....	.....	.....	Overcast.....	S. Call.
Bidston (Liverpool Obs)	.....	.....	30.16	766.1	37.8	3.2	.....	NNE	7	3.1	.....	.....	7	.....	.....	.....	.....	D. clouds.....	John Hartnup.
Bolton (Sharples)	29.57	751.1	30.10	764.5	37.0	2.8	.....	NE	6	2.7	.....	.....	2	.....	.....	.....	.....	Blue sky	Thomas Mackereth.
Bradford, Yorkshire	29.71	754.6	30.10	764.5	37.3	2.9	.....	NW	.....	.....	2	.....	1	.....	.....	0.02	0.5	Blue sky.....	J McLandsborough.
Bridgetown, Barbadoes	29.82	757.4	29.85	758.2	79	26.1	.....	NE	.....	.....	2	.....	8	.....	.....	.....	.....	Overcast.....	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	30.01	762.2	30.11	764.8	38.0	3.3	.....	N	.....	.....	1	.....	7	.....	.....	Blank	Blank	D. clouds.....	H. Todd.
Cardington	.....	.....	30.08	764.0	38.6	3.7	.....	NE	.....	.....	0–1	.....	10	.....	.....	.....	.....	Overcast.....	John McLaren.
Chatham (School M. E.)	29.94	760.5	30.08	764.0	39.1	3.9	.....	NE	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds.....	J. Carmell, Sapper, R.E.
Donaghadee	30.16	766.1	30.20	767.1	43	6.1	.....	NNE	.....	.....	4	.....	8	.....	.....	.....	.....	D. clouds.....	J. Mac Gowan.
Dover	29.98	761.5	30.01	762.2	40	4.4	.....	E	.....	.....	1	.....	5	.....	.....	.....	.....	½ clouded...	J. Costello.
Falmouth (Observatory)	29.81	757.2	30.05	763.3	40.2	4.6	.....	NE	.....	.....	6	.....	10	.....	.....	.....	.....	Overcast.....	The Staff.
Fort Napier, Natal	27.38	695.4	29.60	751.8	85.3	29.6	.....	W	.....	.....	2	.....	8	.....	.....	.....	.....	Blue sky	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Galway (Queen's College)	.....	.....	30.20	767.1	40	4.4	.....	NE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	Prof. A. H. Curtis.
Gibraltar, Mediterranean	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Sergt.Wm. Allen, A. H.
Glasgow, (Observatory)	29.95	760.7	30.16	766.1	36.8	2.7	.....	N	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	D. G. Maclean. [C.
Great Yarmouth	30.05	763.3	30.06	763.5	41	5.0	.....	NNW	.....	.....	2	.....	6	.....	.....	.....	.....	Showery.....	G. T. Watson.
Greenwich (Royal Obs'y)	29.91	759.7	30.09	764.3	40.7	4.8	.....	NNE	.....	.....	2	.....	2	.....	.....	.....	.....	Blue sky.....	The Staff, for G.B.Airy.
Guernsey	29.76	755.9	29.97	761.2	40	4.4	.....	NE	.....	.....	6	.....	3	.....	.....	.....	.....	D. clouds.....	Dr.S.E Hoskins, F.R.S.
Helston	30.16	766.1	30.28	769.1	41	5.0	.....	NE	.....	.....	6	.....	6k	.....	.....	0	0	Fair.....	M. P. Moyle.
Holyhead	30.09	764.3	30.15	765.8	42	5.6	.....	NNE	.....	.....	3	.....	4	.....	.....	.....	.....	D. clouds.....	John Tilston.
Jersey	29.66	753.4	29.96	761.0	37.4	3.0	.....	ENE	.....	.....	7	.....	2	.....	.....	.....	.....	D. clouds.....	J. Fisher.
Kew (Observatory)	30.05	763.3	30.09	764.3	40.9	4.9	.....	NE	18	8.0	.....	.....	8	.....	.....	.....	.....	Misty.....	The Met'g'l Office.
Leicester (Museum)	29.86	758.4	30.12	765.0	37.5	3.1	.....	N	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	29.66	753.4	29.71	754.6	69	20.6	.....	SW	.....	.....	3	6ck	.....	.....	.....	.....	.....	D. clouds.....	A. King.
Nairn	30.06	763.5	30.16	766.1	40	4.4	.....	NW	.....	.....	3	.....	10	.....	.....	.....	.....	Raining	W. D. Penny.
Nassau, Bahamas	.....	.....	30.14	765.5	73.0	22.8	.....	NE	.....	.....	2	.....	8	.....	.....	.....	.....	D. clouds.....	C. S. Duncombe.
Nottingham (Observatory)	29.94	760.5	30.14	765.5	37.6	3.1	.....	N	.....	.....	2	6ck	.....	NNE	.....	0.101	2.57	D. clouds.....	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.59	751.6	30.14	765.5	36.1	2.3	.....	NNE	.....	.....	2	.....	9	.....	.....	.....	.....	D. clouds.....	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)	.....	.....	30.12	765.0	38	3.3	.....	N	.....	.....	1	.....	10	.....	.....	.....	.....	Threatening	H. E. Bellamy.
Plymouth	29.97	761.2	30.04	763.0	41.2	5.1	.....	E	.....	.....	6	.....	5	.....	.....	.....	.....	D. clouds.....	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	30.08	764.0	30.15	765.8	42	5.6	.....	ENE	.....	.....	5	.....	10	.....	.....	.....	.....	Overcast.....	Wm. Kennedy.
St. Ann's Head	29.96	761.0	30.13	765.3	40	4.4	.....	NE	.....	.....	4	.....	0	.....	.....	.....	.....	Blue sky.....	John C. Walker.
Sandwick Manse, Orkneys	.....	.....	30.16	766.1	38.9	3.8	.....	N	18	8.0	.....	.....	7	.....	.....	.....	.....	D. clouds.....	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	.....	.....	.....	.....	.....	.....	.....	NE	.....	.....	2	.....	10	.....	.....	.....	.....	Heavy rain..	Serg't W. H. Lane.
Sheffield	29.87	758.7	30.16	766.1	37.7	3.2	.....	NNE	.....	.....	1	.....	5	.....	.....	0	0	Misty.....	W. F. Cooper.
Silloth Rectory	30.12	765.0	30.15	765.8	39.3	4.1	85	Calm	.....	.....	0	.....	0	.....	.....	0	0	Blue sky.....	Francis Redford, A. M.
Stonyhurst (Observatory)	.....	.....	30.11	764.8	37.0	2.8	.....	NW	5	2.2	.....	.....	0	.....	.....	.....	.....	Blue sky	Rev. S. J. Perry.
Stratfield, Turgiss	29.87	758.7	30.10	764.5	41.3	5.2	.....	NE	.....	.....	2	.....	8	.....	.....	.....	.....	D. clouds.....	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	30.00	762.0	30.08	764.0	40	4.4	.....	NE	.....	.....	6	.....	6	.....	.....	.....	.....	D. clouds.....	W. Newcombe.
Valencia Observatory)	30.16	766.1	30.18	766.6	41 9	5.5	.....	NE	22	9.8	.....	.....	7	.....	.....	.....	.....	D. clouds.....	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	29.88	758.9	29.92	760.0	78	25.6	63	SE	12.7	5.7	.....	6	5cs	.....	.....	.....	.....	.....	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
Hobart Town, Tasmania	.....	.....	29.90	759.4	54.0	12.2	87	S	.....	.....	1	.....	10kn	.....	.....	0.40	10.2	.....	Francis Abbott, F.R.A.S.
Leith, (Restalrig Park)	.....	.....	30.15	765.8	39.8	4.3	.....	W	.....	.....	2	2ck	.....	NE	.....	0	0	Fine.....	Andrew Gibb.
Mauritius (Observatory)	29.78	756.4	29.97	761.3	80.0	26.7	56	W	7.0	3.1	.....	1	2	.....	.....	0	0	Fine.....	C. Meldrum.
Melbourne (Observatory)	29.85	758.2	29.94	760.5	56.1	13.4	75	SSW	6	2.7	.....	.....	9	.....	.....	0	0	Dull	R. L. J. Ellery.
Monach Lt-house, Hebrides	.....	.....	30.23	767.8	45	7.2	.....	NNW	.....	.....	4	5	5	N	.....	0	0	.....	J. Youngclause.
North Unst, Shetland Is	.....	.....	30.03	762.7	.....	.....	.....	N	.....	.....	4	5	5	N	.....	Blank	Blank	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Colesberg Bridge, unknown.

BRITISH MARINE SERIES. VESSELS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. Alert, Monteith Bay, Patagonia	.....	.....	29.67‡	753.6‡	43.5	6.4	.....	WSW	.....	.....	2	.....	10	.....	.....	.....	.....	Showery.....	Capt.J.P. Maclear, R.N.
H. M. Sloop Gannet, S. 16° 20′, W. 73° 40′	.....	.....	29.99‡	761.7‡	68.5	20.3	.....	ESE	.....	.....	3	.....	7	.....	.....	.....	.....	D. clouds.....	Commander E. Bourke, R. N.
H. M. S. Magpie, Shaweishan I'd., China	.....	.....	30.26‡	768.6‡	56.5	13.6	.....	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	Blue sky.....	Capt. R. H. Napier, R.N
Brig Alliance, N. 40° 00′, W. 42° 25′	.....	.....	30.12‡	765.0‡	57	13.9	.....	N	.....	.....	6	.....	10	.....	.....	.....	.....	Showery.....	Capt. W. Scott.
Barque Belle-Isle, N. 19° 20′, W. 73° 30′	.....	.....	30.01	762.2	84	28.9	.....	NE	.....	.....	5	.....	4	.....	.....	3	NE	D. clouds.....	Capt. A. J. Brown
City of Cashmere, N. 37° 20′, W. 129° 58′	.....	.....	29.77‡	756.1‡	59.8	15.4	.....	SE	.....	.....	6	.....	10	.....	.....	.....	.....	Showery.....	.....
S. S Ethiopia, N. 50° 00′, W. 39° 20′	.....	.....	29.97	761.2	55	12.8	.....	SSE	.....	.....	6	.....	8	.....	.....	4	,ESE	Showery.....	Capt. Campbell.
S. S. German, N. 39° 30′, W. 11° 40.′	.....	.....	29.45‡	748.0	58	14.4	.....	WNW	.....	.....	6	.....	9	.....	.....	.....	.....	Showery.....	Capt. O. D. Coxwell.
S. S. Strathleven, Sydney, N. S. W.	.....	.....	29.79‡	756.7‡	66.5	19.2	.....	W	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds.....	Capt. C. W. Pearson.
S. S. Sunbeam, N. 42° 45′, W. 55° 55′	.....	.....	30.45	773.4	45	7.2	.....	W	.....	.....	4	.....	8	.....	.....	3	W	D. clouds.....	Capt. C. M. Dobson.
Light House Tender Richmond, Off High Rock, Bahama Is.	.....	.....	30.22	767.6	74	23.3	.....	ENE	.....	.....	4	.....	3	.....	.....	2	.....	D. clouds.....	Capt. W. H. Stewart.
S. S. Gordon Castle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
German Brig "W. von Freeden"	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. V. Freeden.
S. S. Peruvian	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. H. Smith.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.23	666.2	29.95	760.7	65.8	18.8	87	NE			2	4c;ck	5d		E	0	0		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.51	749.6	29.56	750.8	36.1	2.3	93	WNW			2		3					Rain & fog	
Faröe	29.70	754.3	29.72	754.8	37.6	3.1	84	NW			4		7						
Godthaab (Greenland)																			
Stykkisholm (Iceland)																			
Thorshavn (Faröe)	30.25	768.3	30.28	769.2	33.8	1.0	66	N			2		5						
Vestervig	29.56	750.7	29.67	753.5	38.1	3.4	66	NW			4		1						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.38	746.2	29.93	760.2	33.8	1	31	NE			3		2s		W	0	0	Slightly cld'y	Collignon, Director.
Amiens, Normal School	29.81	757.1	29.93	760.1	34.9	1.6	89	NE			1		0			0	0	Clear	Vaillant, Director.
Arras, Engin'r school	29.78	756.4	30.05	763.3	33.4	0.8	80	E			1					0	0	Light fog	Klein, Commandant.
Avignon, Normal School	29.63	752.6	29.71	754.6	34.5	1.4	93	N			1		10			0.31	8.	Raining	Giraud, Director.
Bar-sur-Seine	29.34	745.1	29.92	760.0	30.4	—0.9	77	SE			1		5kn			0	0	Cloudy	C. Saillard, Director
Beauvais, Normal School	29.74	755.4	30.02	762.5	31.1	—0.5	66	E			2		0			0	0	Clear	Frère Eugene Marie
Besançon, Normal School	29.07	738.4	29.99	761.8	30.0	—1.1		E			1		2		NE	0	0	Slightly cld'y	A. Carré, Director.
Bourg-en-Bresse, N. School	28.96	735.6	29.89	759.1	28.0	—2.2	96	W			1	8c			SW	0	0	Very cloudy	Marlot, Diretor.
Bourges, Normal School	29.27	743.5	29.85	758.3	28.4	—2	81	N			3	5ck			N	0	0	Cloudy	M. Gence, Director.
Brest, Naval Observatory	29.62	752.4	29.87	758.6	39.2	4.0	60	NE			4		5		NE	0	0		Ch. de Rermaree, Dir.
Caen, Normal School	29.98	761.6			34.9	1.6	56	NE			1		0			0	0	Very clear	M. Bietrin, Director.
Carcassonne, N. School	29.16	740.7	29.58	751.3	43.9	6.6	97	E			3		10	E	E	0.035	0.9	Covered	September, Director.
Châlons-sur-Marne, N. Sch'	29.66	753.4	30.00	762.0	28.9	—1.7		ENE			1		0					Clear	Jadot, Director.
Chartres, Normal School	29.32	744.7	29.91	759.8	31.1	—0.5	93	E			1		5	E	E	0	0		Vergier, Director.
Clermont-Fd, Puy de D. Obs	28.37	720.6	29.79	756.7	28.8	—1.8	86	N			1		10			0.102	2.6	Light snow	Alluard, Director.
Commercy, Normal School	29.05	737.8	29.95	760.8	27.3	—2.6	87	E			3		2k	E	E	0	0	Slightlycld'y	Dr. Coullet, Director.
Commune de Gréasque*	28.53	724.6	29.67	753.6	40.6	4.8	93	SE			3		10		E	0.177	4.5		L. Kina, Director.
Grenoble, Normal School	29.02	737.0	29.82	757.3	34.5	1.4	89	E			1		10			0.04	1.	Snowing	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	29.49	749.0	29.71	754.7	29.1	—1.6	88	NE			3		10			0	0	Covered	Mouillot, Director.
Le Mans, Normal School	29.58	751.3	29.90	759.5	33.1	0.6	60	E			3		2	NNE	N	0	0	Slightly cld'y	Poirrier, Director.
Lons-Le-Saulnier, N. School	28.94	735.0	29.88	759.0	28.2	—2.1	96	N			1	5c		N	N	0	0	Cloudy	A. Baudry, Director
Lorient, Naval Observatory	29.69	754.2	29.80	757.0	35.6	2.0	81	NE			6				NE	0	0	Covered	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.19	741.5	29.84	758.0	29.8	—1.2	74	NNW			1		10			0	0	Covered	Ch. André, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.36	745.7	29.63	752.6	46.0	7.8	85	NW			1		10		ESE	0.079	2.00		E. Stephan, Director.
Mirecourt, Normal School	28.86	733.0	29.97	761.2	25.2	—3.8	77	N			3	c		N	N	0	0		Barbier, Director.
Mont-Louis	24.39	619.4	29.70	754.4	43.7	6.5	85	SW	18.6	8.3			8			0.217	5.5		M. Cave.
Nice	29.67	753.7	29.71	754.6	49.3	9.6	71	N			2		10	N	N	0.028	0.7	Light rain	M. Boissière, Director.
Nismes, Normal School	29.47	748.5	29.68	753.9	37.4	3	70	N			1		10		W	0.324	8.25	Covered	M. Boyer, Director.
Paris, Montsouris Obs'y	29.68	753.9			32.2	0.1	62	NE			3		0			0	0		Marié Davy, Director.
Perpignan	29.56	750.8	29.66	753.4	49.6	9.8	91	E	3.8	1.7			10			0.287	7.3	Raining	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.08	560.7			37.4	3.0		SW			3		5		SW	0.110	2.8	Cloudy	Gen'l de Nansouty.
Pic du Midi (Summit) H. P.																			M. Baylac.
Privas, Normal School	28.67	728.3	29.81	757.1	33.1	0.6	88	N			1		10	NW	N	0	0	Snowing	M. Tallieu
Puy de Dome (Summit) Obs	24.71	627.5			25.7	—3.5	98	SE			4					0	0	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	29.61	752.1	29.64	752.9	32.4	0.2	89	NE			7		10	NE	NE	0	0	Covered	Lt E. Decante, Director
Rouen, Normal School	29.91	759.8	30.00	762.0	34.9	1.6	53	NE			4		0			0	0	Clear	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.87	758.8	29.91	759.6	37.0	2.8	53	ENE			3		2	ENE	ENE	0	0	Clear	Lt. Hercouet, Director
Saint Maur (near Paris)	29.80	756.8	29.96	761.0	33.8	1.0	59	NE			4			W		0	0	Solar halo	E. Renou, Director.
Tarbes, Normal School	28.45	722.5	29.52	749.8	43.7	6.5	79	W			1		10	NW	E	0.51	13.	Raining	T. Huguet, Director.
Toulouse, Observatory	28.86	733.0	29.57	751.1	44.6	7.0	88	SE			4		10			0.138	3.5	Covered	M. Juher Mercadier.
Tours	29.63	752.6	29.83	757.6				NE			3		5		W	0	0	½ covered	Cousin-Marquet.
Versailles, Observatory	29.45	748.0	29.95	760.6	31.3	—0.4	63	E			3		0			0	0	Clear	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.19	741.5	29.94	760.5	30.2	—1	96	NNE			3		5		S	0	0	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.84	757.9	29.87	758.6	77.7	25.4										0.79	20.		L'Abbé Marchési
Zi-Ka-Wei (near Shanghai	30.23	767.8	30.25	768.4	47.3	8.5	94	E	1.8	0.8			0			0	0	Clear	Marc Dechevrens.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centrigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.10	739.0	29.94	760.4	25.0	— 3.9	93	E	.....	.....	4	.....	3s	.....	.....	0	0	Light fog.....	Prof. Dr. Hoh.
Berlin	29.65	753.2	29.84	757.8	31.3	— 0.4	74	SW	.....	.....	2	.....	8	.....	.....	0.031	0.8	.....	Prof. Dr. Arndt.
Breslau	29.37	745.9	29.89	759.3	26.8	— 2.9	84	WNW	.....	.....	3	.....	1	.....	.....	0	0	.....	Royal University Obs'y.
Carlsruhe	29.56	750.7	29.97	761.1	27.0	— 2.8	86	NE	.....	.....	1	.....	8	E	.....	0	0	.....	Albert Senz.
Cassel	29.39	746.4	29.99	761.8	26.6	— 3.0	84	SE	.....	.....	1	.....	10	NW	.....	0	0	.....	Dr. H. Möhl.
Emden	.....	.....	29.87	758.7	35.4	1.9	93	WSW	.....	.....	2	.....	1	.....	.....	0	0	.....	Prof. Dr. Prestel.
Frankfort on the Main	29.72	755.0	30.10	764.6	29.3	— 1.5	71	NE	.....	.....	0	.....	1	.....	.....	0	0	.....	Physical Society.
Friedrichshafen	28.47	723.2	30.00	762.0	21.2	— 6.0	69	NE	.....	.....	7	.....	0	.....	.....	0	0	.....	Chief Telegrapher Wilhelm.
Hamburg	29.80	756.8	29.87	758.7	33.8	1.0	89	WSW	.....	.....	4	.....	10ks	.....	.....	0.047	1.2	Cloudy.....	Captain F. Hegemann.
Kiel	29.73	755.1	29.74	755.5	35.6	2.0	92	W	.....	.....	3	.....	10	.....	.....	0.011	0.27	.....	Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.63	752.5	29.71	754.7	30.6	— 0.8	93	W	.....	.....	3	.....	7	.....	.....	0.102	2.6	Snowing.....	Prof. E. Luther.
Köslin	.....	.....	29.69	754.2	29.7	— 1.3	.....	S	.....	.....	4	.....	6	.....	.....	0	0	.....	H. Müller.
Leipsic Observatory	29.55	750.5	29.99	761.8	26.4	— 3.1	87	SSW	.....	.....	2	.....	0	.....	.....	0.012	0.3	Hazy	Prof. Dr. Bruhns, Privy Counselor
Magdeburg	29.72	754.9	29.85	760.6	30.0	— 1.1	69	SW	.....	.....	4	.....	8ks	WNW	.....	0	0	.....	Dr. Assmann.
Memel	29.58	751.2	29.62	752.4	34.3	1.3	72	W	.....	.....	4–5	.....	9k	.....	.....	.....	.....	.....	Reinbrecht & Issermann
Munich (München)	28.08	713.2	29.93	760.3	16.0	— 8.9	80	N	.....	.....	1	.....	0	.....	.....	0	0	.....	Dr. C. Lang.
Neufahrwasser	29.69	754.2	29.71	754.6	32.9	0.5	83	SW	.....	.....	3	.....	10	W	.....	0.059	1.5	.....	A. Lothes.
Neustadt (Palatinate)	29.46	748.3	29.99	761.7	27.5	— 2.5	.....	NW	.....	.....	1	.....	10	N	.....	0	0	.....	Reallehrer Dicknether.
Posen	29.53	750.0	29.83	757.6	35.2	1.8	88	W	.....	.....	2	.....	8	.....	.....	0.031	0.8	Snowing.....	Prof. Dr. Magener.
Strassburg (in Alsace)	29.43	747.4	30.01	762.2	27.0	— 2.8	68	NE	.....	.....	2	.....	0	.....	.....	0	0	.....	Imp. University Observatory.
Stuttgart	28.98	736.2	29.98	761.6	23.9	— 4.5	65	E	.....	.....	.....	.....	0	.....	.....	0	0	.....	Prof. Dr. Schoder.
Weissenburg (Bavaria)	28.46	722.9	30.02	762.5	19.6	— 6.9	90	Calm	0	0	.....	.....	10	.....	E	0	0	Foggy	Reallehrer J. Hopfner
Wustrow	29.67	753.6	29.69	754.2	36.7	2.6	93	SW	.....	.....	5	.....	10s	.....	.....	0.122	3.1	.....	E. Schütz, Director.
German Naval Series.																			
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NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.35	745.4	29.74	755.3	62.4	16.9	.....	SE	.....	.....	1.0	.....	10	.....	.....	.....	.....	Covered.....	Dr. J. F. J. Schmidt.
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NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	30.07	763.7	30.12	765.0	72.9	22.7	19	E	9	4.0	.....	.....	2	.....	.....	0	0	D. clouds.....	
Deesa	29.64	752.8	30.12	765.1	72.5	22.5	28	N	9.0	4.0	.....	.....	0	.....	.....	0	0	Blue sky.....	
Bombay	29.95	760.7	29.99	761.7	76.5	24.7	68	NNW	17	7.6	.....	.....	0	.....	.....	0	0	Blue sky.....	
Poona (Yerrowda)	28.13	714.4	30.01	762.2	73.3	22.9	18	E	5	2.2	.....	.....	0	.....	.....	0	0	Blue sky.....	
Belgaum	27.42	696.5	29.99	761.8	71.3	21.8	38	ENE	7	3.1	.....	.....	0	.....	.....	0	0	Blue sky.....	
Lahore	29.33	745.0	30.12	765.0	56.6	13.7	36	Calm	0.6	0.3	.....	.....	0	.....	.....	0	0	Blue sky.....	
Roorkee	29.14	740.1	30.08	764.1	59.0	15.0	43	NW	1.8	0.8	.....	.....	1	.....	.....	0	0	.....	
Agra	29.53	750.1	30.12	765.2	61.8	16.6	53	NW	4.2	1.9	.....	.....	.....	.....	.....	0	0	.....	
Nagpur	29.00	736.6	30.08	763.9	66.4	19.1	27	Calm	2.8	1.2	.....	.....	.....	.....	.....	0	0	Blue sky.....	
Jubbulpore	28.69	728.7	30.13	765.3	56.8	13.8	54	Calm	1.5	0.7	.....	.....	.....	.....	.....	0	0	Blue sky.....	
Lucknow	29.70	754.5	30.10	764.6	57.8	14.3	70	NNW	0.5	0.2	.....	.....	.....	.....	.....	0	0	Blue sky.....	
Allahabad	29.77	756.2	30.10	764.6	58.3	14.6	64	Calm	2.4	1.1	.....	.....	0	.....	.....	0	0	Blue sky.....	
Patna	29.87	758.6	30.06	763.4	64.8	18.2	65	W	0.3	0.1	.....	.....	0	.....	.....	0	0	Blue sky.....	
Hazaribagh	27.96	710.2	30.07	763.7	56.8	13.8	42	NW	5.8	2.6	.....	.....	0	.....	.....	0	0	Blue sky.....	
Cuttack	29.96	761.0	30.04	763.1	64.6	18.1	58	NNW	1	0.4	.....	.....	0	.....	.....	0	0	Blue sky.....	
Calcutta (Alipore)	29.98	761.6	30.01	762.2	67.0	19.4	55	NNW	6.0	2.7	.....	.....	0	.....	.....	0	0	Blue sky.....	
Goalpara	29.57	751.0	29.97	761.2	71.8	22.1	60	ENE	4.9	2.2	.....	.....	3	ESE	.....	0	0	D. clouds	
Chittagong	29.86	758.5	29.95	760.8	73.3	22.9	85	Calm	1.7	0.8	.....	.....	1	.....	.....	0	0	.....	
Sibsagar	29.68	753.8	30.03	762.7	67.7	19.8	77	ENE	1.4	0.6	.....	.....	4	.....	.....	0	0	Blue sky.....	
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NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversion are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	29.45	748.0	29.87	758.7	33.8	1.0	57	SE	7.4	3.3	.....	.....	6	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.30	744.1	29.83	757.7	39.9	4.4	77	S	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.74	755.4	29.85	758.3	37.4	3.0	56	NE	9.4	4.2	.....	.....	10	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	28.90	734.1	29.83	757.6	41.5	5.3	75	WSW	1.3	0.6	.....	.....	9	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.55	750.6	29.74	755.5	42.3	5.7	55	N	9.8	4.4	.....	.....	10	W	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	27.86	707.7	29.82	757.5	35.4	1.9	82	NW	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. D. C. Bruno
Pesaro	29.76	755.8	29.81	757.1	41.5	5.3	80	E	4.9	2.2	.....	.....	10	.....	.....	0.189	4.8	.....	Prof. Luigi Guidi.
Florence	29.47	748.6	29.74	755.3	44.6	7.0	66	N	.....	.....	4	.....	10	N	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.60	751.7	29.68	753.8	45.3	7.4	71	ENE	9.8	4.4	.....	.....	10	.....	.....	0.134	3.4	.....	Prof. P. Monte.
Rome	29.48	748.7	29.65	753.2	48.4	9.1	95	NNE	11.2	5.0	.....	.....	10	.....	.....	0.252	6.4	.....	Prof. P. S. Ferrari.
Lecce	29.47	748.4	29.72	754.9	54.5	12.5	89	NNW	1.3	0.6	.....	.....	9	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	28.82	732.0	29.71	754.5	60.4	15.8	73	SW	0	0	.....	.....	6	.....	.....	0.079	2.0	.....	Prof. D. Conti.
Cagliari	29.39	746.4	29.58	751.3	67.6	19.8	62	SE	.....	.....	2	.....	0	.....	.....	0.098	2.5	.....	Prof. A. Pacinotti.
Palermo	29.43	747.4	29.68	753.9	71.8	22.1	50	ENE	0.7	0.3	.....	.....	1	.....	.....	0	0	.....	Prof. G. Ciacciatore
Syracuse	29.64	752.8	29.71	754.7	64.8	18.2	81	SSE	3.8	1.7	.....	.....	10	SW	.....	0	0	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.15	740.4	29.67	753.5	55.4	13.0	86	ENE	1.8	0.8	.....	.....	10	.....	.....	1.024	26.0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.14	765.5	30.16	766.0	45.2	7.3	84	NE	7.9	3.5	.....	0	0	.....	.....	0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.93	760.2	30.14	765.5	48.7	9.3	94	Calm	0	0	.....	.....	0	.....	.....	0	0	Clear	S. Takehayashi.
Tokei, (Yeddo) Observatory	30.12	765.0	30.19	766.8	44.9	7.2	79	NNE	3.3	1.5	.....	.....	10s	.....	.....	0	0	Cloudy	The Staff.
Wakayama	30.11	764.8	30.16	766.0	44.3	6.8	83	E	2.0	0.9	.....	.....	0	.....	.....	0	0	Clear	

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	25.11	637.7	30.32	770.0	41.9	5.5	55	Calm	.....	.....	0	.....	1	.....	.....	0	0	Clear	Prof. L. Perez.
Leon	24.50	622.2	30.29	769.4	52.0	11.1	80	N	.....	.....	1	0	0	.....	.....	0	0	Blue sky	Prof. M. Leal.
Mazatlan	29.78	756.3	30.04	763.0	66.0	18.9	85	N	.....	.....	2	6c	0	SW	.....	0	0	Fair	I. Guerrero, C. E.
Mexico, Central Observatory	23.13	587.5	30.27	768.8	47.3	8.5	72	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	45.1	7.3	73	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.52	597.4	30.45	773.5	44.6	7.0	62	Calm	0	0	.....	0	0	.....	.....	0.05	1.3	Fine	Prof. P. Spina.
San Luis Potosi	24.26	616.3	30.35	771.0	50.0	10.0	40	SW	.....	.....	1	2	1	W	E	0	0	Clear	G. Barroeta, M. D.
Tlacotalpam	29.91	759.7	29.92	760.0	71.2	21.8	96	S	.....	.....	1	0	0	.....	.....	0	0	Foggy	Prof. M. M. Chàzaro
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell
Zacatecas	22.56	572.9	30.23	767.8	50.0	10.0	64	Calm	.....	.....	0	0	0	.....	.....	0	0	Very clear	J. C. Castrillon

NOTE.—The elevation of Guadalajara is 1,560.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column; the instrumental correction —0.88 mm., or —0.035 inch, has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Groningen	30.07	763.7	30.07	763.7	35.8	2.1	.....	WSW	.....	.....	1	.....	.....	.....	.....	0	0	.....	
Helder	29.88	759.0	29.94	760.4	36.5	2.5	.....	W	.....	.....	.....	.....	.....	.....	.....	0.020	0.5	.....	
Hellevoetsluis	29.96	761.0	29.96	761.0	40.3	4.6	.....	NW	.....	.....	4	.....	.....	.....	.....	0.016	0.4	.....	
Utrecht	30.04	763.0	30.04	763.0	34.2	1.2	78	SW	.....	.....	3	.....	.....	.....	.....	0	0	.....	
	29.98	761.6	30.03	762.8	35.1	1.7	71	WSW	.....	.....	3	.....	5	.....	.....	0.028	0.7	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.75	755.6	29.80	757.0	34.2	1.2	85	N	2.5	1.1	.....	.....	4	.....	.....	.....	.....	Snowing	
Brönö	29.45	747.9	29.48	748.9	35.2	1.8	57	N	18	8	.....	.....	6	.....	.....	0	0	.....	
Christiana	29.40	746.7	29.55	750.5	32.9	0.5	54	NW	7	3	.....	.....	1	.....	.....	0	0	.....	
Tromsö	29.56	750.8	29.60	751.9	18.7	— 7.4	75	SW	7	3	.....	.....	1	.....	.....	0	0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	29.69	754.2	29.89	759.1	55.8	13.2	77	N	6.9	3.1	.....	.....	3	.....	.....	0.118	3.0	.....	Dr. J. A. Sampaio.
Campo Major	28.52	724.5	29.56	750.8	57.2	14.0	78	SSW	3.1	1.4	.....	.....	10	.....	.....	0.327	8.3	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	29.60	751.8	29.69	754.0	67.1	19.5	70	SE	3.8	1.7	.....	.....	5	.....	.....	0.874	22.2	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.17	740.9	29.53	750.0	59.7	15.4	66	WSW	16.1	7.2	.....	.....	7	.....	.....	0.524	13.3	.....	The Staff.
Ponta Delgada (Azores)	29.80	756.9	29.87	758.7	57.6	14.2	72	NE	9.4	4.2	.....	.....	3	.....	.....	0.197	5.0	Raining	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.															Sea or swell. Height scale 0-9	Sea or swell. Direction form—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't
Rio Lima. Capt. S. C. da Silva Costa. Fogo, Cape Verd Islands	.....	.....	.....	.....	81.7	27.6	.....	Calm	.....	.....	0	.....	2	.....	.....	0	.....	D. clouds	A. D. de Fonseca Sarurento
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		Louiz Apra, Q. Ma.
Sado, Capt. J. A de Brito Capello, St. Paul de Loando	.....	.....	29.83	757.7	86.0	30.0	.....	N	.....	.....	1	.....	4	.....	N	.....	.....	D. Clouds. 10½ hr's rain-fall.	H. Mecudonco, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	.....	.....	30.12	765.0	75.2	24.0	.....	NE	.....	.....	2	.....	0	.....	.....	0	.....	Blue sky	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between upper and lower clouds, and no humidity is given; duration of rain-fall in hours. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	29.74	755.4	29.76	755.9	—20.6	—29.2	77	ENE	13	6	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow
Astrakhan	29.68	753.9	29.60	751.8	47.8	8.8	91	NW	18	8	.....	.....	10n	.....	.....	Bl'nk	Bl'nk	.....	Capt. Wisganow.
Barnaul	29.84	757.9	30.43	772.8	—17.7	—27.6	78	NW	13	6	.....	.....	2	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Dorpat	29.31	744.5	29.56	750.9	19.6	— 6.9	75	NE	2	1	.....	.....	9k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	28.97	735.9	30.04	763.1	— 2.7	—19.3	87	SE	18	8	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	28.69	728.8	28.97	735.7	29.7	— 1.3	100	SE	18	8	.....	.....	10	.....	.....	.....	.....	.....	.....
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Snowing	Physical Cabinet.
Kieff	28.99	736.4	29.66	753.3	23.0	— 5.0	90	NW	11	5	.....	.....	10ks;n	.....	.....	.....	.....	.....	Lagorio.
Krotkowo*	28.58	725.9	29.06	738.0	33.8	1.0	84	S	18	8	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Lugan	29.19	741.3	29.39	746.6	28.8	— 1.8	72	WSW	45	20	.....	.....	9	.....	.....	.....	.....	.....	Cand. Fatjanow.
Moscow	28.55	725.1	29.13	739.8	13.3	—10.4	74	SE	7.8	3.5	.....	.....	10s	.....	.....	.....	.....	.....	Meteorological Obs
Nertchinsk	27.48	698.1	29.03	760.3	12.2	—11.0	75	S	2	1	.....	.....	7	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	29.78	756.4	29.85	758.2	27.3	— 2.6	54	NNW	18	8	.....	.....	0	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Nukuss	29.72	754.9	29.96	761.0	43.9	6.6	57	SE	4	2	.....	.....	1ks	.....	.....	.....	.....	.....	Kurdukof.
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	29.94	760.4	30.08	764.0	37.4	3.0	62	Calm	0	0	.....	.....	2cs	.....	.....	.....	.....	.....	.....
St. Petersburg	29.45	748.0	29.47	748.4	12.0	—11.1	97	NW	16	7	.....	.....	8kn	.....	.....	.....	.....	Light snow.	Physical Observatory.
Tashkend	28.53	724.6	30.12	765.1	49.3	9.6	84	.....	.....	.....	.....	.....	10	.....	.....	.....	.....	.....	Central Physical Obs.
Tiflis	28.45	722.7	29.87	758.6	53.4	11.9	55	N	4	2	.....	.....	5ks	.....	.....	.....	.....	.....	Teich, A. M.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Physical Observatory.
Warsaw	29.35	745.5	29.80	756.8	26.6	— 3.0	94	WSW	4	2	.....	.....	10ks	.....	.....	.....	.....	.....	.....
Wilna	29.25	742.9	29.69	754.1	23.2	— 4.9	75	Calm	0	0	.....	.....	3	.....	.....	.....	.....	Light clouds	Astronomical Obs.
Yenisiesk	29.90	759.4	30.24	768.2	—32.1	—35.6	75	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Astronomical Obs.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	29.44	747.8	29.55	750.5	55.4	13	83	ENE	0	0	.....	.....	10	.....	.....	0.360	9.16	Covered	Antonio Rave, Director
Bilbao, Met. Obs'y	29.19	741.5	29.25	742.9	64.0	17.8	69	NW	1.1	0.49	.....	2	3	SW	.....	0.488	12.4	Cloudy	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.56	674.5	.....	.....	49.6	9.8	85	SW	5.3	2.39	.....	0	9	.....	.....	0.827	21.0	Almost cov'd	Domingo Martin y Perez.
Madrid, Royal Observatory	27.31	693.6	29.47	748.6	59.5	15.3	86	SW	13.4	6.00	.....	0	10	.....	.....	0.520	13.2	Covered	The Staff.
Murcia, Met. Obs'y	29.38	746.2	29.53	750.0	68.2	20.1	76	WSW	0.7	0.31	.....	3	5	E	.....	0	0	Cloudy	Olayo Diaz, Director.
Santiago, Met. Obs'y	28.41	721.7	29.30	744.1	52.7	11.5	86	SSE	23.0	10.3	.....	.....	10	.....	.....	2.024	51.4	Raining	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.04	763.0	30.11	764.7	71.1	21.7	86	E	2.2	1.0	.....	.....	10k;s	.....	ESE	0	0	Cloudy	Benito Vines S. J.
Manilla, Phillippine Islands	29.88	758.9	29.93	760.3	82.2	27.9	89	S	0	0	.....	.....	0	.....	.....	0	0	Fine	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.48	748.8	29.58	751.3	63.1	17.3	90	SSE	13.1	5.9	.....	0	10	.....	S	0.891	22.6	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.88	758.9	29.97	761.2	76.3	24.6	81	NE	13.5	6.02	.....	6ck	6kn	NE	NE	0.039	1.00	Cloudy	Enrique Gadea, Chief Eng'r

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer, Corrected for instrum'tal error and temperature. Inches.	Barometer, Corrected for instrum'tal error and temperature. Millimeters.	Barometer, Reduced to sea-level. Inches.	Barometer, Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.78	756.5	29.82	757.5	— 2.6	—19.2	.....	E	.....	.....	2	.....	10	.....	.....	0	0	.....	
Umea	29.58	751.2	29.63	752.5	15.4	— 9.2	94	E	.....	.....	2	.....	10	.....	.....	0	0	.....	
Hernosand	29.37	746.1	29.43	747.4	23.4	— 4.8	95	NNE	.....	.....	2	.....	10	.....	.....	0.039	1.0	.....	
Stockholm	29.28	743.6	29.45	748.1	28.0	— 2.2	79	W	.....	.....	2	.....	1	.....	.....	0.008	0.2	.....	
Wisby	29.45	748.0	29.51	749.5	32.7	0.4	82	WNW	.....	.....	7	.....	10	.....	.....	0.047	1.2	.....	
Sub-Series.																			
Upsala	29.30	744.2	29.39	746.4	25.0	— 3.9	89	W	4.3	1.9	.....	.....	0	.....	.....	0.008	0.20	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.39	721.1	29.89	759.3	28.8	— 1.8	75	NE	.....	.....	3	.....	10	.....	.....	0	0	Covered	The Observatory.
Zurich	28.24	717.3	29.99	761.8	22.6	— 5.2	77	NE	.....	.....	4	.....	7	.....	.....	0	0	Cloudy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —5.7 mm.; Thermometer, —6.5 Cent.; Relative Humidity, —3 per cent

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.89	759.3	41.7	5.4	93	N	11	5.0	.....	.....	10	.....	N	1.008	25.6	Raining	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.78	756.4	61.0	16.1	.....	SE	.....	.....	1	.....	10	.....	.....	0.32	8	Covered	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.97	761.2	30.09	764.2	72.0	22.2	58	SW	.....	.....	3	3c	.....	.....	.....	0	0	D. clouds	Prof. C. V. A. van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B.	30.00	762.0	30.07	763.8	34.2	1.2	80	SW	5	2.2	.....	.....	10s	.....	.....	0.07	1.8	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	30.14	765.5	30.18	766.6	33.3	0.7	89	S	20	8.9	.....	.....	10n	.....	.....	0.19	4.8	Light snow.	H. J. Cundall, C. E.
Cornwall, Ontario	29.68	753.9	29.87	758.7	44.5	6.9	89	W	.....	.....	1	.....	10s	.....	.....	Inap.	Inap.	Cloudy	James Smith, M. A.
Dalhousie, N. B.	29.80	759.2	30.07	763.8	22.7	— 5.2	.....	SE	.....	.....	1	.....	10n	.....	.....	0.35	8.9	Snowing	H. A. Johnson.
Father Point, Quebec	29.97	761.2	29.99	761.7	26.5	— 3.1	94	SE	3	1.3	.....	.....	10n	.....	.....	0.20	5.1	Threatening	J. McWilliams.
Fredericton, N. B.	30.04	763.0	30.11	764.8	39.1	3.9	91	SW	4	1.8	.....	.....	Mist	.....	.....	0.22	5.6	Foggy	Prof. Harrison.
Fort Garry, Manitoba	29.30	744.2	30.24	768.1	— 4.6	—20.3	94	Calm	0	0	.....	1c	1s	Calm	.....	0.02	0.5	Fair	James Stewart.
Granton, Ontario	28.55	725.2	29.64	752.8	49	9.4	.....	S	.....	.....	2	.....	10n	.....	.....	1.25	31.7	Light rain	James Grant.
Halifax, N. S.	30 16	766.1	30.29	769.4	38.1	3.4	88	S	11	4.9	.....	.....	10n	.....	.....	0	0	Cloudy	A. Allison.
Hamilton, Ontario	29.33	745.0	29.70	754.4	51.7	10.9	93	SW	.....	.....	1	.....	10cs	.....	SW	0.08	2.0	Cloudy	Geo. Dickson, B. A.
Heart's Content, N. F.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.54	750.3	29.88	758.9	44.7	7.1	80	S	15	6.7	.....	.....	10ks	.....	.....	0.16	4.1	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S.	30.30	769.6	30.31	769.97	32.2	0.1	87	SW	4	1.8	.....	.....	10n	.....	.....	0	0	Overcast	C. H. Rigby.
Montreal, Quebec	29.73	755.1	29.93	760.2	39.4	4.1	89	S	13	5.8	.....	.....	10s	.....	.....	0.20	5.1	Overcast	C. H. McLeod, C. E.
Moose Factory, Ontario	30.07	763.8	30.11	764.8	9.0	—12.8	92	N	.....	.....	3	.....	10	.....	.....	0.40	10.2	Cloudy	J. R. Nr son.
Norwood	29.09	738.9	29.79	756.7	42.3	5.7	100	SE	.....	.....	1	.....	10s	.....	.....	0.46	11.7	Foggy	Rev. T. F. Fotheringham, M. A.
Parry Sound, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. R. Mosley.
Peterboro, Ontario	29.09	738.9	29.86	758.4	42.7	5.9	99	Calm	.....	.....	0	.....	10n	.....	.....	0.80	20.3	Raining	J. F. Jeffers, M. A.
Port Dover, Ontario	29.04	737.6	29.73	755.1	46.9	8.3	100	SE	4	1.8	.....	.....	10n	.....	SW	0.21	5.3	Light rain	H. Morgan.
Port Hastings, N. S.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.05	737.9	29.70	754.4	47.1	8.4	93	SE	16	7.2	.....	.....	10n	.....	SW	0.16	4.1	Cloudy	M. Payne.
Quebec, Quebec	29.08	753.9	30.02	762.5	32	0.0	100	Calm	.....	.....	0	.....	10n	.....	.....	0.15	3.8	Light rain	Capt. Ashe, R. N.
Rockliffe, Ontario	29.34	745.2	29.83	757.7	34.0	1.1	95	Calm	0	0	.....	.....	10s	.....	NE	0.34	8.6	Light rain	W. H. McIntyre.
St. Andrews, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Gove.
St. John, N. B.	29.97	761.2	30.14	765.5	40	4.4	91	SW	23	10.3	.....	.....	10s	.....	.....	0.18	3.3	Overcast	G. Murdock, C. E.
Saugeen, Ontario	28.88	733.5	29.59	751.6	49.6	9.8	95	SE	19	9.5	.....	.....	10ks	.....	.....	0.57	14.5	Raining	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.38	720.8	29.64	752.6	49.1	9.5	98	SW	10	4.5	.....	.....	10n	.....	.....	0.53	13.5	Drizzling	C. J. MacGregor, M. A.
Sydney, C. B.	30.34	770.6	30.38	771.6	30.0	— 1.1	83	SE	2	0.9	.....	.....	10s	.....	.....	0	0	Overcast	T. C. Hill, C. E.
Toronto, Ontario	29.38	746.2	29.76	755.9	45.9	7.7	99	SE	12	5.4	.....	.....	Fog	.....	.....	0.24	6.1	Light rain	Magnetic Observatory.
Windsor, N. S.	30.13	765.3	30.23	767.8	36.5	2.5	85	S	18	8.0	.....	.....	10ns	.....	.....	0	0	Cloudy	Prof. John E. Oram, M.A.
Woodstock, Ontario	28.60	726.4	29.65	753.1	49.6	9.8	98	SE	17	7.6	.....	.....	10s	.....	.....	0.23	5.8	Overcast	Prof. J. Montgomery.
Yarmouth, N. S.	30.13	765.3	30.20	767.1	41.6	5.3	88	S	20	8.9	.....	2ks	1s	W	.....	0	0	Fair	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	30.25	768.3	30.52	775.2	25.0	— 3.9	100	W	.....	.....	.....	10k	10s	.....	.....	0	0	Cloudy	John Delany.
St. Pierre, M. F., l'Hopital Maritime	.....	.....	30.32	770.2	30.2	— 1	.....	N	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	The Commandant.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10, except Yarmouth and St. Johns on scale 0 to 20. At St. Andrews the velocity of the wind is estimated, and at St Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of BVT. BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0–10.	CLOUDS. Amount. Up'er 0–10.	CLOUDS. Amount. Lo'er 0–10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.85	758.2	30.08	764.0	43	6.1	83	S	4	1.8	.....	.....	10s	.....	SW	Inap.	Inap.	Cloudy.....	
Alpena, Michigan	28.90	734.0	29.54	750.3	38	3.3	100	NE	16	7.2	.....	.....	10m	.....	Calm	1.01	*25.7	Light rain...	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	28.87	733.3	30.00	762.0	59	15.0	94	SE	13	5.8	.....	.....	10n	.....	Calm	0.67	17.0	Light rain...	
Atlantic City, New Jersey	30.15	765.8	30.17	766.3	51	10.6	86	SW	7	3.1	.....	.....	10s	.....	SW	0.05	1.3	Cloudy.....	
Augusta, Georgia	29.93	760.2	30.13	765.3	63	17.2	83	SE	4	1.8	.....	.....	10s	.....	S	0.01	0.3	Cloudy.....	
Baltimore, Maryland	30.05	763.3	30.10	764.5	48	8.9	85	SE	2	0.9	.....	.....	10m;fog	.....	Calm	Inap.	Inap.	Light rain...	
Barnegat, New Jersey	30.13	765.3	30.15	765.8	49	9.4	93	S	9	4.0	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Bismarck, Dakota	28.27	718.0	30.12	765.0	9	—12.8	89	NW	2	0.9	.....	.....	10s	.....	NW	0.04	1.0	Cloudy.....	
Boerne, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Boise City, Idaho	27.34	694.4	30.30	769.6	23	— 5.0	73	SE	1	0.4	.....	8cs	0	W	.....	0	0	Fair...	
Boston, Massachusetts	30.01	762.2	30.17	766.3	45	7.2	92	S	8	3.6	.....	0	8s	.....	Calm	0	0	Fair...	
Brackettville, Texas	28.92	734.6	29.98	761.5	55	12.8	28	W	7	3.1	.....	0	0	.....	.....	0	0	Clear.	
Breckenridge, Minnesota	29.06	738.1	30.16	766.1	7	—13.9	100	NW	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Brownsville, Texas	29.89	759.2	29.94	760.5	72	22.2	90	S	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Buffalo, New York	29.07	738.4	29.76	755.9	52	11.1	79	SE	6	2.7	.....	.....	10n;fog	.....	S;Calm	0.20	5.1	Light rain...	
Burkes, Arizona	.....	.....	.....	.....	33	0.6	61	Calm	.....	.....	0	5c	0	W	.....	0	0	Fair...	
Burlington, Vermont	29.72	754.9	30.02	762.5	43	6.1	83	S	18	8.0	.....	5c	0	W	.....	0	0	Fair...	
Cairo, Illinois	29.40	746.7	29.78	756.4	58	14.4	94	W	11	4.9	.....	.....	10s	.....	SW	0.02	0.5	Cloudy.....	
Campo, California	27.61	701.3	30.18	766.6	28	— 2.2	88	E	12	5.4	.....	.....	10s	.....	W	1.20	30.5	Cloudy.....	
Cape Hatteras, N. Carolina	30.23	767.8	30.23	767.8	61	16.1	94	E	9	4.0	.....	0	0	.....	.....	0	0	Clear.	
Cape Henry, Virginia	30.17	766.3	30.18	766.6	59	15.0	70	SE	8	3.6	.....	0	2s	.....	W	0	0	Fair...	
Cape Lookout, N. Carolina	30.19	766.8	30.20	767.1	61	16.1	94	S	15	6.7	.....	5cs	Haze	W	Calm	0	0	Fair...	
Cape May, New Jersey	30.11	764.8	30.14	765.5	55	12.8	81	S	23	10.3	.....	8ck	Haze	W	Calm	0	0	Cloudy.....	
Castroville, Texas	29.28	743.7	29.99	761.7	62	16.7	22	N	11	4.9	.....	.....	10s	.....	S	0	0	Cloudy.....	
Cedar Keys, Florida	30.14	765.5	30.16	766.1	63	17.2	89	SE	8	3.6	.....	5c	0	Calm	.....	0	0	Fair...	
Charleston, South Carolina	30.12	765.0	30.18	766.6	63	17.2	83	SW	4	1.8	.....	1c	0	SE	.....	0	0	Clear.	
Charlotte, North Carolina	29.24	742.7	30.05	763.3	60	15.6	94	S	13	5.8	.....	5ck	0	SW	.....	0.07	1.8	Fair...	
Chattanooga, Tennessee	29.11	739.4	29.89	759.2	62	16.7	88	S	15	6.7	.....	.....	10s	.....	S	0	0	Cloudy.....	
Cheyenne, Wyoming	23.94	608.1	29.88	758.9	22	— 5.6	58	W	10	4.5	.....	.....	10n	.....	S	0.42	10.7	Light rain...	
Chicago, Illinois	28.83	732.3	29.51	749.5	43	6.1	92	W	12	5.4	.....	0	0	.....	.....	0.01	0.3	Clear.	
Cincinnati, Ohio	29.02	737.1	29.65	753.1	61	16.1	82	S	14	6.3	.....	.....	10n	.....	.....	1.29	32.8	Heavy rain..	
Cleveland, Ohio	28.98	736.1	29.68	753.9	55	12.8	87	SE	12	5.4	.....	.....	10n	.....	S	0.36	9.1	Light rain...	
Coleman City, Texas	28.40	721.3	30.18	766.6	31	— 0.6	48	N	18	8.0	.....	.....	10s	.....	S	0	0	Threatening	
Columbus, Ohio	28.86	733.0	29.67	753.6	56	13.3	81	S	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Concho, Texas	28.25	717.5	29.99	761.7	37	2.8	71	NW	.....	.....	0	.....	10s	.....	S	0	0	Threatening	
Corsicana, Texas	29.64	752.8	30.12	765.0	44	6.7	68	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear.	
Davenport, Iowa	28.97	735.8	29.60	751.3	37	2.8	90	N	9	4.0	.....	0	0	.....	.....	0	0	Clear.	
Deadwood, Dakota	25.33	643.4	.....	.....	7	—13.9	77	Calm	0	0	.....	.....	10n	.....	Calm	0.96	24.4	Sleeting.....	
Decatur, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	.....	0	0	Clear.	
Denison, Texas	29.50	744.2	30.14	765.5	33	0.6	70	NW	10	4.5	.....	.....	.....	.....	.....	.....	.....	.....	
Denver, Colorado	24.74	628.4	29.96	761.0	16	— 8.9	83	S	7	3.1	.....	0	0	.....	.....	0	0	Clear.	
Des Moines, Iowa	29.03	727.3	29.95	760.7	27	— 2.8	88	N	10	4.5	.....	0	0	.....	.....	0.01	0.3	Clear.	
Detroit, Michigan	28.91	734.3	29.55	750.6	54	12.2	93	S	14	6.3	.....	.....	10s	.....	Calm	0.14	3.6	Cloudy.....	
Dodge City, Kansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10s	.....	S	0.18	4.6	Cloudy.....	
Dubuque, Iowa	29.06	738.1	29.77	756.1	33	0.6	89	NW	9	4.0	.....	.....	.....	.....	.....	.....	.....	.....	
Duluth, Minnesota	29.28	743.7	30.01	762.2	18	— 7.8	92	N	12	5.4	.....	.....	10n	.....	Calm	0.63	16.0	Light snow..	
Eagle Pass, Texas	29.36	745.7	30.09	764.3	59	15.0	37	NW	7	3.1	.....	.....	10n	.....	N	0.04	1.0	Light snow.	
Eastport, Maine	30.04	763.0	30.11	764.8	44	6.7	92	S	20	8.9	.....	0	0	.....	.....	0	0	Clear	
Edinburg, Texas	.....	.....	.....	.....	73	22.8	85	Calm	0	0	.....	.....	10ks	.....	SW	Inap.	Inap.	Threatening	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Fog	.....	.....	0	0	Foggy.....	
Erie, Pennsylvania	29.02	737.1	29.71	754.6	57	13.9	63	S	20	8.9	.....	.....	.....	.....	.....	.....	.....	.....	
Escanaba, Michigan	29.07	738.4	29.74	755.4	29	— 1.7	89	N	20	8.9	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Florence, Arizona	28.69	728.7	30.29	769.4	36	2.2	45	Calm	0	0	.....	.....	10n	.....	N	0.24	6.1	Light snow.	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	.....	0	0	Clear.	
Fort Buford, Dakota	28.06	712.7	30.06	763.5	12	—11.1	80	NW	4	1.8	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Custer, Montana	26.50	683.2	.....	.....	— 1	—18.3	68	S	3	1.3	.....	.....	10n	.....	Calm	Inap.	Inap.	Light snow.	
Fort Davis, Texas	25.28	642.1	30.24	768.1	47	8.3	34	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Fort Gibson, Indian Ter	29.54	750.3	30.10	764.5	34	1.1	61	NW	16	7.2	.....	0	0	.....	.....	0	0	Clear.	
Fort Grant, Arizona	25.31	642.9	30.11	764.8	31	— 0.6	30	N	3	1.3	.....	0	5s	.....	N	0.04	1.0	Fair...	
Fort Griffin, Texas	28.92	734.6	30.26	768.6	34	1.1	70	N	8	3.6	.....	0	0	.....	.....	0.06	1.5	Clear.	
Fort Keogh, Montana	27.54	699.5	.....	.....	6	—14.4	76	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Fort McKavett, Texas	27.89	708.4	29.90	759.4	35	1.7	80	N	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	.....	0	0	Clear.	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.94	735.1	30.12	765.0	31	— 0.6	58	NW	10	4.5	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Stevenson, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	.....	0	0	Clear.	
Fort Verde, Arizona	.....	.....	.....	.....	25	— 3.9	87	NW	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.28	718.3	29.86	758.4	45	7.2	61	N	12	5.4	.....	2c	0	Calm	.....	0	0	F ir...	
Galveston, Texas	29.97	761.2	30.01	762.2	72	22.2	90	SW	8	3.6	.....	0	5ks	.....	SW	0.45	11.4	Fair...	
Graham, Texas	29.06	738.1	30.18	766.6	31	— 0.6	89	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Grand Haven, Michigan	28.83	732.3	29.46	748.3	45	7.2	84	N	5	2.2	.....	.....	10s	.....	Calm	1.40	35.6	Cloudy.....	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.27	743.4	30.27	768.8	29	— 1.7	89	N	7	3.1	.....	0	0	.....	.....	0	0	Clear.	
Indianapolis, Indiana	28.78	731.0	29.53	750.0	55	12.8	93	SE	4	1.8	.....	.....	10s	.....	SW	0.87	22.1	Cloudy.....	
Indianola, Texas	30.00	762.0	30.03	762.7	71	21.7	95	W	7	3.1	.....	.....	10n	.....	W	Inap.	Inap.	Light rain...	
Jacksboro, Texas	29.08	738.6	30.27	768.8	35	1.7	70	N	15	6.7	.....	0	0	.....	.....	0	0	Clear.	
Jacksonville, Florida	30.14	765.5	30.17	766.3	66	18.9	84	SE	6	2.7	.....	Haze	5s	Calm	SE	0	0	Fair...	
Keokuk, Iowa	29.07	738.4	29.69	754.1	35	1.7	90	NW	18	8.0	.....	.....	10n	.....	NW	0.90	22.9	Light snow.	
Key West, Florida	30.10	764.5	30.13	765.3	72	22.2	80	E	7	3.1	.....	2k	0	E	.....	0	0	Fair...	
Kittyhawk, North Carolina	30.21	767.3	30.23	767.8	58	14.4	82	SW	13	5.8	.....	8ck	0	W	.....	0	0	Fair...	
Knoxville, Tennessee	28.91	734.3	29.90	759.4	51.5	10.8	97	E	4	1.8	.....	.....	10s	.....	SW	0.10	2.5	Threatening	
La Crosse, Wisconsin	29.04	737.6	29.80	756.9	20	— 1.1	78	N	7	3.1	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy.....	
La Mesilla, New Mexico	26.20	665.5	30.35	770.9	25	— 3.9	50	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Laredo, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Leavenworth, Kansas	29.09	738.9	29.97	761.2	28	— 2.2	88	NW	20	8.9	.....	.....	10s	.....	N	0.49	12.4	Cloudy.....	
Little Rock, Arkansas	29.61	752.1	29.97	761.2	52	11.1	79	W	10	4.5	.....	5cs	0	SW	.....	0.83	21.1	Fair...	
Los Angeles, California	29.83	757.7	30.19	766.8	44.0	6.7	56	N	5	2.2	.....	1c	0	Calm	.....	0	0	Clear.	
Louisville, Kentucky	29.21	741.9	29.75	755.6	57	13.9	87	SW	8	3.6	.....	.....	10n	.....	W	1.66	41.4	Light rain...	
Lynchburg, Virginia	29.40	746.7	30.08	764.0	50	10.0	93	SW	2	0.9	.....	.....	10n	.....	Calm	0.78	19.8	Light rain...	
Madison, Wisconsin	28.63	727.2	29.62	752.3	30	— 1.1	89	N	20	8.9	.....	.....	10n	.....	Calm	1.30	43.0	Light snow..	
Marquette, Michigan	29.10	739.1	29.82	757.4	28	— 2.2	100	N	12	5.4	.....	.....	10n	.....	Calm	0.15	3.8	Light snow..	
Mason, Texas	28.50	723.9	30.27	768.8	42	5.6	58	NW	13	5.8	.....	0	0	.....	.....	0	0	Clear.	
Memphis, Tennessee	29.50	749.3	29.84	757.9	61	16.1	88	W	8	3.6	.....	.....	10s	.....	W	0.55	14.0	Cloudy.....	
Milwaukee, Wisconsin	28.82	732.0	29.55	750.6	33	0.6	89	N	25	11.2	.....	.....	10n	.....	Calm	1.24	31.5	Sleeting.....	
Mobile, Alabama	29.97	761.2	30.02	762.5	66.5	19.2	100	S	11	4.9	.....	.....	10n	.....	SW	0.24	6.1	Light rain...	
Montgomery, Alabama	29.78	756.4	30.01	762.2	66	18.9	94	S	10	4.5	.....	.....	10ks	.....	SW	0.26	6.6	Threatening	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Morgantown, West Virginia	28.85	732.8	29.81	757.2	61	16.1	71	SW	8	3.6	.....	.....	10s	.....	SW	0.03	0.8	Cloudy.....	
Mt. Washington, N. H.	23.76	603.5	30.12	765.0	33	0.6	100	NW	54	24.1	.....	.....	Fog	.....	NW	0.08	2.0	Foggy	
Nashville, Tennessee	29.27	743.4	29.78	756.4	64	17.8	94	SW	8	3.6	.....	.....	10n	.....	Calm	0.45	11.4	Light rain...	
New Haven, Connecticut	30.03	762.7	30.15	765.8	49	9.4	93	S	3	1.3	.....	.....	Fog	.....	Calm	Inap.	Inap.	Foggy	
New London, Connecticut	30.14	765.5	30.19	766.8	46.5	8.1	89	SW	4	1.8	.....	4ck	Fog	S;W	Calm	0	0	Fair.....	
New Orleans, Louisiana	29.95	760.7	30.01	762.2	71	21.7	90	S	12	5.4	.....	.....	10s	.....	S	Inap.	Inap.	Threatening	
Newport, Rhode Island	30.15	765.8	30.20	767.1	50.5	10.3	90	S	12	5.4	.....	.....	10s	.....	W	0	0	Cloudy.....	
New York, New York	29.97	761.2	30.15	765.8	48	8.9	77	SE	2	0.9	.....	.....	Fog	.....	Calm	9	0	Foggy	
Norfolk, Virginia	30.12	765.0	30.18	766.6	58	14.4	82	S	10	4.5	.....	0	5s	.....	Calm	0	0	Fair.....	
North Platte, Nebraska	27.17	690.1	30.02	762.5	2	—16.7	86	NW	2	0.9	.....	0	0	.....	.....	0.08	2.0	Clear.	
Olympia, Washington Ter.	30.02	762.5	30.06	763.5	27.0	— 2.8	94	S	2	0.9	.....	8cs	0	W	.....	0	0	Fair.....	
Omaha, Nebraska	28.87	733.3	30.04	763.0	20	— 6.7	70	NW	12	5.4	.....	0	2s	.....	Calm	0	0	Clear.	
Oswego, New York	29.60	751.8	29.92	760.0	47	8.3	77	S	12	5.4	.....	.....	10n	.....	Calm	0.03	0.8	Light rain...	
Pembina, Dakota	29.24	742.7	30.16	766.1	— 2	—18.9	100	NW	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Pensacola, Florida	30.05	763.3	30.08	764.0	68	20.0	95	S	10	4.5	.....	2ck	4s	SW	SW	0.09	2.3	Fair	
Philadelphia, Pennsylvania	30.07	763.8	30.12	765.0	49	9.4	93	S	11	4.9	.....	.....	10s	.....	NW	Inap.	Inap.	Cloudy.....	
Phœnix, Arizona	28.90	734.0	30.80	782.3	36	2.2	71	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Pike's Peak, Colorado	17.44	443.0	29.65	753.1	— 7	—21.7	100	NW	64	28.6	.....	8cs	0	N	.....	0	0	Fair.....	
Pilot Point, Texas	29.40	746.7	30.24	768.1	34	1.1	61	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Pioche, Nevada	.....	.....	.....	.....	20	— 6.7	56	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Pittsburg, Pennsylvania	29.04	737.6	29.82	757.4	56	13.3	81	SE	6	2.7	.....	.....	10n	.....	SW	0.05	1.3	Light rain...	
Port Huron, Michigan	28.91	734.3	29.55	750.6	52	11.1	93	S	17	7.6	.....	.....	10s	.....	S	0.21	5.3	Cloudy.....	
Portland, Maine	30.07	763.8	30.12	765.0	42	5.6	91	SW	8	3.6	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy.....	
Portland, Oregon	30.07	763.8	30.15	765.8	27.5	— 2.5	94	Calm	0	0	.....	0	Fog	.....	SE	0	0	Clear.	
Portsmouth, N. Hampshire	.....	.....	.....	.....	62	16.7	88	SE	11	4.9	.....	8cs;k	0	Calm	.....	0	0	Fair	
Prescott, Arizona	24.88	631.9	30.24	768.1	22	— 5.6	86	NE	.....	.....	1	10cs	0	NW	.....	0	0	Cloudy.....	
Punta Rassa, Florida	30.14	765.5	30.16	766.1	68	20.0	79	E	8	3.6	.....	1ck	0	E	.....	0	0	Clear.	
Red Bluff, California	29.88	758.9	30.26	768.6	35	1.7	70	NW	8	3.6	.....	10c	0	S	.....	0	0	Cloudy.....	
Rio Grande City, Texas	29.78	756.4	29.99	761.7	66	18.9	95	Calm	0	0	.....	.....	Fog	.....	.....	0	0	Foggy	
Rochester, New York	29.24	742.7	29.84	757.9	50	10.0	86	S	6	2.7	.....	.....	10n	.....	Calm	0.02	0.5	Light rain...	
Roseburg, Oregon	29.58	751.3	30.18	766.6	26.5	— 3.1	94	Calm	0	0	.....	1k	0	Calm	.....	0	0	Clear	
Sacramento, California	30.14	765.5	30.23	767.8	35.5	1.9	75	N	4	1.8	.....	2c	5s	Calm	SW	0	0	Cloudy.....	
St. Louis, Missouri	29.18	741.1	29.76	755.9	44	6.7	92	W	25	11.2	.....	.....	10s	.....	W	0.49	12.4	Cloudy.....	
St. Paul, Minnesota	29.04	737.6	29.91	759.7	25	— 3.9	75	NW	12	5.4	.....	.....	10s	.....	NW	0.03	0.8	Cloudy.....	
Salt Lake City, Utah	25.80	655.3	30.13	765.3	24	— 4.4	48	NW	2	0.9	.....	4cs	0	Calm	.....	0	0	Fair.....	
San Antonio, Texas	29.33	745.0	29.91	759.7	64	17.8	89	N	8	3.6	.....	5c	0	N	.....	0	0	Fair.....	
San Diego, California	30.11	764.8	30.18	766.6	47	8.3	55	NE	5	2.2	.....	1c	0	Calm	.....	0	0	Clear.	
Sandusky, Ohio	28.97	735.8	29.61	752.1	58	14.4	82	S	21	9.4	.....	.....	10ks	.....	S	0	0	Cloudy.....	
Sandy Hook, New Jersey	30.12	765.0	30.15	765.8	51	10.6	86	S	2	0.9	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy.....	
San Francisco, California	30.12	765.0	30.18	766.6	48	8.9	67	NE	4	1.8	.....	5ck	0	Calm	.....	0	0	Fair.....	
Santa Fé, New Mexico	23.26	590.8	29.80	756.9	23	— 5.0	60	NE	10	4.5	.....	0	0	.....	.....	0.12	3.0	Clear.	
Savannah, Georgia	30.08	764.0	30.17	766.3	64	17.8	94	S	3	1.3	.....	2k	Sm'e	S	Calm	0.02	0.5	Fair.....	
Shreveport, Louisiana	29.78	756.4	30.00	762.0	56	13.3	57	NW	7	3.1	.....	0	5s	.....	Calm	0.01	0.3	Fair.....	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.18	766.6	30.22	767.6	63	17.2	83	S	12	5.4	.....	8k	1ks	SW	Calm	0	0	Cloudy	
Socorro, New Mexico	25.53	648.4	29.59	751.6	33	0.6	51	N	5	2.2	.....	0	0	.....	.....	0	0	Clear.	
Springfield, Illinois	29.02	737.1	29.69	754.1	42	5.6	87	W	16	7.2	.....	.....	10n	.....	W	1.06	26.9	Light rain...	
Springfield, Massachusetts	30.02	762.5	30.16	766.1	45	7.2	92	SW	2	0.9	.....	.....	Fog	.....	.....	Inap.	Inap.	Dense fog....	
Stockton, Texas	27.15	689.6	30.15	765.8	35	1.7	27	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Thatcher's Island, Mass.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Toledo, Ohio	28.90	734.0	29.55	750.6	55	12.8	93	SE	16	7.2	.....	.....	10n	.....	S	Inap.	Inap.	Light rain...	
Tucson, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Uvalde, Texas	29.84	757.9	30.36	771.1	27.0	— 2.8	88	W	3	1.3	.....	.....	10s	.....	.....	0	0	Cloudy..	
Vicksburg, Mississippi	29.22	742.2	30.04	763.0	59	15.0	4	N	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Virginia City, Montana	29.67	753.6	29.93	760.2	64	17.8	99	SW	4	1.8	.....	.....	10s	.....	SW	2.19	55.6	Cloudy.....	
Visalia, California	24.20	614.7	29.68	753.9	17	— 8.3	51	Calm	0	0	.....	Haze	Haze	Calm	Calm	0	0	Hazy.....	
Washington, D. C.	29.97	761.2	30.09	764.3	50	10.0	86	S	5	2.2	.....	10k	0	Calm	.....	0	0	Cloudy.....	
Wickenburg, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10s	.....	SW	0.01	0.3	Threatening	
Wilmington, North Carolina	30.11	764.8	30.18	766.6	30	— 1.1	68	NW	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Winnemucca, Nevada	25.76	654.3	30.12	765.0	65	18.3	73	S	6	2.7	.....	8ck	2s	S	S	0	0	Cloudy.....	
Wood's Holl, Massachusetts	30.17	766.3	30.21	767.3	16	— 8.9	83	NE	9	4.0	.....	1c	0	W	.....	0	0	Clear.	
Yankton, Dakota	30.17	766.3	30.21	767.3	50	10.0	86	SW	12	5.4	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Yuma, Arizona	28.81	731.8	30.24	768.1	8	—13.3	55	NW	7	3.1	.....	10k	0	W	.....	0.10	2.5	Cloudy.....	
Sub-Series.	30.07	763.8	30.24	768.1	41	5.0	65	N	2	0.9	.....	5cs	0	Calm	.....	0	0	Fair.	
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	30.03	762.7	30.08	764.0	73	22.8	81	Calm	0	0	.....	0	8ks	.....	SE	0	0	Fair.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.17	766.3	30.18	766.6	76	24.4	87	Calm	0	0	.....	.....	2cs	.....	.....	0	0	Fair.....	James Gall.
Medellin, Colombia, S. A.*	25.21	640.3	.....	.....	63.5	17.5	84	Calm	.....	.....	0	4c;cs	1ks	.....	.....	0.02	0.5	.....	Thomas Herran.
Navassa, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.89	759.2	29.89	759.2	85	29.4	72	SE	.....	.....	2	0	5k	.....	.....	1.330	33.78	Fair.....	C. J. Hering.
Santiago de Cuba, W. I.	29.99	761.7	30.02	762.5	73	22.8	76	N	8.4	3.8	.....	0	0	.....	.....	0	0	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	29.92	760.0	29.98	761.5	— 4.0	—20.0	82	W	10	4.5	.....	2c	7s	SW	NW	0	0	Cloudy.....	J. Fortescue & W. Wood.
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NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Medellin, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm. *The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.19‡	766.8‡	.....	.....	65	18.3	100	SW	9	4.0	.....	.....	5	.....	SW	0.79	20.1	.....	.....	Fair	
Navy Yard, Portsmouth, N.H	30.05‡	763.3‡	.....	.....	43	6.1	76	SSW	3	1.3	.....	.....	5	.....	.....	0	0	.....	.....	Pleasant	
Naval Hospital, Yokohama, Japan	30.17‡	766.3‡	.....	.....	46.5	8.1	73	NNE	.....	.....	3	.....	10s	.....	W	Slight	Slight	.....	.....	Cloudy	
Adams, Mare I'd., Navy Yard, Cal.	30.17‡	766.3‡	.....	.....	48	8.9	78	SE	.....	.....	2	.....	10	.....	SE	.....	.....	.....	.....	Cloudy	
Alaska, Iquique, Peru .....*	30.02‡	762.5‡	.....	.....	63	17.2	78	Calm	.....	.....	0	.....	8	.....	.....	.....	.....	.....	.....	Hazy	
Alliance, N. 22° 32′, W. 60° 32′	29.98‡	761.5‡	.....	.....	76	24.4	60	NE	.....	.....	5–6	.....	7	.....	NE	.....	.....	Mod'ate	NE	D. clouds	
Colorado, New York, N. Y.	30.15‡	765.8‡	.....	.....	46	7.8	62	Calm	0	0	.....	.....	10	.....	.....	0	0	.....	.....	Foggy	
Constitu ion, Hampton Roads, Va.	30.22‡	767.6‡	.....	.....	56	13.3	87	S	9	4.0	.....	.....	7	.....	S	.....	.....	.....	.....	Hazy	
Enterprise, N. 31° 39′, E. 30° 20′	30.09‡	764.3‡	.....	.....	70	21.1	57	S	.....	....	2	.....	1	.....	S	.....	.....	Smooth	.....	Clear	
Franklin, Off Navy Yard, Norfolk, Va.	30.21‡	767.3‡	.....	.....	60	15.6	76	SE	13.2	5.9	.....	.....	5	.....	SW	0	0	.....	.....	Fair	
Independence, Mare I'd, Navy Yard, Cal.	30.16‡	766.1‡	.....	.....	52	11.1	73	E	0.7	0.3	.....	.....	4?	.....	E	0	0	.....	.....	Cloudy?	
Kearsage, Savannah, Ga	30.15‡	765.8‡	.....	.....	66	18.9	84	S	.....	.....	1	.....	8	.....	S	.....	.....	Smooth	.....	Fair	
Lackawana, N. 34° 45′ W. 162° 00′..†	30.05‡	763.3‡	.....	.....	63	17.2	78	Calm	.....	.....	0	.....	10	.....	WSW	.....	.....	Long	NW	Cloudy	
Marion. Navy Yard, Brooklyn, N.Y.	30.18‡	766.6‡	.....	.....	49	9.4	85	Var.	.....	.....	0–1	.....	10	.....	Calm	.....	.....	Smooth	.....	Foggy	
Michigan, Erie, Pa.	29.72‡	754.9‡	.....	.....	54	12.2	.....	SSW	.....	.....	6	.....	10	.....	W	.....	.....	.....	.....	Cloudy	
Monocacy, Shanghai, China..	30.29‡	769.4‡	.....	.....	51	10.6	93	E	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Misty	
New Hampshire, Port Royal, S. C.	30.31‡	769.9‡	.....	.....	65	18.3	89	Calm	0	0	.....	.....	2	.....	Calm	0	0	.....	.....	Fair	
Onward, Callao, Peru .....†.	29.97‡	761.2‡	.....	.....	64	17.8	89	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Long	W	Misty	
Palos. Tientsin, China.	30.12‡	765.0‡	.....	.....	41	5.0	91	W	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Overcast	
Passaic, Washington, D. C.	30.11‡	764.8‡	.....	.....	52	11.1	93	SSW	.....	.....	3	.....	10	.....	.....	0.05	1.3	.....	.....	Cloudy	
Pensacola, Callao, Peru	29.93‡	760.2‡	.....	.....	64	17.8	89	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Smooth	.....	Hazy	
Powhatan, Navy Yard, Brooklyn, N.Y.	30.15‡	765.8‡	.....	.....	48	8.9	92	Calm	.....	.....	0	.....	.....	.....	.....	0	0	.....	.....	Foggy	
Quinnebaug, Genoa, Italy	29.75‡	755.6‡	.....	.....	45	7.2	61	NNE	.....	.....	6	.....	10	.....	N;E	.....	.....	.....	.....	Cloudy	
Ranger, N. 28° 30′, E. 177° 00′	28.53‡	724.6‡	.....	.....	63	17.2	94	WSW	.....	... ..	6	.....	10	.....	SW	.....	.....	Mod'ate	SW	Overcast	
Richmond, Shanghai, China	30.25‡	768.3‡	.....	.....	53	11.7	86	SE	.....	.....	1	.....	0	.....	.....	0	0	Smooth	.....	Pleasant	
Rio Bravo, Brownsville, Texas... †	30.09‡	764.3‡	.....	.....	69	20.6	100	Calm	0	0	.....	.....	5	.....	W	0.02	0.5	.....	.....	Foggy	
Santee. Annapolis, Md	30.13‡	765.3‡	.....	.....	50	10.0	93	SSW	.....	.....	2	.....	10	.....	Calm	0.01	0.3	.....	.....	Light rain	
Shenandoah, S. 20° 38′. W. 39° 01′	29.95	760.7‡	.....	.....	77	25.0	91	NNE	.....	.....	2	.....	10	.....	.....	.....	.....	Smooth	.....	Cloudy	
St. Louis, League Island, Pa.	30.15‡	765.8‡	.....	.....	48	8.9	92	S	7	3.1	.....	.....	10	.....	SW	0	0	.....	.....	Cloudy	
Trenton. Gibraltar, Mediterranean	29.60‡	751.8‡	.....	.....	61	16.1	94	SW	.....	.....	5	.....	10	.....	SW	0.07	1.8	Smooth	.....	Cloudy	
Tuscarora. N. 15° 43′, W. 96° 46′	29.89‡	759.2‡	.....	.....	75	23.9	95	WNW	.....	.....	2	.....	5	.....	Calm	0	0	Smooth	.....	Fair	
Vandalia. N. 31° 12′, W. 79° 03′	30.23‡	767.8‡	.....	.....	74	23.3	81	SE	.....	.....	5	.....	2	.....	SE	.....	.....	Mod'ate	SE	Clear	
Wabash, Boston, Mass.	30.11‡	764.8‡	.....	.....	43	6.1	75	S	8	3.6	.....	.....	8	.....	.....	0.01	0.3	.....	.....	Cloudy	
Wachusett, S. 3° —′, W 29° —′	29.94‡	760.5‡	.....	.....	80	26.7	91	SE	.....	.....	4	.....	5	.....	SE	.....	.....	Long	SE	Cloudy	
Wyoming, Tangier, Morocco	29.59‡	751.6‡	.....	.....	64	17.8	89	SSW	.....	.....	5–6	.....	8	.....	SW	.....	.....	Heavy	SW	Cloudy	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm. ‖ In centre of a cyclone.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		Character.	Direction from—		
CUNARD LINE MARINE SERIES.																			
Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S. S. Samaria																			Capt. T. Roberts.

NOTE—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitebury.
S. S. Costa Rica																			W. House & R. Lawless.
S. S. Dakota, Capt. H. G. Morse																			Capt. Connolly.
S. S. Georgia																			F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin																			Capt. A. Fuller.
S. S. Wilmington																			
S. S. Zealandia, Sydney, New South Wales.		30.00‡	762.0‡				W			3				NW				Fine	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The orginals give the barometer as read off; wind-force by the scale 0 to to 12; for the Brittanic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer Hong-Kong, China		30.09‡	764.3‡	65	18.3	94	NE			4		5		NE		Smooth		D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson																			J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Pfeiffer																			S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 50° 26′, W. 1° 35′		30.11‡	764.8‡				E			6		8		E		5	E	Cloudy	Capt G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness by the scale 0 to 4, do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'er 0—10.	Upper. From—	Lower. From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa.		30.19‡	766.8‡	48	8.9	92	SSE			1		9	SE	Light			Cloudy		Capt. R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from, sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents.																			
Belgenland, N. 48° 01′, W. 32° 40′		30.00‡	762.0‡	59	15.0		E	20	8.9			2		E	0	Smooth	E	Clear.	Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

Note.—The originals give the barometer as read off; do not distinguish between upper and lower clouds; sea-swell in general terms, as published. ‡Corrections for temperature, instrumental error and elevation applied at this office.

ALLAN LINE MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian, N. 48° 28′, W. 48° 13′		30.31‡	770.6‡	33	0.6		NW			5		8	WNW		Mod'ate	NW	Fair		J. Powell, 4th Officer.
S. S. Peruvian																			

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES—Miscellaneous.																			
Furnished by the co-operation of the Observers named.																			
Schooner Addie Fuller, N. 39° 36′, W. 74° 00′		30.17‡	766.3‡	54	12.2	87	SSW	6	2.7		10s		SW		0	Short			Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George" of Halifax																			N. B. Foss.
Schooner Harry and Fred																			Capt. George Gardner.
Haytian.																			
§ Iron Cross																			Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 29, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.08	763.9	64.9	18.3	90	W	.....	.....	1	.....	2	.....	.....	0.532	13.5	Fair	.....
Nemours	.....	.....	29.80	756.8	62.4	16.9	81	N	.....	.....	3	.....	10	.....	.....	0.087	2.2	Covered	Kesxuche.
Algiers	.....	.....	29.69	754.1	65.1	18.4	71	W	.....	.....	6	.....	0	.....	.....	Inap.	Inap.	Clear	Touriliere.
La Calle	.....	.....	29.67	753.6	73.9	23.3	65	WSW	.....	.....	2	.....	8	.....	.....	0.051	1.3	Very cloudy	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	29.80	757.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Herbin.
Tebessa	.....	.....	29.81	757.2	71.2	21.8	50	SSW	.....	.....	6	.....	8	.....	.....	0	0	Very cloudy	Watrin.
Geriville	.....	.....	.....	.....	59.9	15.5	47	NNW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Brugninax.
Laghouat	.....	.....	29.82	757.5	69.4	20.8	29	WNW	.....	.....	3	.....	2	.....	.....	0	0	Fair	Bertrand.
Biskra	.....	.....	29.75	755.7	68.7	20.4	54	N	.....	.....	2	.....	10	.....	.....	0.098	2.5	Covered	Chanvaux
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cracow, I. R. Observatory	29.28	743.7	29.86	758.5	26.6	—3.0	87	E	.....	.....	2	.....	4	.....	.....	0.055	1.4	.....	Prof. Ivan Stozir.
Eperies	29.02	737.2	29.83	757.6	28.8	—1.8	96	W	4.7	2.1	.....	.....	10	.....	.....	0	0	.....	Dr. Wierzbicki.
Gratz	28.92	734.5	29.85	758.3	21.9	—5.6	85	SE	.....	.....	2	.....	4cs;s	.....	N	.....	.....	.....	Julius Mikolik.
Hermannstadt	28.55	725.1	29.89	59.1	19.6	—6.9	76	S	.....	.....	2	.....	3	.....	.....	0	0	.....	Andreas Rospini.
Kremsmünster	28.40	721.4	29.92	759.9	23.9	—4.5	86	SE	.....	.....	2	.....	10	.....	.....	0.112	2.85	.....	Prof. A. Gottschling.
Lemberg	28.42	721.9	29.87	758.7	15.1	—9.4	94	Calm	.....	.....	0	.....	2	.....	.....	0	0	.....	Prof. C. Wagner.
Pola	28.71	729.2	29 73	755.2	32.0	0.0	98	NW	.....	.....	2	.....	9	.....	.....	0	0	.....	Dr. T. Stanecki.
Szathmar	29.60	751.7	29.71	754.6	42.4	5.8	55	NW	.....	.....	1	.....	6	.....	.....	0.287	7.3	.....	I.R.Hydrographic Office.
Szegedin	29.46	748.2	29.95	760.8	22.3	—5.4	87	SE	.....	.....	3	.....	10	.....	.....	0	0	.....	Pet. Pancsics, S. J.
Trieste	29.61	752.0	29.91	759.6	18.7	—7.4	.....	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	Karl Stancel.
Vienna	29.63	752.5	29.73	755.1	40.8	4.9	36	E	.....	.....	1	.....	0	.....	.....	Inap.	Inap.	.....	P. Busin.
.....	29.10	739.1	29.85	758.1	18.5	—7.2	92	ENE	.....	.....	1	.....	0	.....	.....	0	0	.....	I.R. Central Met. Ob'sy
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

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BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S,, Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.93	760.2	30.04	763.0	35.3	1.8		NW	15	6.7			4			0.500	12.70	Blue sky	W. Boswell.
Ardrossan	30.09	764.3	30.11	764.8	40	4.4		NNW			3		3					Blue sky	Wm.McNeil &G.Carrick.
Armagh, (Observatory)	29.93	760.2	30.18	766.6	39.4	4.1		NNE	5	2.2			7			Blank	Blank	D. clouds	S. Call.
Bidston (Liverpool Obs)			30.06	763.5	36.5	2.5		NNE	12	5.4			1					Blue sky	John Hartnup.
Bolton (Sharples)	29.48	748.8	30.01	762.2	36.0	2.2		NNE	6	2.7			3					D. clouds	Thomas Mackereth.
Bradford, Yorkshire	29.62	752.3	30.01	762.2	38.3	3.5		N			3		6			0	0	D. clouds	J McLandsborough.
Bridgetown, Barbadoes	29.84	757.9	29.87	758.7	81	27.2		NE			3		3					D. clouds	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	29.86	758.4	29.96	761.0	40.0	4.4		NW			1	c'	7					D. clouds	H. Todd.
Cardington			29.95	760.7	38.0	3.3		N			0–1		1					Blue sky	John McLaren.
Chatham (School M. E.)	29.81	757.2	29.95	760.7	38.1	3.4		NW			1		4					D. clouds	J. Carmell, Sapper, R.E.
Donaghadee	30.10	764.5	30.14	765.5	42	5.6		NNE			2		4					D. clouds	J. Mac Gowan.
Dover	29.85	758.2	29.88	758.9	41	5.0		N			3		3					Misty	J. Costello.
Falmouth (Observatory)	29.77	756.1	30.01	762.2	41.4	5.2		NNE			4		2					Misty	The Staff.
Fort Napier, Natal	27.50	698.5	29.72	754.9	73.5	23.1		E			1		8					Blue sky	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone																			
Galway (Queen's College)			30.14	765.5	40	4.4		N			1		7					D. clouds	Prof. A. H. Curtis.
Gibraltar, Mediterranean																			Sergt.Wm. Allen, A. H.
Glasgow, (Observatory)	29.90	759.4	30.11	764.8	37.3	2.9		NW			3		7					D. clouds	D. G. Maclean. [C.
Great Yarmouth	29.90	759.4	29.91	759.7	41	5.0		N			2		6					D. clouds	G. T. Watson.
Greenwich (Royal Obs'y)	29.78	756.4	29.96	761.0	36.7	2.6		N			1		9					D. clouds	The Staff, for G.B.Airy.
Guernsey	29.98	753.9	29.90	759.4	43.5	6.4		NE			4		8					D. clouds	Dr.S.E Hoskins, F.R.S.
Helston	30.25	768.3	30.27	768.8	44	6.7		NE			6	4k				0.7	18.	Fine	M. P. Moyle.
Holyhead	30.03	762.7	30.09	764.3	41	5.0		NNE			5		2					Blue sky	John Tilston.
Jersey	29.63	752.6	29.93	760.2	39.9	4.4		ENE			2		9			Blank	Blank	Gloomy	J. Fisher.
Kew (Observatory)	29.93	760.2	29.96	761.0	37.5	3.1		N	13	5.8			10					Misty	The Met'g'l Office.
Leicester (Museum)	29.72	754.9	29.99	761.7	38.1	3.4		N			2		10					Misty	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	29.61	752.1	29.69	754.1	70	21.1		SW			2		8cn					Overcast	A. King.
Nairn	30.02	762.5	30.12	765.0	34	1.1		NW			4		10					Overcast	W. D. Penny.
Nassau, Bahamas			30.10	764.5	73.0	22.8		E			1		4					D. clouds	C. S. Duncombe.
Nottingham (Observatory)	29.82	757.4	30.01	762.2	38.0	3.3		N			2	c	5k		N	0	0	D. clouds	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.47	748.5	30.01	762.2	37.0	2.8		N			2–3		1					Misty	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)			29.98	761.5	37	2.8		N			1		0					Blue sky	H. E. Bellamy.
Plymouth	29.91	759.7	29.99	761.7	40.8	4.9		N			2		8					D. clouds	John Merrifield.
Prince Town																			W. H. Tooker.
*Roche's Point	30.04	763.0	30.11	764.8	40	4.4		NE			5		8					¾ clouded	Wm. Kennedy.
St. Ann's Head	29.90	759.4	30.07	763.8	38	3.3		NE			1		2					Blue sky	John C. Walker.
Sandwick Manse, Orkneys			30.06	763.5	34	1.1		NNW	24	10.7			5					Snow-showers	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	29.76	755.9	29.83	757.7	46.2	7.9		NE			1		10					Drizzling	Serg't W. H. Lyne.
Sheffield	29.76	755 9	30.08	764.0	38.4	3.6		NNW			1		6			0	0	D. cloud-	W. F. Cooper.
Silloth Rectory	30.15	765 8	30.18	766.6	37.9	3.3	77	Calm			0		0			0	0	Blue sky	Francis Redford, A. M
Stonyhurst (Observatory)			30.01	762.2	34.9	1.6		NNW	8	3.6			9					Blue sky	Rev. S. J. Perry.
Stratfield, Turgiss	29.76	755.9	29.98	761.5	39.7	4.3		N			6–1		9					D. clouds	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	29.96	761.0	30.04	763.0	44	6.7		NE			4		4					D. clouds	W. Newcombe.
Valencia (Observatory)	30.14	765.5	30.17	766.3	42.3	5.7		NE	18	8.0			8					D. clouds	The Met'g'l Office.
Sub-Series.																			
Cape Town (C. G. H. Obs'y)	29.90	759.4	29.94	760.5	72.5	22.5	52	SE	9.1	4.1		0	2cs						The Staff, for D. Gill.
Colesberg Bridge, Cape Col.																			Robert Burnet.
Hobart Town, Tasmania			29.68	753.9	57.0	13.9	88	NE			1		8k			0	0	Heavy clouds	Francis Abbott, F.R.A.S.
Leith, (Restalrig Park)			30.11	764.8	36.9	2.7		NW			2		3k			0	0	Fine	Andrew Gibb.
Mauritias (Observatory)	29.83	757.7	30.02	762.5	80.0	26.7	58	E	15.5	6.9		2	1	W	E	0	0	Fine	C. Meldrum.
Melbourne (Observatory)	29.85	758.2	29.94	760.5	56.9	13.8	75	S	10	4.5			2			0.06	1.5	Very fine	R. L. J. Ellery.
Monach Lt-house, Hebrides			30.18	766.6	42	5.6		N			6	3	10			0	0		J. Youngclause.
North Unst, Shetland Is			29.92	760.0				N			7		7	NE		Blank	Blank		

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Colesberg Bridge, unknown.

British Marine Series, Vessels.																Sea or swell Height scale 0–9	Sea or swell Direction from—		
H. M. S. Alert, Monteith Bay, Patagonia			29.73‡	755.1‡	49	9.4		Calm			0		8					D. clouds	Capt.J.P. Maclear, R.N.
H. M. Sloop Gannet, S. 17° 02′, W. 7.° 02′			29.93‡	760.2‡	66	18.9		Calm			0		6					D. clouds	Commander E. Bourke, R. N.
H. M. S. Magpie, Shaweishan I'd., China			30.11‡	764.8‡	59	15.0		Calm			0		0					Misty	Capt. R. H. Napier, R.N.
Brig Alliance, N. 40° 35′, W. 41° 00′			30.03‡	762.7‡	52	11.1		NNW			6		8					Drizzling	Capt. W. Scott.
Barque Belle-Isle, N. 20° 00′, W. 73° 30′			30.02	762.5	84	28.9		ENE			5		3			5	NE	D. clouds	Capt. A. J. Brown
City of Cashmere, N. 38° 35′, W. 129° 50′			29.72‡	754.9‡	60.6	15.9		SSW			4		5					Showery	
S. S. Ethiopia, N. 52° 00′, W. 32° 05′			30.43	772.9	50	10.0		E			5		6			5	ENE	Showery	Capt. Campbell.
S. S. German, N. 44° 00′, W. 8° 45′			29.50‡	749.3‡	55	12.8		E			5		5					D. clouds	Capt. O. D. Coxwell.
S. S. Strathleven, Sydney, N. S. W.			29.81‡	757.2‡	65.5	18.6		NE			3		10					Overcast	Capt. C. W. Pearson.
S. S. Sunbeam, N. 42° 30′, W. 60° 00′			30.24	768.1	55	12.8		S			5		7			4	S	D. clouds	Capt. C. M. Dobson.
Light House Tender Richmond, N. 26° 30′, W. 78° 45′			30.15	765.8	76	24.4		NE			2		4					D. clouds	Capt. W. H. Stewart.
S. S. Gordon Castle																			
German Brig "W. von Freeden"																			Capt. H. V. Freeden.
S. S. Peruvian																			Capt. W. H. Smith.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. L'w'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
San José	26.21	665.7	29.93	760.2	60.8	16.0	84	SE			1	9s;d	8d	NE		0	0		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.61	752.1	29.66	753.3	28.8	—1.8	80	NNE			4		7						
Faröe	29.68	753.9	29.70	754.4	32.9	0.5	76	ENE			2		7						
Godthaab (Greenland)																			
Stykkisholm (Iceland)																			
Thorshavn (Faröe)	30.21	767.2	30.24	768.1	31.1	—0.5	61	N			5		6						
Vestervig	29.61	752 2	29.72	755.0	29.7	—1.3	86	ESE			2		9						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.34	745.1	29.89	759.1	38.3	3.5	57	N			1		2s			0	0	Slightly cld'y	Collignon, Director.
Amiens, Normal School	29.67	753.5	29.78	756.4	39.6	4.2	97	NE			1		2			0	0	Slightly cld'y	Vaillant, Director.
Arras, Engin'r School	29.61	752.1	29.88	758.9	38.8	3.8		NE			2		8			0	0		Klein, Commandant.
Avignon, Normal School	29.57	751.0	29.65	753.0	38.8	3.8	83	N			1		10			0.303	7.7	Raining	Giraud, Director.
Bar-sur-Seine	29.25	742.9	29.83	757.7	32.9	0.5	64	E			1	2c				0	0	Slightly cl'dy	C. Saillard, Director
Beauvais, Normal School	29.62	752.3	29.80	756.8	37.2	2.9	87	ENE			1		10			0	0	Covered	Frère Eugene Marie
Besançon, Normal School	28.85	732.7	29.77	756.2	33.1	0.6		E			1		5		E	0	0	Cloudy	A. Carré, Director.
Bourg-en-Bresse, N. School	28.89	733.7	29.77	756.1	30.6	—0.8	88	N			1	8c			NW	0	0	Very cloudy	Marlot, Director.
Bourges, Normal School	29.22	742.2	29.79	756.7	32.4	0.2	98	NNE			4		5cks		NNE	0	0	Cloudy	M. Gence, Director.
Brest, Naval Observatory	29.65	753.1	29.89	759.3	45.3	7.4	69	NE			3		5		NE	0	0		Ch. de Rermaree, Dir.
Caen, Normal School	29.89	759.2			38.1	3.4	87	NE			0–1		5		NE	0	0	Cloudy	M. Bietrin, Director.
Carcassonne, N. School	29.19	741.3	29.60	751.9	45.0	7.2	97	E			2		10	E	E	0	0	Covered	September, Director.
Châlons-sur-Marne, N. Sch'l	29.55	750.6	29.88	759.0	33.1	0.6	82	ENE			1		10					Covered	Jadot, Director.
Chartres, Normal School	29.26	743.2	29.85	758.2	31.1	—0.5	85	NE			1		10		NE	0	0	Covered	Vergier, Director.
Clermont-Fd, Puy de D. Obs	28.32	719.3	29.74	755.3	28.6	—1.9	90	N			1		10			0.039	1.0		Alluard, Director.
Commercy, Normal School	28.94	735.1	29.85	758.1	30.0	—1.1	89	NE			1		2k	NE	NE	0	0	Slightly cld'y	Dr. Coullet, Director.
Commune de Gréasque*	28.46	722.8	29.80	751.8	46.6	8.1	78	NE			1		10		E	0.276	7.0		L. Kina, Director.
Grenoble, Normal School	28.92	734.6	29.72	754.8	34.2	1.2	93	E			1		10			0.04	1.	Snowing	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	29.52	749.7	29.74	755.4	35.2	1.8	85	NE			3		10			0	0	Covered	Mouillot, Director.
Le Mans, Normal School	29.53	750.1	29.85	758.3	37.6	3.1	52	ENE			3		2		W	0	0	Slightly cld'y	Poirrier, Director.
Lons-Le-Saulnier, N. School	28.88	733.5	29.83	757.6	29.3	—1.5	77	NE			1	5c		W	W	0	0	Cloudy	A. Baudry, Director
Lorient, Naval Observatory	29.73	755.2	29.84	758.0	39.2	4.0	65	NE			6				NE	0	0		Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.12	739.6	29.77	756.1	29.5	—1.4	84	N			1		10			0	0	Covered	Ch. André, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.32	744.6	29.59	751.5	50.5	10.3	86	ENE			1		10		SE	0.114	2.90		E. Stephan, Director.
Mirecourt, Normal School	28.74	730.1	29.84	758.0	27.7	—2.4	83	NE			3	c		NE	NE	0	0		Barbier, Director.
Mont-Louis	24.43	620.5	29.74	755.5	39.6	4.2	88	SE	20.6	9.2			8			0.091	2.3		M. Cave.
Nice	29.58	751.2	29.61	752.0	53.2	11.8	74	E			2		10	SE	E	0.260	6.6	Covered	M. Boissière, Director.
Nismes, Normal School	29.42	747.2	29.63	752.6	39.6	4.2	80	N			1		10		W	0.31	8.	Covered	M. Boyer, Director.
Paris, Montsouris Obs'y	29.59	751.6			32.7	0.4	92	NE			2		10			0	0		Marié Davy, Director.
Perpignan	29.49	749.0	29.59	751.6	46.6	8.1	90	NE	3.8	1.7			10			0.551	14.0	Raining	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.08	560.9			30.4	—0.9		N			1		10		N	0.217	5.5	Snowing	Gen'l de Nansouty.
Pic du Midi (Summit) H. P.																			M. Baylac.
Privas, Normal School																			M. Tallieu
Puy de Dome (Summit) Obs	28.61	726.7	29.72	754.9	33.1	0.6	96	N			1	c		N	NW	0	0		
Rochefort, Naval Obs'y	24.73	628.2			32.0	0.0	98	E			1					0.126	3.2	Foggy	Alluard, Director.
Rouen, Normal School	29.65	753.1	29.68	753.9	32.0	0.0	80	NE			4		10	NE	NE	0	0	Covered	Lt E. Decante, Director
Saint Malo (Port) Obs'y	29.80	756.9	29.89	759.1	42.3	5.7	70	NE			1		5		NE	0	0	Cloudy	Frere Lucard, Director.
Saint Maur (near Paris)	29.84	757.9	29.87	758.6	43.3	6.3	65	ENE			3		2	ENE	ENE	0	0	Clear	Lt. Hercouet, Director
Tarbes, Normal School	29.71	754.7	29.88	758.9	33.3	0.7	88	NE			2				NNE	0	0	Solar halo	E. Renou, Director.
Toulouse, Observatory	28.45	722.5	29.52	749.8	39.2	4	90	SW			1		5	NNW	E	0	0	Cloudy	T. Huguet, Director.
Tours	28.92	734.5	29.63	752.6	45.7	7.6	93	SSE			1		10			0.307	7.8	Covered	M. Juher Mercadier.
Versailles, Observatory	29.58	751.3	29.78	756.3	37.0	2.8	58	NE			3		5		NNW	0	0	⅜ covered	Cousin-Marquet.
Villefranche-sur-Saone, N.S	29.37	746.0	29.86	758.5	31.6	—0.2	89	NE			2					0	0		Dr. A. Berigny, Director
	29.10	739.2	29.85	758.3	31.3	—0.4	99	N			1		8		S	0	0	Very cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.83	757.7	29.86	758.4	75.9	24.4										0	0		L'Abbé Marchési
Zi-Ka-Wei (near Shanghai	30.09	764 2	30.11	764.9	51.8	11.0	88	SE	0.9	0.4			1			0	0	Clear	Marc Dechevrens

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in gene al terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.95	735.4	29.79	756.7	26.6	— 3.0	89	E			2		10ks	E				Light snow.	Prof. Dr. Hoh.
Berlin	29.48	748.9	29.66	753.4	34.0	1.1	81	SW			2		10			0.020	0.5		Prof. Dr. Arndt.
Breslau	29.22	742.2	29.74	755.5	28.2	— 2.1	80	WSW			2		10			0.043	1.08		Royal University Obs'y.
Carlsruhe	29.40	746.7	29.84	758.0	27.7	— 2.4	84	NE			0		9	NE		0	0		Albert Senz.
Cassel	29.19	741.4	29.79	756.7	31.5	— 0.3	83	SSW			3		8	SW		0.013	0.32		Dr. H. Möhl.
Emden			29.74	755.4	34.9	1.6	86	WNW			2		0			0.110	2.8		Prof. Dr. Prestel.
Frankfort on the Main	29.55	750.6	29.93	760.1	28.8	— 1.8	80	S			1		7			0	0		Physical Society.
Friedrichshafen	28.36	720.3	29.89	759.2	18.0	— 7.8	83	NE			5		10			0	0	Hazy	Chief Telegrapher Wilhelm.
Hamburg	29.63	752.6	29.70	754.4	35.6	2.0	85	NW			2		5k			0.008	0.2	Hazy	Captain F. Hegemann.
Kiel	29.58	751.3	29.60	751.7	29.1	— 1.6	77	NW			2		4			0.004	0.09		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.41	747.0	29.49	749.1	33.4	0.8	81	NW			5		6			0.146	3.7	Snowing	Prof. E. Luther.
Köslin			29.59	751.5	32.9	0.5		Calm			0		4			0	0		H. Müller.
Leipsic Observatory	29.35	745.4	29.79	756.6	30.9	— 0.6	96	SSW			2		9	WNW		0.008	0.2		Prof. Dr. Bruhns, Privy Counselor
Magdeburg	29.51	749.6	29.74	755.3	34.5	1.4	85	S			3		10cs	S		0.020	0.5	Foggy	Dr. Assmann.
Memel	29.41	746.9	29.45	748.1	27.7	— 2.4	75	N			5		1k						Reinbrecht & Issermann
Munich (München)	27.95	709.9	29.80	756.8	12.0	—11.1	80	NW			1		10			0	0	Dense fog	Dr. C. Lang.
Neufahrwasser	29.56	750.9	29.58	751.3	30.9	— 0.6	81	WSW			3		7			0.079	2.0		A. Lothes.
Neustadt (Palatinate)	29.48	748.9	30.01	762.3	28.2	— 2.1							10			0	0		Reallehrer Dicknether.
Posen	29 37	746.0	29.67	753.6	32.7	0.4	90	W			1		10			0.031	0.8	Snowing	Prof. Dr. Magener.
Strassburg (in Alsace)	29.30	744.2	29.88	759.0	26.4	— 3.1	80	NE			2		7	ENE		0	0		Imp. University Observatory
Stuttgart	28.85	732.8	29.85	758.1	24.8	— 4.0	73	N			6			N		0	0		Prof. Dr. Schoder.
Weissenburg (Bavaria)	28.29	718.5	29.84	757.9	21.6	— 5.8	82	Calm	0	0			10		W	0	0	Foggy	Reallehrer J. Hopfner.
Wustrow	29.61	752.0	29.63	752.6	35.1	1.7	80	N			3		7k			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.43	747.4	29.82	757.3	63.3	17.4		SW			0.5		10					Covered	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	30.04	763.1	30.10	764.4	71.1	21.7	63	SW	14	6.3			9	W		0	0	D. clouds	
Deesa	29.59	751.5	30.07	763.9	71.9	22.2	27	NNE	5.3	2.4			0			0	0	Blue sky	
Bombay	29.95	760.6	29.98	761.6	75.1	23.9	60	NW	15	6.7			0			0	0	Blue sky	
Poona (Yerrowda)	28.11	713.9	29.99	761.7	73.8	23.2	11	E	3	1.3			0			0	0	Blue sky	
Belgaum	27.41	696.3	29.98	761.5	72.0	22.2	42	E	4	1.8			0			0	0	Blue sky	
Lahore	29.24	742.8	30.02	762.6	60.6	15.9	35	Calm	0.2	0.1			7			0	0	Cloudy	
Roorkee	29.11	739.3	30.05	763.3	58.8	14.9	48	Calm	1.2	0.5			6			0	0		
Agra	29.48	748.8	30.07	763.8	62.8	17.1	38	NW	3.1	1.4						0	0		
Nagpur	28.98	736.2	30.00	763.6	66.7	19.3	27	Calm	1.8	0.8						0	0	Blue sky	
Jubbulpore	28.66	728.0	30.10	764.6	57.8	14.3	31	NE	1.4	0.6						0	0	Blue sky	
Lucknow	29.67	753.6	30.07	763.7	60.3	15.7	42	Calm	0.7	0.3						0	0	Blue sky	
Allahabad	29.74	755.5	30.07	763.8	60.5	15.8	59	Calm	1.4	0.6			0			0	0	Blue sky	
Patna	29.86	758.4	30.04	763.1	70.1	21.2	46	W	0.9	0.4			0			0	0	Blue sky	
Hazaribagh	27.98	710.6	30.07	763.7	61.8	16.6	51	NNE	7.5	3.4			0			0	0	Blue sky	
Cuttack	29.92	760.0	30.00	762.1	69.4	20.8	59	NE	1	0.4			0			0	0	Blue sky	
Calcutta (Alipore)	29.96	761.0	29.98	761.5	69.7	20.9	91	NNE	4.0	1.8			0			0	0	Blue sky	
Goalpara	29.56	750.9	29.96	761.0	73.4	23.0	61	Calm	5.0	2.2			0			0	0	Blue sky	
Chittagong	29.84	758.0	29.94	760.4	71.8	22.1	85	Calm	2.0	0.9			0			0	0	Blue sky	
Sibsagar	29.65	753.0	30.00	761.9	67.0	19.4	78	SSW	2.0	0.9			1			0	0	Misty	
													0			0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversion are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,361 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	29.39	746.5	29.81	757.2	38.7	3.7	46	E	1.3	0.6	.....	.....	1	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.24	742.7	29.77	756.2	36.9	2.7	62	N	.....	.....	1	.....	8	SW	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.63	752.7	29.75	755.6	35.4	1.9	62	NE	1.8	0.8	.....	.....	5	W	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	28.82	731.9	29.74	755.4	40.5	4.7	68	NNW	1.3	0.6	.....	.....	10	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.47	748.6	29.67	753.6	41.5	5.3	51	NE	15.4	6.9	.....	.....	10	SW	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	27.77	705.4	29.73	755.2	34.2	1.2	81	NW	.....	.....	2	.....	9	.....	.....	0.047	1.2	.....	Prof. D. C. Bruno
Pesaro	29.67	753.7	29.72	754.9	38.3	3.5	88	WSW	6.3	2.8	.....	.....	10	.....	.....	0.516	13.1	.....	Prof. Luigi Guidi.
Florence	29.41	747.0	29.67	753.6	41.9	5.5	64	N	.....	.....	4	.....	10	.....	.....	0.500	12.7	.....	Cav. F. Meucci.
Leghorn	29.60	751.7	29.68	753.8	41.7	5.4	80	NE	13.7	6.1	.....	.....	10	.....	.....	0.039	1.0	.....	Prof. P. Monte.
Rome	29.43	747.5	29.61	752.0	48.2	9.0	99	N	4.9	2.2	.....	.....	10	.....	.....	0.276	7.0	.....	Prof. P. S. Ferrari.
Lecce	29.46	748.3	29.72	754.8	55.9	13.3	93	NNE	4.0	2.2	.....	.....	10	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	28.80	731.6	29.60	754.1	66.6	19.2	75	SE	0	0	.....	.....	5	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.35	745.4	29.54	750.3	69.6	20.9	55	SE	.....	.....	2	.....	8	W	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.41	747.0	29.66	753.4	66.6	19.2	60	ENE	6.9	3.1	.....	.....	6	.....	.....	0	0	.....	Prof. G. Ciacciatore.
Syracuse	29.64	752.8	29.71	754.7	62.8	17.1	85	SE	2.5	1.1	.....	.....	10	SSE	.....	0	0	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.52	739.6	29.63	752.7	61.7	16.5	80	SW	4.3	1.9	.....	.....	8	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.99	761.7	30.01	762.2	52.1	11.2	89	NNE	2.5	1.1	.....	ck	3ck	.....	.....	0	0	Clear.	K. Sasaki.
Nagasaki, I. M. Obs'y	29.88	758.9	30.00	762.3	51.2	10.7	76	NNW	0.6	0.3	.....	.....	0	.....	.....	0	0	Clear.	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.90	759.4	29.96	761.0	48.1	8.9	81	WNW	3.0	1.3	.....	8ck	.....	WSW	.....	0	0	Cloudy.. ..	The Staff.
Wakayama	29.93	760.2	29.99	761.7	48.4	9.1	83	E	2.4	1.1	.....	10ck	s	.....	W	0	0	Cloudy	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima																			R. Banda, C. E.
Guadalajara	25.15	638.9	30.36	771.1	42.8	6.0	55	W	.....	.....	1	.....	1	.....	.....	0	0	Clear.	Prof. L. Perez.
Leon	24.51	622.6	30.31	769.9	52.0	11.1	84	NW	.....	.....	1	0	0	.....	.....	0	0	Blue sky	Prof. M. Leal.
Mazatlan	29.76	755.9	30.02	762.6	64.9	18.3	89	NW	.....	.....	3	1s	0	.....	.....	0	0	Foggy	I. Guerrero, C. E.
Mexico, Central Observatory	23.18	588.7	30.32	770.2	47.7	8.7	84	NW	0.4	0.2	.....	2ck	4s	N	.....	0	0	Cloudy	The Staff.
Pabellon (Aguascalientes)					45.5	7.5	70	Calm	.....	.....	0	5c	0	SW	.....	0	0	½ covered	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.56	598.4	30.14	773.1	48.2	9.0	56	Calm	0	0	.....	0	0	.....	.....	0.28	7.0	Fine	Prof. P. Spina.
San Luis Potosi	24.30	617.1	30.39	772.0	50.2	10.1	52	SW	.....	.....	1	.....	10	.....	E	0	0	Covered	G. Barroeta, M. D.
Tlacotalpam	30.05	763.2	30.06	763.5	75.2	24.0	93	N	.....	.....	4	4	2	E	N	0.06	1.5	Threatening	Prof. M. M. Cházaro.
Vera-Cruz																			Prof. J. Rossell
Zacatecas	22.59	573.7	30.10	764.6	49.1	9.5	62	Calm	.....	.....	0	2c	0	Calm	.....	0	0	Clear.	J. C. Castrillon

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m., or 6,313.5 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column; the instrumental correction —0.88 mm., or —0.035 inch, has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing																			
Groningen	29.87	758.8	29.87	758.8	39.6	4.2	.....	N	.....	.....	2	.....	.....	.....	.....	0.055	1.4	.....	
Helder	29.74	755.3	29.79	756.7	35.8	2.1	.....	NW	.....	.....	.....	.....	.....	.....	.....	0.059	1.5	.....	
Hellevoetsluis	29.82	757.3	29.82	757.3	39.4	4.1	.....	NW	.....	.....	4	.....	.....	.....	.....	0.071	1.8	.....	
Utrecht	29.80	756.9	29.85	758.1	40.5	4.7	75	SW	.....	.....	2	.....	2	.....	.....	0.008	0.2	Sl'tly cloudy	H. v. d. Bruk

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour,	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.72	754.9	29.78	756.3	28.8	— 1.8	60	Calm	0	0			0			0	0		
Brönö	29.72	755.0	29.76	756.0	14.4	— 9.8	6	NE	9	4			2			0	0		
Christiana	29.60	751.9	29.76	755.8	23.9	— 4.5	70	ESE	0	0			10					Light snow.	
Tromsö	29.90	759.4	29.94	760.5	11.5	—11.4	61	SW	4	2			0			0.217	5.5		

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	29.84	758.0	29.64	752.9	55.0	12.8	76	NNW	3.1	1.4			3			0	0		Dr. J. A. Sampaio.
Campo Major	28.71	729.1	29.74	755.5	54.0	12.2	86	SSW	4.3	1.9			8			0	0		Dr. A. M. R. dos Santos.
Funchal (Maderia)	29.90	759.5	29.99	761.7	62.8	17.1	73	W	11.9	5.3			8			0	0		Capt. D. A. de Cunha.
Lisbon Observatory	29.31	744.4	29.67	753.6	58.1	14.5	60	W	22.4	10.0			6			0.126	3.2	Raining	The Staff.
Ponta Delgada (Azores)	29.97	761.1	30.04	762.9	60.8	16.0	61	Calm	0	0			4			0	0		

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 0 m., p. m.

Portuguese Naval Series. Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	
Bartholomew Dias			A. G. da Silva Costa, Com'd't.
D. Fernando			A. M. de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.			J. C. M. Cabrate, 1st Lt.
Mindello			J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos			H. de C. C. e Athayde.
Rio Duro			J. T. d'Oliveria, Com'd't
Rio Lima. Capt. S. C. da Silva Costa, Fogo, Cape Verd Islands.			
Sà da Bandeira			A. D. de Fonseca Saruento.
Sado, Capt. J. A de Brito Capello, St. Paul de Loando			Louiz Apra, Q. Ma.
Tejo, Capt. J. M. T. Guimaraes, Macao, China			H. Mecudonco, 2nd Lieut.
			J. G. Felgo, 2nd Lieut.

Fogo, Cape Verd Islands					81.5	27.5		NE			2		3		NE	0		D. clouds	
St. Paul de Loando			29.84	757.8	86.4	30.2		NW			2		3		NW			D. clouds.	
Macao, China			30.16	766.0	73.8	23.2		NE			2		0			0		Blue sky.	

Note.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between upper and lower clouds, and no humidity is given; duration of rain-fall in hours. The Sà da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	29.49	749.0	29.51	749.5	—10.5	—23.6	72	NNE	9	4			10						Capt. Sseliwerstow
Astrakhan	30.00	761.9	29.91	759.8	36.7	2.6	74	Calm	0	0			9ks						Capt. Wisganow.
Barnaul	29.81	757.1	30.39	771.9	—16.8	—27.1	83	NE	0	0			10					Light clouds	Meteorological Obs.
Dorpat	29.13	740.0	29.39	746.6	14.4	— 9.8	91	NNE	9	4			10n					Light snow.	Prof. Dr. Weihrauch.
Ekaterinburg	28.23	717.0	29.24	742.8	12.4	—10.9	60	SW	31	14			10						Meteorological Obs.
Irkutsk																			
Kasan	29.19	741.4	29.48	748.8	2.3	—16.5	94	WSW	9	4			9						Physical Cabinet.
Kertch																			Lagorio.
Kieff	29.01	736.8	29.68	753.8	24.8	— 4.0	87	WSW	9	4			3cks						Physical Cabinet.
Krotkowo*	29.12	739.7	29.63	752.5	15.3	— 9.3	72	W	0	0			9						Cand. Fatjanow.
Lugan	29.61	752.1	29.82	757.5	28.2	— 2.1	77	SSW	2	1			10						Meteorological Obs
Moscow	28.97	735.8	29.56	750.7	16.2	— 8.8	82	S	7.8	3.5			10s					Light snow.	Meteorological Obs.
Nertchinsk	27.31	693.6	29.73	755.2	14.0	—10.0	91	E	2	1			10			19mm	Rain		Meteorological Obs.
Nikolaiev	29.83	757.7	29.90	759.5	32.7	0.4	70	Calm	0	0			0						Kurdakof.
Nukuss	29.67	753.7	29.91	759.7	48.9	9.4	78	NNW	4	2			2ks						
Orenberg																			
Pekin (China)	29.70	754.4	29.84	758.0	37.2	2.9	68	Calm	0	0			0						Physical Observatory.
St. Petersburg	29.42	747.2	29.43	747.6	9.5	—12.5	92	NE	9	4			10n						Central Physical Obs.
Tashkend	28.47	723.1	30.06	763.5	50.7	10.4	77						0						Teich, A. M.
Tiflis	28.59	726.1	30.02	762.5	51.4	10.8	83	Calm	0	0			7ks						Physical Observatory.
Vladivostock																			
Warsaw	29.22	742.1	29.65	753.2	29.5	— 1.4	88	W	16	7			10ks						Astronomical Obs.
Wilna	28.98	736.1	29.41	747.0	30.7	— 0.7	87	WSW	11	5			10					Heavy clouds	Astronomical Obs.
Yenisiesk	30.44	773.1	30.79	782.0	—38.2	—39.0	74	Calm	0	0			0						Marks.

Note.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	29.45	748.0	29.56	750.7	56.8	13.8	68	ENE	0.2	0.11			10			0.165	4.19		Antonio Rave, Director
Bilbao, Met. Obs'y	29.60	751.7	29.65	753.2	50.0	10.0	97	SE	1.3	0.57			10			0.161	4.1	Raining	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.71	678.4			44.1	6.7	82	W	3.1	1.39		0	9			0.020	0.5	Almost cov'd	Domingo Martin y Perez.
Madrid, Royal Observatory	27.45	697.3	29.68	753.9	51.1	10.6	74	W	14.9	6.67		0	9			Inap.	Inap.	Almost cov'd	The Staff.
Murcia, Met. Obs'y	29.47	748.5	29.62	752.3	64.6	18.1	57	NW	5.2	2.33		2	3	SE		0	0	Cloudy	Olayo Diaz, Director.
Santiago, Met. Obs'y	28.67	728.3	29.56	750.8	54.9	12.7	69	SE	5.6	2.5			6			0.094	2.3	Cloudy	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	30.04	763.1	30.11	764.8	69.0	20 6	84	ESE	1.1	0.5		0	s			0	0	Clear.	Benito Vines S. J.
Manilla, Phillippine Islands	29.88	758.9	29.93	760.1	86.3	26.8	93	E	1.8	0.8		2cs	2s		E	0	0	Partlycloudy	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.73	755.1	29.83	757.6	62.8	17.1	69	WSW	12.9	5.8		0	9		W	0.240	6.1		Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.91	759.7	30.00	762.0	78.1	25.6	70	NE	12.8	5.75		5ck	3kn	NE	NE	0	0	Cloudy	Enrique Gadea, Chief Eng'r

Note.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rübenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.87	758.6	29.91	759.6	—13.7	—25.4		N			4		0					0	0		
Umea	29.84	757.9	29.89	759.2	1.8	—16.8	90	N			7		9					0	0		
Hernosand	29.78	756.3	29.83	757.6	10.4	—12.0	78	N			6		9					0.098	2.5		
Stockholm	29.46	748.3	29.64	752.8	18.0	— 7.8	83	NNE			4		10					0	0		
Wisby	29.46	748.2	29.52	749.7	27.0	— 2.8	96	NNE			7		10					0.051	1.3		
Sub-Series.																					
Upsala	29.78	751.4	29.67	753.6	17.1	— 8.3	82	N	13.0	5.8			10					0.252	0.64		Nils Ekholm.
Naval Series.																					
Corvette Saga																					Capt. M. von Krusenstierna.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.30	718.8	29.80	756.9	30.9	— 0.6	78	N			2		10			0	0			The Observatory.
Zurich	28.14	714.8	29.83	759.3	22.6	— 5.2	82	NE					10			0	0	Foggy		The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —8.0 mm.; Thermometer, —5.1 Cent.; Relative Humidity, 0 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople			29.82	757.3	46.0	7.8	91	N	7	3.0			10		N	0	0			The Observatory.
Fao, Persian Gulf																				
Valona			29.75	755.7	60.4	15.8		SW			1		10			0.669	17.	Covered		A. Bertrand.
Sub-Series.																				
Beirut, (Syria) Lee Obs'y	29.97	761.2	30.08	764.1	70.7	21.5	62	SE			1	4c				0	0	D. clouds		Prof. C. V. A. van Dyck

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B.																				Hon J. Ferguson.
Brockville, Ontario																				W. R. Bigg.
Chatham, N. B.	29.67	753.6	29.73	755.1	49.8	9.9	93	S	10	4.5			10n			0.27	6.9	Light rain		G. A. Blair.
Charlottetown, P. E. Island	29.90	759.4	29.94	760.5	42.5	5.8	96	S	18	8.0			10n			0.27	6.9	Cloudy		H. J. Cundall, C. E.
Cornwall, Ontario	29.49	749.0	29.69	754.1	26.9	— 2.8	98	NW			4		10s			0.14	3.6	Cloudy		James Smith, M. A.
Dalhousie, N. B.	29.45	748.0	29.62	752.3	40	4.4		E			4		10n			0.97	24.6	Raining		H. A. Johnson.
Father Point, Quebec	29.40	746.7	29.43	747.5	47.6	8.7	93	S	24	10.7			10n			0.36	9.1	Light rain		J. McWilliams.
Fredericton, N. B.	29.66	753.4	29.72	754.9	45.7	7.6	95	SE	14	6.3			10n			0.88	22.4	Rain & fog		Prof. Harrison.
Fort Garry, Manitoba	29.39	746.5	30.30	769.6	9.7	—12.4	85	S	6	2.7		5k	5n	SW		0	0	Cloudy		James Stewart.
Granton, Ontario	28.78	731.0	29.94	760.5	24	— 4.4		NW			2		10n			Inap.	Inap.	Light snow		James Grant.
Halifax, N. S.	29.88	758.9	30.01	762.2	50.0	10.0	87	S	18	8.0			10n			Inap.	Inap.	Cloudy		A. Allison.
Hamilton, Ontario	29.47	748.5	29.86	758.4	29.1	— 1.6	82	N			3	2ck	0	N		0.06	1.5	Fine		Geo. Dickson, B. A.
Heart's Content, N. F.																				E. Weedon.
Kingston, Ontario	29.41	747.0	29.76	755.9	28.7	— 1.8	77	W	17	7.6			10ks			0.19	4.8	Cloudy		S. Woods, M. A.
Little Glace Bay, N. S.	30.09	764.3	30.13	765.3	46.9	8.3	94	SW	6	2.7		7k	0	SW		0	0	Cloudy		C. H. Rigby.
Montreal, Quebec	29.40	746.7	29.60	751.8	33.9	1.1	80	N	28	12.5			10ks			0.02	0.5	Cloudy		C. H. McLeod, C. E.
Moose Factory, Ontario	30.06	763.5	30.10	764.5	4.9	—15.1	98	NW			5		10			0.10	2.5	Cloudy		J. R. Nr-son.
Norwood	29.04	737.6	29.77	756.1	24.1	— 4.4	86	NW			2		10s			Inap.	Inap.	Snowing		Rev. T. F. Fotheringham, M. A.
Parry Sound, Ontario																				Rev. R. Mosley.
Peterboro, Ontario	29.04	737.6	29.83	757.7	23.3	— 4.8	93	NW			3		10n			0	0	Overcast		J. F. Jeffers, M. A.
Port Dover, Ontario	29.21	741.9	29.93	760.2	28.0	— 2.2	88	W	12	5.4		10k	0	SW		0.07	1.8	Cloudy		H. Morgan.
Port Hastings, N. S.																				Peter Grant.
Port Stanley, Ontario	29.28	743.7	29.95	760.7	28.4	— 2.0	85	W	24	10.7			10n		NW	0.17	4.3	Cloudy		M. Payne.
Quebec, Quebec	29.23	742.4	29.55	750.6	42	5.6	96	W			1	0	2n			1.64	41.7	Fair		Capt. Ashe, R. N.
Rockliffe, Ontario	29.49	749.0	29.81	757.2	15.0	— 9.4	73	NW	10	4.5			10s		NW	0.50	12.7	Cloudy		W. H. McIntyre.
St. Andrews, N. B.																				Dr. Gove.
St. John, N. B.	29.61	752.1	29.78	756.4	47	8.3	100	S	21	9.4			10n			1.70	43.2	Heavy rain		G. Murdock, C. E.
Saugeen, Ontario	29.19	741.4	29.95	760.7	21.0	— 6.1	89	N	26	11.6			10s			0.23	5.8	Snowing		K. Stewart.
Stayner, Ontario																				R. J. Cole.
Stratford, Ontario	28.59	726.2	29.94	760.5	22.4	— 5.3	94	NW	20	8.9			10s			0.18	4.6	Light snow		C. J. MacGregor, M. A.
Sydney, C. B.	30.11	764.8	30.15	765.8	45.0	7.2	92	S	9	4.0		9cs	2ks	NW	SW	0.07	1.8	Overcast		T. C. Hill, C. E.
Toronto, Ontario	29.49	749.0	29.89	759.2	28.6	— 1.9	64	W	19	8.5			10ks		NW	0	0	Cloudy		Magnetic Observatory.
Windsor, N. S.	29.84	757.9	29.94	760.5	49.0	9.4	93	S	24	10.7			10n			0	0	Overcast		Prof. John E. Oram, M. A.
Woodstock, Ontario	28.85	732.8	29.97	761.2	25.5	— 3.6	91	W	23	10.3			10ks		W	0.40	10.2	Overcast		Prof. J. Montgomery.
Yarmouth, N. S.	29.80	756.9	29.86	758.4	50.4	10.2	93	S	24	10.7			10n					Raining		Lt. F. E. Wilmot, R. N.
Sub-Series.																				
St. Johns, Newfoundland	30.28	769.1	30.54	775.6	31.0	— 0.6	100	S				10k	10s			0.01	0.3	Cloudy		John Delany.
St. Pierre, N. F., l'Hopital Maritime			30.21	767.4	38.5	3.6		S			2									The Commandant.

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10, except Yarmouth and St. Johns on scale 0 to 20. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.**

UNITED STATES SERIES.

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer. U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.51	749.5	29.74	755.4	41	5.0	74	NW	14	6.3	.....	.....	10s	.....	NW	0.33	8.4	Cloudy	
Alpena, Michigan	29.35	745 5	30.04	763.0	17	— 8.3	83	NW	12	5.4	.....	.....	10n	.....	Calm	0.83	21.1	Light snow	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	28.98	736.1	30.17	766.3	41	5.0	65	NW	24	10.7	.....	0	1s	.....	Calm	1.06	26.9	Clear	
Atlantic City, New Jersey	29.79	756.7	29.81	757.2	50	10.0	72	NW	14	6.3	.....	10k	0	NW	.....	0.59	15.0	Cloudy	
Augusta, Georgia	29.92	760.0	30.12	765.0	54	12.2	67	NW	8	3.6	.....	0	0	.....	.....	0.99	25.1	Clear	
Baltimore, Maryland	29.85	758.2	29.90	759.4	48	8.9	56	NW	18	8.0	.....	0	2s	.....	Calm	0.29	7.4	Clear	
Barnegat, New Jersey	29.74	755.4	29.76	755.9	51	10.6	86	NW	14	6.3	.....	.....	10s	.....	W	0.53	13.5	Cloudy	
Bismarck, Dakota	28.32	719.3	30.17	766.3	12	—11.1	80	SE	8	3.6	.....	10cs	0	Calm	.....	Inap.	Inap.	Cloudy	
Boerne, Texas	28.92	734.6	30.33	770.4	36	2.2	61	N	.....	.....	1	0	0	.....	.....	0	0	Clear	
Boise City, Idaho	27.25	692.1	30.21	767.3	32	0.0	79	NW	.....	.....	1	.....	10s	.....	Calm	0	0	Cloudy	
Boston, Massachusetts	29.52	749.8	29.67	753.6	56	13.3	100	SW	8	3.6	.....	.....	10n	.....	S	0.51	13.0	Heavy rain	
Brackettville, Texas	29.21	741.9	30.34	770.6	34	1.1	70	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	29.27	743.4	30.39	771.9	4	—15.6	100	E	4	1.8	.....	2c	0	Calm	.....	0	0	Clear	
Brownsville, Texas	30.29	769.4	30.34	770.6	48	8.9	70	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Buffalo, New York	29.15	740.4	29.88	758.9	29	— 1.7	67	W	22	9.8	.....	.....	10s	.....	SW	0.13	3.3	Cloudy	
Burkes, Arizona	.....	.....	.....	.....	34	1.1	52	Calm	.....	.....	0	2c	2s	Calm	Calm	0	0	Fair	
Burlington, Vermont	29.35	745.5	29.63	752.6	43	6.1	67	NW	10	4.5	.....	.....	10ks	.....	SW	0.28	7.1	Cloudy	
Cairo, Illinois	30.05	763.3	30.47	773.9	33	0.6	70	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Campo, California	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Cape Hatteras, N. Carolina	30.02	762.5	30.02	762.5	62	16.7	94	W	13	5.8	.....	0	0	.....	.....	0	0	Clear	
Cape Henry, Virginia	29.84	757 9	29.86	758.4	64	17.8	73	SW	16	7.2	.....	0	8ks	.....	SW	0.02	0.5	Cloudy	
Cape Lookout, N. Carolina	29.94	760.5	29.95	760.7	62	16.7	88	W	18	8.0	.....	5cs	0	Calm	.....	0	0	Fair	
Cape May, New Jersey	29.80	756.9	29.83	757.7	50	10.0	86	NW	33	14.8	.....	.....	10s	.....	NW	0.46	11.7	Cloudy	
Castroville, Texas	29.62	752.3	30.38	771.6	36	2.2	61	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Cedar Keys, Florida	30.10	764.5	30.13	765.3	67	19.4	95	NW	8	3.6	.....	.....	10s	.....	W	0.03	0.8	Cloudy	
Charleston, South Carolina	30.01	762.2	30.07	763.8	62	16.7	88	W	4	1.8	.....	2c	2s	Calm	W	0	0	Fair	
Charlotte, North Carolina	29.18	741.1	29.99	761.7	51	10.6	59	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Chattanooga, Tennessee	29.46	748.3	30.30	769.6	40	4.4	65	NW	15	6.7	.....	5k	2ks	NW	NW	0.60	15.2	Fair	
Cheyenne, Wyoming	24.04	610.6	29.98	761.5	31	— 0.6	69	W	14	6.3	.....	.....	10s	.....	W	0	0	Cloudy	
Chicago, Illinois	29.52	749.8	30.26	768.6	25	— 3.9	75	NW	8	3.6	.....	.....	10s	.....	Calm	0.40	10.2	Cloudy	
Cincinnati, Ohio	29.57	751.1	30.25	768.3	37	2.8	63	NW	8	3.6	.....	.....	10n	.....	NW	0.40	10.2	Light snow	
Cleveland, Ohio	29.19	741.4	29.94	760.5	30	— 1.1	89	SW	22	9.8	.....	.....	10n	.....	NW	0.31	7.9	Light snow	
Coleman City, Texas	28.64	727.4	30.47	773.9	24	— 4.4	48	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Columbus, Ohio	29.27	743.4	30.15	765.8	33	0.6	79	W	16	7.2	.....	.....	10ks	.....	W	0	0	Cloudy	
Concho, Texas	28.50	723.9	30.34	770.6	22	— 5.6	86	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.98	761.5	30.49	774.4	33	0.6	70	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Davenport, Iowa	29.70	754.4	30.40	772.1	18	— 7.8	68	W	8	3.6	.....	0	0	.....	.....	0.18	4.6	Clear	
Deadwood, Dakota	25.27	641.8	.....	.....	17	— 8.3	57	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Denison, Texas	29.66	753.4	30.52	775.2	31	— 0.6	69	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Denver, Colorado	24.82	630.4	30.04	763.0	32	0.0	69	W	4	1.8	.....	.....	8s	.....	Calm	0	0	Cloudy	
Des Moines, Iowa	29.51	749.5	30.48	774.2	17	— 8.3	67	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Detroit, Michigan	29.34	745.2	30.04	763.0	28	— 2.2	77	NW	10	4.5	.....	0	5s	.....	Calm	0.14	3.6	Fair	
Dodge City, Kansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Dubuque, Iowa	29.60	751.8	30.36	771.1	18	— 2.2	53	NW	6	2.7	.....	0	1ks	.....	Calm	0.01	0.3	Clear	
Duluth, Minnesota	29.66	753.4	30.42	772.7	7	—13.9	77	N	12	5.4	.....	0	0	.....	.....	0.03	0.8	Clear	
Eagle Pass, Texas	29.59	751.6	30.38	771.6	47	8.3	68	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	29.64	752.8	29.71	754.6	49	9.4	100	S	24	10.7	.....	.....	10n;fog	.....	SW	0.82	20.8	Heavy rain	
Edinburg, Texas	.....	.....	.....	.....	60	15.6	60	N	.....	.....	4	0	0	.....	.....	0	0	Clear	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.20	741.7	29.94	760.5	34	1.1	70	NW	24	10.7	.....	.....	10n	.....	SW	0.13	3.3	Light snow	
Escanaba, Michigan	29.53	750.0	30.24	768.1	17	— 8.3	67	NW	16	7.2	.....	0	2s	.....	NW	0.13	3.3	Fair	
Florence, Arizona	28.66	728.0	30.26	768.6	35	1.7	70	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.90	708.6	29.84	757.9	18	— 7.8	84	SE	6	2.7	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Fort Custer, Montana	26.72	678.7	.....	.....	20	— 6.7	70	NE	2	0.9	.....	5c	0	W	.....	0	0	Fair	
Fort Davis, Texas	25.39	644.9	30.35	770.9	30	— 1.1	68	NW	1	0.4	.....	1c	0	Calm	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.92	760.0	30.01	774.9	28	— 2.2	66	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Grant, Arizona	25.35	643.9	30.15	765.8	39	3.9	31	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	29.12	739.6	30.51	774.9	26	— 3.3	64	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.22	691.4	.....	.....	23	— 5.0	72	SE	4	1.8	.....	.....	10s	.....	SW	0	0	Threatening	
Fort McKavett, Texas	28.07	713.0	30.15	765.8	26	— 3.3	63	N	1	0.4	.....	1c	0	Calm	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	29.19	741.4	30.39	771.9	28	— 2.2	54	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	28.27	718 0	.....	.....	12	—11.1	80	S	6	2.7	.....	.....	10s	.....	S	0	0	Cloudy	
Fort Verde, Arizona	.....	.....	.....	.....	26	— 3.3	88	NW	.....	.....	1	0	5s	.....	W	0	0	Fair	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.52	724.4	30.16	766.1	40	4.4	73	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Galveston, Texas	30.32	770.1	30.37	771.4	44	6.7	60	NE	18	8.0	.....	0	0	.....	.....	0.01	0.3	Clear	
Graham, Texas	29.34	745.2	30.50	774.7	21	— 6.1	57	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.48	748.8	30.16	766.1	26	— 3.3	75	N	20	8.9	.....	.....	10n	.....	Calm	0.35	8.9	Light snow	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.48	748.8	30.50	774.7	26	- 3.3	88	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Indianapolis, Indiana	29.41	747.0	30.24	768.1	31	— 0.6	69	W	8	3.6	.....	.....	10s	.....	W	0	0	Cloudy	
Indianola, Texas	30.36	771.1	30.39	771.9	43	6.1	43	N	28	12.5	.....	0	0	.....	.....	0	0	Clear	
Jacksboro, Texas	29.32	744.7	30.55	776.0	30	— 1.1	57	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.11	764.8	30.13	765.3	66	18.9	84	SW	2	0.9	.....	.....	10s	.....	SW	0	0	Cloudy	
Keokuk, Iowa	29.72	754.9	30.40	772.1	21	— 6.1	71	NW	10	4.5	.....	1c	0	Calm	.....	0.02	0.5	Clear	
Key West, Florida	30.07	763.8	30.11	764.8	71	21.7	85	E	.....	.....	.....	0	0	.....	.....	0	0	Clear	
Kittyhawk, North Carolina	29.90	759.4	29.92	760.0	61	16.1	88	SW	14	6.3	.....	0	0	.....	.....	0.15	3.8	Clear	
Knoxville, Tennessee	29.24	742.7	30.08	764.0	39.5	4.2	78	W	8	3.6	.....	.....	10ks	.....	NW	0.91	23.1	Cloudy	
La Crosse, Wisconsin	29.57	751.1	30.38	771.6	17	— 8.3	67	N	8	3.6	.....	10k	0	NW	.....	0	0	Cloudy	
La Mesilla, New Mexico	26.29	667.8	30.44	773.2	27	— 2.8	42	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Leavenworth, Kansas	29.56	750.8	30.48	774.2	24	— 4.4	74	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Little Rock, Arkansas	30.15	765.8	30.54	775.7	35	1.7	53	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Los Angeles, California	29.81	757.2	30.17	766 3	47.0	8.3	55	N	6	2.7	.....	2c	1s	Calm	Calm	0	0	Fair	
Louisville, Kentucky	29.71	754.6	30.30	769.6	36	2.2	61	W	7	3.1	.....	.....	10s	.....	W	0.31	7.9	Cloudy	
Lynchburg, Virginia	29.31	744.5	30.00	762.0	47	8.3	41	NW	8	3.6	.....	0	1ks	.....	NW	0.54	13.7	Clear	
Madison, Wisconsin	29.22	742.2	30.28	769.1	20	— 6.7	85	NW	18	8.0	.....	.....	10s	.....	NW	0.10	2.5	Cloudy	
Marquette, Michigan	29.47	748.5	30.23	767.8	18	— 7.8	84	NW	4	1.8	.....	.....	10s	.....	NW	0.32	8.1	Cloudy	
Mason, Texas	28.75	730.2	30.65	778.5	30	— 1.1	57	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	30.10	764.5	30.46	773.7	32	0.0	69	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Milwaukee, Wisconsin	29.47	748.5	30.25	768.3	22	— 5.6	86	NW	14	6.3	.....	.....	10s	.....	NW	0.11	2.8	Cloudy	
Mobile, Alabama	30.26	768.6	30.30	769.6	46	7.8	77	N	18	8.0	.....	2c	5s	W	N	1.33	33.8	Fair	
Montgomery, Alabama	30.06	763.5	30.30	769.6	43	6.1	75	NW	9	4.0	.....	0	2s	.....	Calm	0.82	20.8	Clear	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Morgantown, West Virginia	29.04	737.6	30.05	763.3	44	6.7	50	NW	14	6.3	.....	.....	10ks	.....	NW	0.33	8.4	Cloudy.....	
Mt. Washington, N. H.....	23.40	594.4	29.76	755.9	34	1.1	100	W	39	17.4	.....	.....	Fog	.....	W	2.00	50.8	Foggy	
Nashville, Tennessee.....	29.38	746.2	30.40	772.1	36	2.2	71	NW	5	2.2	.....	0	Sm'e	.....	Calm	0.71	18.0	Clear	
New Haven, Connecticut.....	29.54	750.3	29.65	753.1	56	13.3	87	SW	6	2.7	.....	.....	10ks	.....	SW	0.92	23.4	Threatening	
New London, Connecticut...	29.61	752.1	29.65	753.1	53	11.7	93	SW	3	1.3	.....	.....	10s;Fog	.....	SW	0.79	20.1	Cloudy.....	
New Orleans, Louisiana....	29.25	742.9	29.31	744.5	51	10.6	59	N	13	5.8	.....	1c	1s	Calm	Calm	1.03	26.2	Clear.....	
Newport, Rhode Island.....	29.64	752.8	29.69	754.1	53	11.7	100	SW	4	1.8	.....	.....	Fog	.....	.....	0.03	0.8	Misty.....	
New York, New York.....	29.54	750.3	29.72	754.9	53	11.7	79	W	16	7.2	.....	.....	10s	.....	Calm	0.85	21.6	Cloudy.....	
Norfolk, Virginia.....	29.84	757.9	29.90	759.4	60	15.6	65	NW	11	4.9	.....	0	5s	.....	W	Inap.	Inap.	Fair.....	
North Platte, Nebraska.....	27.22	691.4	30.04	763.0	9	—12.8	78	SE	5	2.2	.....	2c	0	Calm	....	0	0	Clear.....	
Olympia, Washington Ter...	29.72	754.9	29.76	755.9	40.0	4.4	91	Calm	0	0	.....	.....	10n	.....	Calm	0.04	1.0	Light rain...	
Omaha, Nebraska.....	29.21	741 9	30.41	772.4	18	- 7.8	84	N	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Oswego, New York.....	29.48	748.8	29.80	756.9	37	2.8	81	W	20	8.9	.....	.....	10n	.....	W	0.13	3.3	Light snow.	
Pembina, Dakota.....	29.35	745.5	30.26	768.6	8	—13.3	100	S	8	3.6	.....	.....	10s	.....	S	0	0	Cloudy.....	
Pensacola, Florida.....	30.25	768.3	30.28	769.1	49	9.4	78	N	12	5.4	.....	.....	10s	.....	N	0.82	20.8	Cloudy.....	
Philadelphia, Pennsylvania	29.74	755.4	29.80	756.9	49	9.4	85	NW	14	6.3	.....	.....	10n	.....	Calm	0.34	8.6	Light rain...	
Phœnix, Arizona.....	29.01	736.8	30.90	784.8	40	4.4	65	E	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Pike's Peak, Colorado.....	17.76	451.1	29.96	761.0	10	—12.2	58	NW	30	13.4	.....	8cs	0	NW	.....	0	0	Fair.....	
Pilot Point, Texas.....	29.71	754.6	30.80	782.3	34	1.1	69	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Pioche, Nevada.....	.....	.....	.....	.....	31	— 0.6	48	Calm	0	0	.....	5c	0	W	.....	0	0	Fair	
Pittsburg, Pennsylvania.....	29.17	740.9	30.01	762.2	33	0.6	89	NW	12	5.4	.....	.....	10s	.....	NW	0.26	6.6	Cloudy.....	
Port Huron, Michigan.....	29.29	744.0	29.98	761.5	27	— 2.8	88	NW	14	6.3	.....	.....	10ks	.....	NW	0.27	6.9	Cloudy.	
Portland, Maine.....	29.53	750.0	29.88	751.3	53	11.7	93	S	5	2.2	.....	.....	10s	.....	Calm	0.49	12.9	Cloudy.....	
Portland, Oregon.....	29.76	755.9	29.83	757.7	35.5	1.9	90	NW	8	3.6	.....	.....	10n	.....	Calm	0.25	6.3	Light rain..	
Portsmouth, N. Hampshire..	.....	.....	.....	.....	62	16.7	88	SW	14	6.3	.....	2cs	0	Calm	.. ..	0	0	Fair.....	
Prescott, Arizona.....	24.92	633.0	30.28	769.1	24	— 4.4	87	NE	.....	.....	1	1c	0	N	.....	0	0	Clear.	
Punta Rassa, Florida.....	30.11	764.8	30.13	765.3	66	18.9	89	NE	4	1.8	.....	2c	0	W	.....	0	0	Clear	
Red Bluff, California.....	29.81	757.2	30.18	766.6	44	6.7	92	NW	3	1.3	.....	.....	10n	.....	.....	0.25	6.3	Heavy rain..	
Rio Grande City, Texas.....	30.24	768.1	30.47	773.9	47	8.3	55	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Rochester, New York.....	29.21	741.9	29.84	757.9	33	0.6	89	W	20	8.9	.....	.....	10s	.....	W	Inap.	Inap.	Cloudy.....	
Roseburg, Oregon.....	29.26	743.2	29.84	757.9	40	4.4	100	W	1	0.4	.....	.....	10ks	.....	W	0.11	2.8	Cloudy.....	
Sacramento, California.....	30.08	764.0	30.15	765.8	45	7.2	92	E	4	1.8	.....	.....	10n	.....	Calm	0.06	1.5	Light rain..	
St. Louis, Missouri.....	29.82	757.4	30.44	773.2	26	- 3.3	63	NW	8	3.6	.....	0	0	.....	.....	Inap.	Inap.	Clear.	
St. Paul, Minnesota.....	29.47	748.5	30.38	771.6	17	— 8.3	67	NW	3	1.3	.....	8ck	0	NW	.....	Inap.	Inap.	Fair.....	
Salt Lake City, Utah.....	25.79	655.0	30.12	765.0	36	2.2	45	NW	2	0.9	.....	10k	0	W	.....	0	0	Cloudy.....	
San Antonio, Texas.....	29.70	754.4	30.32	770.1	40	4.4	56	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
San Diego, California.....	30.11	764.8	30.19	766.8	46	7.8	62	NE	7	3.1	.....	2c	0	Calm	.....	0	0	Fair ...	
Sandusky, Ohio.....	29.37	746.0	30.07	763.8	32	0.0	79	W	25	11.2	.....	.....	10s	.....	W	0	0	Cloudy.....	
Sandy Hook, New Jersey.....	29.71	754.6	29.74	755.4	51	10 6	79	NW	18	8.0	.....	.....	10s	.....	W	0.69	17.5	Cloudy.....	
San Francisco, California....	30.04	763.0	30.11	764.8	53	11.7	80	SE	9	4.0	.....	.....	10s	.....	SE	0.06	1.5	Cloudy.....	
Santa Fé, New Mexico.....	23.41	594.6	29.95	760.7	22	— 5.6	45	N	9	4.0	.....	0	0	.....	.....	0	0	Clear.	
Savannah, Georgia.....	30.02	762.5	30.11	764.8	63	17.2	89	W	3	1.3	.....	10c	Fog	W	Calm	0	0	Cloudy	
Shreveport, Louisiana.....	30.26	768.6	30.50	774.7	36	2.2	61	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Silver City, New Mexico.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina..	29.99	761.7	30.03	762.7	60	15.6	93	W	7	3.1	.....	1c	0	Calm	.....	0.21	5.3	Clear	
Socorro, New Mexico.....	25.64	651.2	29.70	754.4	27	— 2.8	53	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois.....	29.68	753.9	30.40	772.1	26	— 3.3	63	NW	12	5.4	.....	0	0	.....	.....	0.03	0.8	Clear	
Springfield, Massachusetts..	29.55	750.6	29.68	753.9	52	11.1	79	NW	8	3.6	.....	.....	10ks	.....	SW	0.85	21.6	Threatening	
Stockton, Texas.....	27.22	691.4	30.22	767.6	37	2.8	31	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Toledo, Ohio.....	29.38	746.2	30.09	764.3	33	0.6	79	W	6	2.7	.....	5k	2s	W	W	0.17	4.3	Clearing.....	
Tucson, Arizona.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon.....	29.52	749.8	30.03	762.7	28.0	— 2.2	88	N	3	1.3	.....	.....	10s	.....	Calm	0.07	1.8	Cloudy.....	
Uvalde, Texas.....	29.62	749.8	30.40	772.1	37	2.8	38	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi.....	30.16	766.1	30.44	773.2	37	2.8	81	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Virginia City, Montana.....	24.18	614.2	29.66	753.4	27	— 2.8	64	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Visalia, California.....	29.75	755.6	30.13	765.3	44	6.7	68	'	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Washington, D. C.....	29.79	756.7	29.90	759.4	47	8.3	48	NW	23	10.3	.....	1k	0	W	.....	0.28	7.1	Clear.	
Wickenburg, Arizona.....	.....	.....	.....	.....	33	0.6	70	NW	.....	.....	1	2c	0	Calm	.....	0	0	Fair.....	
Wilmington, North Carolina	29.91	759.7	29.99	761.7	63	17.2	78	W	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Winnemucca, Nevada.....	25.70	652.8	30.06	763.5	31	— 0.6	79	E	9	4.0	.....	.....	8s	.....	.....	0	0	Cloudy.	
Wood's Holl, Massachusetts	29.66	753.4	29.70	754.4	51	10.6	93	SW	12	5.4	.....	.....	10s; fog	.....	.....	0	0	Foggy.....	
Yankton, Dakota.....	29.05	737.9	30.50	774.7	6	—14.4	52	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Yuma, Arizona.....	30.04	763.0	30.21	767.3	44	6.7	52	NE	3	1.8	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Fayetteville, Arkansas.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Havana, Cuba, W. I.....	30.03	762.7	30.08	764.0	72	22.2	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I....	30.15	765.8	30.16	766.1	77	25.0	87	Calm	0	0	.....	8c	2cs	Calm	....	0	0	Cloudy.....	James Gall.
Medellin, Colombia, S. A..*	25.18	639.6	.....	.....	64.0	17.8	84	Calm	.....	.....	0	5k	2ks	.....	.....	0	0	.....	Thomas Herran.
Navassa, W. I.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.93	760.2	29.93	760.2	77	25.0	91	E	.....	.....	2	.....	8ks	.....	.....	0	0	Cloudy.....	C. J. Hering.
Santiago de Cuba, W. I.....	30.01	762.2	30.04	763.0	74	23.3	81	N	2.4	1.1	.....	0	2s	.....	NE	0	0	.....	Robert Mason.
St. Thomas, W. I.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellieh.
York Factory, B. A.....	29.81	757.2	29.86	758.4	— 5.0	—20.6	82	SW	8	3.6	.....	3ck	3s	SW	SW	0	0	Fair	J. Fortescue & W. Wood

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Medellin, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 m.m.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 m., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm. *The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.24‡	768.1‡	.....	.....	50	10.0	86	N	10	4.5	.....	.....	8	.....	SW	0	0	.....	.....	Fair.....	
Navy Yard, Portsmouth, N.H	29.48‡	748.8‡	.....	.....	52	11.1	93	S	2	0.9	.....	.....	10	.....	.....	0.1	3.	.....	.....	Rainy	
Naval Hospital, Yokohama, Japan.....	30.04‡	763.0‡	.....	.....	47.5	8.6	89	Calm	.....	.....	0	3ck	.....	SW	.....	0.02	0.5	.....	.....	Fair.....	
Adams, Mare I'd., Navy Yard, Cal.	30.15‡	765.8‡	.....	.....	54	12.2	87	SE	.....	.....	2	.....	10	.....	SE	.....	.....	.....	.....	Cloudy.....	
Alaska, Iquique, Peru .....*	29.99‡	761.7‡	.....	.....	64	17.8	73	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Blue sky.....	
Alliance. N. 23° 50′, W. 63° 05′.....	30.04‡	763.0‡	.....	.....	75	23.9	68	NE	.....	.....	5–6	.....	6	.....	NE	.....	.....	Mod'ate	NE	Squally.....	
Colorado, New York, N. Y.....	29.66‡	753.4‡	.....	.....	53	11.7	54	WSW	20	8.9	.....	.....	10	.....	SW	0	0	.....	.....	Squally.....	
Constitution, Hampton Roads, Va....	29.90‡	759.4‡	.....	.....	56	13.3	81	NW	9	4.0	.....	.....	2	.....	Calm	.....	.....	.....	.....	Clear	
Enterprise, N. 32° 03′, E. 34° 14′.....	30.09‡	764.3‡	.....	.....	72	22.2	76	NNE	.....	.....	3	.....	5	.....	NNE	.....	.....	Smooth	.....	Cloudy?.....	
Franklin, Off Navy Yard, Norfolk, Va.	29.87‡	758.7‡	.....	.....	60	15.6	65	NW	21.6	9.7	.....	.....	10	.....	NW	0	0	.....	.....	Cloudy.....	
Independence, Mare I'd, Navy Yard, Cal.	30.09‡	764.3‡	.....	.....	55	12.8	87	E	4.8	2.1	.....	.....	9	.....	E	0.013	0.33	.....	.....	Cloudy.....	
Kearsage, Savannah, Ga.....	30.11‡	764.8‡	.....	.....	65	18.3	89	W	.....	.....	3	.....	5	.....	.....	.....	.....	Smooth	.....	Fair.....	
Lackawana, N. 34° 30′ W. 160° 15′..†.	29.72‡	754.9‡	.....	.....	68	20.0	95	WSW	.....	.....	5–6	.....	10	.....	WSW	.....	.....	Long	WSW	Cloudy.....	
Marion, Navy Yard, Brooklyn, N.Y.	29.85‡	758.2‡	.....	.....	57	13.9	81	WNW	.....	.....	3	.....	10	.....	WNW	.....	.....	Smooth	.....	Drizzling	
Michigan, Erie, Pa.....	29.87‡	758.7‡	.....	.....	35	1.7	74	NW	.....	.....	7	.....	10	.....	.....	.....	.....	.....	.....	Overcast....	
Monocacy, Shanghai, China..	30.15‡	765.8‡	.....	.....	54	12.2	87	SE	.....	.....	0–1	.....	0	.....	.....	.....	.....	.....	.....	Fair..?.....	
New Hampshire, Port Royal, S. C.....	30.07‡	763.8‡	.....	.....	63	17.2	94	SW	7	3.1	.....	.....	7	.....	W	0	0	.....	.....	Cloudy.....	
Onward, Callao, Peru ....†.	29.95‡	760.7‡	.....	.....	64	17.8	89	N	.....	.....	1	.....	10	.....	.....	.....	.....	Long	W	Misty.....	
Palos. Tientsin, China.	29.82‡	757.4‡	.....	.....	44	6.7	68	W	.....	.....	0–1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Passaic, Washington, D. C.....	29.91‡	759.7‡	.....	.....	48	8.9	85	WNW	.....	.....	4	.....	5	.....	SE	0.26	6.6	.....	.....	Fair.....	
Pensacola, Callao, Peru	29.95‡	760.7‡	.....	.....	64	17.8	89	N	.....	.....	0–1	.....	10	.....	.....	.....	.....	Smooth	.....	Hazy.....	
Powhatan, Navy Yard, Brooklyn, N.Y.	30.28‡	769.1‡	.....	.....	55	12.8	68	W	.....	.....	4	.....	10	.....	W	0.75	19.1	.....	.....	Cloudy.....	
Quinnebaug, Genoa, Italy	29.66‡	753.4‡	.....	.....	44	6.7	68	NNE	.....	.....	5	.....	10	.....	NE	.....	.....	.....	.....	Cloudy.....	
Ranger, N. 28° 45′, E. 179° 45′.....	29.87‡	758.7‡	.....	.....	52	11.1	86	W	.....	.....	8	.....	10	.....	W	.....	.....	Heavy	WSW	Overcast....	
Richmond, Shanghai, China.....	30.13‡	765.3‡	.....	.....	56	13.3	87	SE	.....	.....	0–1	.....	0	.....	.....	0	0	Smooth	.....	Pleasant....	
Rio Bravo, Brownsville, Texas... †.	30.45‡	773.4‡	.....	.....	48	8.9	85	NNW	5	2.2	.....	.....	2	.....	Calm	0	0	.....	.....	Fair	
Santee. Annapolis, Md	29.90‡	759.4‡	.....	.....	49	9.4	63	NW	.....	.....	5	.....	8	.....	WSW	0	0	.....	.....	Cloudy.....	
Shenandoah, S. 21° 35′. W. 39° 45′.. .. .	29.90‡	759.4‡	.....	.....	77	25.0	95	NNE	.....	.....	2	.....	10	.....	.....	.....	.....	Smooth	.....	Cloudy.....	
St. Louis, League Island, Pa.....	29.82‡	757.4‡	.....	.....	47	8.3	85	NW	10	4.5	.....	.....	10	.....	.....	0.55	14.0	.....	.....	Raining	
Trenton. Gibraltar, Mediterranean	29.83‡	757.7‡	.....	.....	64	17.8	73	WNW	.....	.....	4	.....	8	.....	W	0.03	0.8	Mod'ate	SW	Cloudy.....	
Tuscarora, N. 15° 50′, W. 97° 07′.....	29.90‡	759.4‡	.....	.....	77	25.0	86	NNW	.....	.....	1	.....	2	.....	Calm	0	0	Smooth	.....	Fair.....	
Vandalia. N. 33° 58′, W. 75° 06′.... ..	30.10‡	764.5‡	.....	.....	70	21.1	95	W	.....	.....	5	.....	8	.....	SW	.....	.....	Rough	NE	Cloudy.....	
Wabash, Boston, Mass.....	29.67‡	753.6‡	.....	.....	57	13.9	87	S	6	2.7	.....	.....	10	.....	.....	0.03	0.8	.....	.....	Rainy	
Wachusett, S. 5° —′, W 30° —′.....	29.93‡	760.2‡	.....	.....	79	26.1	95	ESE	.....	.....	5	.....	5	.....	ESE	.....	.....	Mod'ate	ESE	Cloudy.....	
Wyoming, Cadiz, Spain.....	29.80‡	756.9‡	.....	.....	62	16.7	77	W	.....	.....	3	.....	8	.....	W	.....	.....	Smooth	W	Cloudy.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		Character.	Direction from—		
S. S. Samaria																		Capt. T. Roberts.	

NOTE—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																		Capt. Cobb.	
S. S. City of New York																		Capt. Seabury.	
S. S. City of Panama																		Capt. Berry.	
S. S. City of Peking																		Capt. Dearborn.	
S. S. City of Sydney																		L. B. Walls.	
S. S. City of Tokio, Capt. Maury																		Capt. R. Searle.	
S. S. Colima																		Capt. Whitebury.	
S. S. Costa Rica																		W. House & R. Lawless	
S. S. Dakota, Capt. H. G. Morse																		Capt. Connolly.	
S. S. Georgia																		F. W. Hart, 1st Officer.	
S. S. Granada, Capt. Austin																		Capt. A. Fuller.	
S. S. Wilmington																		R. C. Ghest, 1st Officer.	
S. S. Zealandia, Sydney, New South Wales		29.89‡	759.2‡				NE			3				N			Fine		

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																		Capt. J. W. Kennedy.	
S. S. Baltic																		Capt. H. Perry.	
S. S. Britannic																		Capt. B. Gleadell.	
S. S. Celtic																		Capt. C. W. Kennedy.	
S. S. Germanic																			

NOTE.—The orginals give the barometer as read off; wind-force by the scale 0 to to 12; for the Brittanic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer, Hong-Kong, China †.		30.05‡	763.3‡	69	20.6	90	Calm			0		2				Smooth		D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson																			J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																		Capt. H. Andressen.	
S. S. Berlin																		Capt. T. H. Lamke.	
S. S. Braunschweig																		Capt. C. Undutsch.	
S. S. Leipzig, Capt. F. Pfeiffer, N. 37° 06′, W. 74° 40′		29.84‡	757.9‡	61.0	16.1	97	SW			5		5		WSW	0	Long	SW	Fair	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 49° 36′, W. 8° 20′		29.98‡	761.5‡				E			6		8		E		5	E	Cloudy	Capt G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness by the scale 0 to 4, do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa		29.92‡	760.0‡	45	7.2	92	NW			4		8		W	Mod'ate			Cloudy	Capt. R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer
S. S. Pennsylvania																			Capt. Harris.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES. Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents.																			
Belgenland, N. 46° 44′, W. 39° 17′		29.96‡	761.0‡	59	15.0		ENE	30	13.4			2		ENE	1 h'r	Heavy	ENE; WSW	Clear	Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

Note.—The originals give the barometer as read off; do not distinguish between upper and lower clouds; sea-swell in general terms, as published. ‡Corrections for temperature, instrumental error and elevation applied at this office.

ALLAN LINE MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian, N. 49° 49′, W. 41° 34′		30 25‡	768.3‡	51	10.6		ENE			6		8		ENE	Cross		Var.	Fair	J. Powell, 4th Officer.
S. S. Peruvian																			

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES—Miscellaneous. Furnished by the co-operation of the Observers named.																			
Schooner Addie Fuller, Holmes' Hole, Vineyard Sound, Mass		29.72‡	754.9‡	52	11.1	100	W	3	1.2		10n				0.75 in or 19.1mm			Raining	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George" of Halifax																			N. B. Foss.
Schooner Harry and Fred																			Capt. George Gardner.
Haytian																			
§ Iron Cross																			Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

Note.—The originals give the barometer as read off; amount of cloudiness by vario is scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

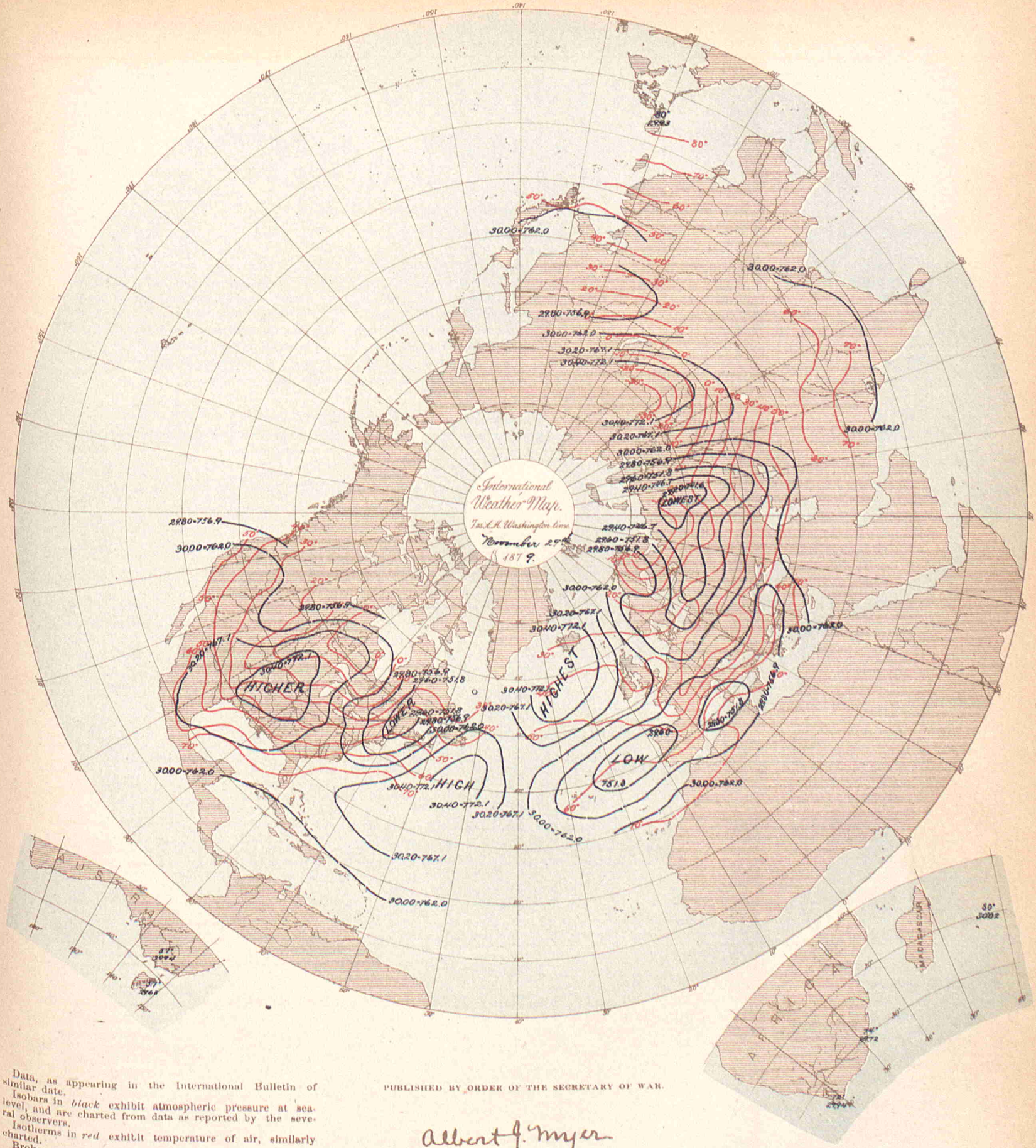
Collated at the Office of the CHIEF SIGNAL OFFICER OF THE ARMY, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg'd,) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 30, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.09	764.3	65.5	18.6	83	SW	.....	.....	1	.....	8	.....	.....	0.098	2.5	Very cloudy	
Nemours	.....	.....	29.86	758.5	65.5	18.6	77	N	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	Kesxuche.
Algiers	.....	.....	29.74	755.3	64.4	18.0	55	W	.....	.....	6	.....	5	.....	.....	Inap.	Inap.	Cloudy	Touriliere.
La Calle	.....	.....	29.65	753.1	65.8	18.8	61	W	.....	.....	3	.....	5	.....	.....	0.039	1.0	Cloudy	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.020	0.5	.....	Jacques.
Sfax	.....	.....	29.75	755.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Herbin.
Tebessa	.....	.....	29.73	755.1	62.1	16.7	38	NNW	.....	.....	2	.....	8	.....	.....	0	0	Very cloudy	Watrin.
Geriville	.....	.....	.....	.....	60.8	15.7	53	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Brugniaux.
Laghouat	.....	.....	29.78	756.4	63.3	17.4	44	W	.....	.....	3	.....	2	.....	.....	0	0	Fair	Bertrand.
Biskra	.....	.....	29.69	754.2	63.3	17.4	64	NW	.....	.....	3	.....	5	.....	.....	.....	.....	Cloudy	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—In the originals the amount of cloudiness is given by the scale 0-4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	28.99	736.3	29.58	751.2	19.0	— 7.2	46	NE	.....	.....	4	.....	10	.....	.....	0.460	12.2	Snowing	Prof. Ivan Stozir.
Cracow, I. R. Observatory	28.93	734.7	29.74	755.4	18.7	— 7.4	89	SE	0	0	.....	.....	10	.....	.....	0	0	.....	Dr. Wierzbicki.
Eperies	28.71	729.3	29.63	752.7	26.6	— 3.0	74	N	.....	.....	3	.....	10s	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.29	718.5	29.61	752.1	21.6	— 5.8	78	N	.....	.....	1	.....	10	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.06	712.6	29.54	750.2	27.3	— 2.6	94	SE	.....	.....	1	.....	10	.....	.....	0.094	2.40	.....	Prof. A. Gottschling.
Kremsmünster	28.24	717.4	29.69	754.1	13.3	—10.4	97	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	Prof. C. Wagner.
Lemberg	28.64	727.5	29.68	753.8	20.4	— 3.1	98	SE	.....	.....	1	.....	9	.....	.....	0.343	8.7	.....	Dr. T. Stanecki.
Pola	29.10	739.1	29.21	742.0	34.9	1.6	89	N	.....	.....	1	.....	10	.....	.....	0.433	11.0	.....	I.R.Hydrographic Office.
Szathmar	29.13	740.0	29.63	752.5	22.3	— 5.4	98	NE	.....	.....	2	.....	10	.....	.....	0	0	.....	Pet. Pancsics, S. J.
Szegedin	29.20	741.6	.....	.....	.....	.....	.....	N	.....	.....	3	.....	10	.....	.....	0.532	13.50	.....	Karl Stancel.
Trieste	29.17	740.9	29.27	743.5	29.3	— 1.5	90	ENE	.....	.....	6	.....	10	.....	.....	Inap.	Inap.	Snowing	P. Busin.
Vienna	28.93	734.8	29.65	753.1	19.0	— 7.2	95	N	.....	.....	1	.....	10	.....	.....	0.165	4.2	.....	I.R. Central Met. Ob'sy
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C., as Second-Class Matter

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	OBSERVER.
Aberdeen	29.78	756.4	29.89	759.2	31.2	— 0.4		NW	15	6.7			10			0.275	6.99	Snowing	W. Boswell.
Ardrossan																			Wm.McNeil&G.Carrick.
Armagh, (Observatory)	29.81	757.2	30.06	763.5	34.7	1.5		NW	5	2.2						Blank	Blank		S. Call.
Bidston (Liverpool Obs)			29.91	759.7	35.0	1.7		N	18	8.0			1					Blue sky	John Hartnup.
Bolton (Sharples)	29.32	744.7	29.84	757.9	32.2	0.1		WNW	18	8.0			0					Squally	Thomas Mackereth.
Bradford, Yorkshire																0	0		J McLandsborough.
Bridgetown, Barbadoes	29.89	759.2	29.92	760.0	80	26.7		N			2		3					D. clouds	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	29.70	754.4	29.79	756.7	35.6	1.7		NW			2		1					D. clouds	H. Todd.
Cardington			29.82	757.4	32.4	0.2		N			1		1					Blue sky	John McLaren.
Chatham (School M. E.)	29.67	753.6	29.80	756.9	34.2	1.2		N			1		2					Blue sky	J. Carmell, Sapper, R.E
Donaghadee	29.95	760.7	30.00	762.0	38	3.3		NNE			6		5					D. clouds	J. Mac Gowan.
Dover	29.70	754.4	29.73	755.1	33	0.6		N			5		5					Snowing	J. Costello.
Falmouth (Observatory)	29.76	755.9	30.00	762.0	38.1	3.4		NNE			2		10					Snowing	The Staff.
Fort Napier, Natal	27.40	696.0	29.62	752.3	74.7	23.7		NE			1		3					Blue sky	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone																			
Galway (Queen's College)			30.08	764.0	39.5	4.2		NNW			2		10					Overcast	Prof. A. H. Curtis.
Gibraltar, Mediterranean																			Sergt.Wm. Allen, A. H.
Glasgow, (Observatory)	29.72	754.9	29.93	760.2	33.6	0.9		NW			4		0					Blue sky	D. G. Maclean. [C.
Great Yarmouth	29.72	754.9	29.73	755.1	33	0.6		NW			3		10					Snowing	G. T. Watson.
Greenwich (Royal Obs'y)	29.63	752.6	29.81	757.2	33.1	0.6		NNW			2		7					D. clouds	The Staff, for G.B.Airy.
Guernsey	29.58	751.3	29.80	756.9	40	4.4		NNW			2		5					D. clouds	Dr.S.E Hoskins, F.R.S.
Helston	30.13	765.3	30.26	768.6	44	6.7		N			4	1c				0	0	Fine	M. P. Moyle.
Holyhead	29.86	758.4	29.93	760.2	39	3.9		N			6		5					D. clouds	John Tilston.
Jersey	29.64	752.8	29.95	760.7	33.0	0.6		N			3		9					Snowing	J. Fisher.
Kew (Observatory)	29.79	756.7	29.83	757.7	34.0	1.1		NNW	16	7.2			4					Misty	The Met'g'l Office.
Leicester (Museum)	29.57	751.1	29.84	757.9	33.5	0.8		NW			1		0					Blue sky	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	29.57	751.1	29.65	753.1	66.2	19.0		NE			2		6ks					Overcast	A. King.
Nairn	29.84	757.9	29 94	760.5	31	— 0.6		NNW			4		10					Overcast	W. D. Penny.
Nassau, Bahamas			30.10	764.5	74.5	23.6		NE			1		4					D. clouds	C. S. Duncombe.
Nottingham (Observatory)	29.64	752.8	29.84	757.9	33.7	0.9		NNW			3	1c		N		0	0	Blue sky	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.32	744.7	29.87	758.7	32.2	0.1		NW			6		0					Blue sky	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)			29.86	758.4	33	0.6		NNW			2		0					Blue sky	H. E. Bellamy.
Plymouth	29.88	758.9	29.95	760.7	38.3	3.5		N			2		5					D. clouds	John Merrifield.
Prince Town																			W. H. Tooker.
*Roche's Point	30.06	763.5	30.13	765.3	40	4.4		NNW			4		5					½ clouded	Wm. Kennedy.
St. Ann's Head																			John C. Walker.
Sandwick Manse, Orkneys			29.92	760.0	33.6	0.9		N	20	8.9			6					Snow-showers	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	29.55	750.6	29.62	752.3	64.4	18.0		SSE			2		9			Blank	Blank	D. clouds	Serg't W. H. Lane.
Sheffield	29.58	751.3	29.88	758.9	33.7	0.9		NW			3		2			0	0	Misty	W. F. Cooper.
Silloth Rectory	29.90	759.4	29.93	760.2	35.0	1.7	80	NW			3		0			0	0	Blue sky	Francis Redford, A. M.
Stonyhurst (Observatory)			29.84	757 9	32.3	0.2		NW	18	8.0			0					Misty	Rev. S. J. Perry.
Stratfield, Turgiss	29.63	752.6	29.85	758.2	34.0	1.1		N			2		0					Blue sky	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	29.94	760.5	30.02	762.5	43	6.1		N			6		10					Raining	W. Newcombe.
Valencia Observatory)	30.16	766.1	30.19	766.8	44 0	6.7		N	14	6.3			8			Blank	Blank	D. clouds	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	29.94	760.5	29.98	761.5	62.3	16.8	86	NNW	13.2	5.9		10	10s;n						The Staff, for D. Gill.
Colesberg Bridge, Cape Col.																			Robert Burnet.
Hobart Town, Tasmania			29.62	752.3	61.0	16.1	82	Calm			0		10kn			0.04	1.0	Raining	Francis Abbott, F.R.A.S.
Leith, (Restalrig Park)			29.93	760.2	34.1	1.2		NW			2	3ck		NE		0	0	Light clouds	Andrew Gibb.
Mauritius (Observatory)	29.82	757.4	30.01	762.2	79.9	26.6	65	ENE	18.5	8.3		0	6		ENE	0.06	1.5	Squally	C. Meldrum.
Melbourne (Observatory)	29.51	749.5	29.60	751.8	69.2	20.7	48	N	19	8.5			4			0	0	Boisterous	R. L. J. Ellery.
Monach Lt-house, Hebrides			30.06	763.5	39	3.9		N			6		10			0.1	2.		J. Youngclause.
North Unst, Shetland Is			29.84	757.9				NE			8	5	5	NE		Blank	Blank		

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Colesberg Bridge, unknown.

BRITISH MARINE SERIES. VESSELS.	Sea or swell (height scale 0–9)	Sea or swell (direction from—)	Weather.	OBSERVER.
H. M. S. Alert, Tom Bay, Patagonia			Showery	Capt.J.P. Maclear, R.N.
H. M. Sloop Gannet, S. 18° 32′, W. 70° 40′			Overcast	Commander E. Bourke, R. N.
H. M. S. Magpie, Shaweishan I'd., China			Misty	Capt. R. H. Napier, R.N.
Brig Alliance, N. 41° 40′, W. 39° 20′			Overcast	Capt. W. Scott.
Barque Belle-Isle, N. 22° 00′, W. 74° 20′	0		Blue sky	Capt. A. J. Brown
City of Cashmere, N. 35° 40′, W. 127° 30′			D. clouds	
S. S Ethiopia, N. 53° 50′, W. 26° 10′	3	E	D. clouds	Capt. Campbell.
Barque Fedalma, N. 7° 50′, W. 58° 00′	3	NNE	Raining	Capt. H. L. Fox.
S. S. German, N. 47° 20′, W. 6° 40′			D. clouds	Capt. O. D. Coxwell.
S. S. Strathleven, S. 38° 0′, E. 149° 20′			Overcast	Capt. C. W. Pearson.
S. S. Sunbeam, N. 42° 00′, W. 62° 15′	6	W	Squally	Capt. C. M. Dobson.
Light House Tender Richmond, Off Mosselle Bar Buoy, Bahama Is.	1		Blue sky	Capt. W. H. Stewart.
S. S. Gordon Castle, German Brig "W. von Freeden"				Capt. H. V. Freeden.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected and reduced to sea-level.
‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.23	666.2	29.95	760.7	62.6	17.0	82	SE			1	8c;ck; d		NE		0	0		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.75	755.6	29.80	756.8	23.0	—5.0	79	E			6		1						
Fanöe	29.74	755.4	29.76	755.9	23.5	—4.7	81	E			4		6						
Godthaab (Greenland)																			
Stykkisholm (Iceland)																			
Thorshavn (Faröe)	30.10	764.6	30.14	765.5	31.1	—0.5	83	NNE			3		5						
Vestervig	29.70	754.3	29.81	757.1	19.8	—6.8	84	E			4		2						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.33	744.9	29.88	758.9	37.4	3	50	N			1		5kn		N	0	0	Cloudy	Collignon, Director.
Amiens, Normal School	29.57	751.0	29.68	753.9	36.3	2.4	61	NW			1		8		SE	0	0	Very cloudy	Vaillant, Director.
Arras, Engin'r school	29.50	749.2	29.76	756.0	32.0	0.0	86	NW			4		k		NNW	0	0		Klein, Commandant.
Avignon, Normal School	29.41	747.0	29.49	749.0	35.4	1.9	67	N			7		0			0.322	8.2	Clear	Giraud, Director.
Bar-sur-Seine	29.18	741.2	29.75	755.6	32.0	0.0	84	NE			1		8kn		NNE	0	0	Very cloudy	C. Saillard, Director
Beauvais, Normal School	29.53	750.0	29.80	757.0	34.7	1.5	74	NNW			1		5		NW	0	0	Cloudy	Frère Eugene Marie
Besançon, Normal School	28.81	731.8	29.74	755.3	31.8	—0.1		NE			2		5		NE	0	0	Cloudy	A. Carré, Director.
Bourg-en-Bresse, N. School	28.86	733.0	29.77	756.1	30.6	—0.8	96	N			1	8c			NW	0	0	Very cloudy	Marlot, Director.
Bourges, Normal School	29.26	743.1	29.83	757.6	33.8	1	97	N			3		10kn		N	0	0	Covered	M. Gence, Director.
Brest, Naval Observatory	29.77	756.1	30.01	762.2	39.9	4.4	83	N			2		8		N			Snow-squalls	Ch. de Rermaree, Dir.
Caen, Normal School	29.85	758.2			37.9	3.3	63	NW			1-2		5		W	0	0	Cloudy	M. Bietrin, Director.
Carcassonne, N. School	29.30	744.1	29.72	755.0	38.3	3.5	81	WNW			7		10	WNW	WNW	0.28	7.	Covered	September, Director.
Châlons-sur-Marne, N. Sch'	29.45	748.1	29.79	756.6	32.0	0.0		Calm			0		10					Covered	Jadot, Director.
Chartres, Normal School	29.21	741.8	29.79	756.6	36.5	2.5	89	NE			1		9	SE	SE	0	0		Vergier, Director.
Clermont-Fd, Puy de D. Obs	28.35	720.1	29.76	756.0	30.2	—1.0	80	N			3		10			0	0		Alluard, Director.
Commercy, Normal School	28.85	732.8	29.74	755.4	31.1	—0.5	96	NW			1		5k	NW	NW	0	0	Cloudy	Dr. Coullet, Director.
Commune de Gréasque*	28.26	717.7	29.40	746.7	32.5	0.3	89	NW			4		8		NW	0.315	8.0		L. Kina, Director.
Grenoble, Normal School	28.85	732.9	29.66	753.3	34.9	1.6		NW			3		10					Snowing	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	29.72	754.8	29.94	760.4	39.2	4.0	80	NE			1		5		NNE	0	0	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.56	750.8	29.88	759.0	35.6	2	79	N			2		2	NNW	N	0	0	Slightlycld'y	Poirrier, Director.
Lons-Le-Saulnier, N. School	28.79	731.3	29.74	755.4	29.3	—1.5	75	N			1		5n	NE	NE	0	0	Cloudy	A. Baudry, Director
Lorient, Naval Observatory	29.89	759.1	30.00	761.9	41.7	5.4	74	NNW			3				N	0.008	0.2		Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.06	738.2	29.71	754.6	31.6	—0.2	85	N			1		10		N	0	0	Covered	Ch. André, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.16	740.7	29.43	747.6	36.1	2.3	64	NW			4		7		WNW	0	0		E. Stephan, Director.
Mirecourt, Normal School	28.66	727.9	29.75	755.6	30.4	—0.9	84	NE			1		n	NE	NE	0	0		Barbier, Director.
Mont-Louis	24.36	618.7	29.67	753.7	33.4	0.8	66	SW	22.4	10.0			8			0.224	5.7		M. Cave.
Nice	29.27	743.9	29.32	744.8	48.9	9.4	86	E			4		10	E	E	0.480	12.2	Light rain	M. Boissière, Director.
Nismes, Normal School	29.36	745.8	29.57	751.1	39.6	4.2	67	N			3		2		S	0.28	7.	Slightly cld'y	M. Boyer, Director.
Paris, Montsouris Obs'y	29.51	749.6			34.2	1.2	80	NW			1		10		NNW	0	0		Marié Davy, Director.
Perpignan	29.48	748.7	29.58	751.3	41.0	5.0	65	NW	28.0	12.5			7	W	WNW	0.020	0.5	Raining	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.04	559.9			16.0	—8.9		NW			1		10		NW	0.382	9.7	Snowing	Gen'l de Nansouty.
Pic du Midi (Summit) H. P.																			M. Baylac.
Privas, Normal School	28.53	724.6	29.64	752.8	30.9	—0.6		NW			3		n	N	N	0	0		M. Tallieu
Puy de Dome (Summit) Obs	24.72	627.9			14.5	—9.7	100	N			3					0.031	0.8	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	29.89	759.2	29.92	760.0	37.4	3.0	86	N			6		10	N	N	0	0	Covered	Lt E. Decante, Director
Rouen, Normal School	29.73	755.1	29.82	757.3	37.0	2.8	55	NW			1,		5		N	0	0	Cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.87	758.8	29.91	759.6	39.9	4.4	60	NNW			4		8	NNW	NNW	0	0	Very cloudy	Lt. Hercouet, Director
Saint Maur (near Paris)	29.63	752.6	29.80	756.8	34.3	1.3	77	NNW			1		10		NNW	0.071	1.8	Snowing	E. Renou, Director.
Tarbes, Normal School	28.64	727.5	29.72	754.8	35.6	2	93	SW			3		2	SSW	NW	Blank	Blank	Slightly cld'y	T. Huguet, Director.
Toulouse, Observatory	29.08	738.5	29.80	756.8	33.8	1.0	81	WNW			3		10			0.051	1.3	Covered	M. Juher Mercadier.
Tours	29.65	753.1	29.85	758.1	37.8	3.2	69	N			1		8		N	0	0	¾ covered	Cousin-Marquet.
Versailles, Observatory	29.29	743.9	29.78	756.4	35.2	1.8	79	N			1		0			0	0		Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	28.99	736.3	29.73	755.2	33.8	1	89	NW			1		2		E	0	0	Slightly cld'y	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.87	758.8	29.90	759.5	75.2	24										0	0		L'Abbé Marchésl
Zi-Ka-Wei (near Shanghai	30.07	763.7	30.10	764.4	56.5	12.6	85	NW	7.4	3.3		10c; hze			SW	0	0	Covered	Marc Dechevrens

NOTE.—The originals give the wind-force by th scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in gene al terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft., Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer, corrected for instrum'tal error and temperature. Inches.	Barometer, corrected for instrum'tal error and temperature. Millimeters.	Barometer, reduced to sea-level. Inches.	Barometer, reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centrigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.81	731.7	29.64	752.9	26.6	— 3.0	85	W			2		9ks	W				Light snow.	Prof. Dr. Hoh.
Berlin	29.51	749.6	29.69	754.1	29.5	— 1.4	78	NE			2		6			0	0		Prof. Dr. Arndt.
Breslau	29.18	741.2	29.71	754.5	26.6	— 3.0	87	ENE			2		10			0	0		Royal University Obs'y.
Carlsruhe	29.26	743.1	29.70	754.3	30.4	— 0.9	86	E			0		10	NE		0.020	0.5	Light snow.	Albert Senz.
Cassel	29.10	739.2	29.71	754.5	31.6	— 0.2	82	SSW			2		8	SW		0	0		Dr. H. Möhl.
Emden			29.67	753.5	28.6	— 1.9	100	SE			2		10			0	0		Prof. Dr. Prestel.
Frankfort on the Main	29.39	746.5	29.76	756.0	31.1	— 0.5	77	NW			0		2			Inap.	Inap.		Physical Society.
Friedrichshafen	28.19	716.1	29.70	754.4	23.0	— 5.0	71	NE			3		10	NE		0.075	1.9		Chief Telegrapher Wilhelm.
Hamburg	29.65	753.2	29.73	755.1	29.5	— 1.4	80	E			3		9ks			0	0	Cloudy	Captain F. Hegemann.
Kiel	29.73	755.2	29.75	755.6	23.0	— 5.0	82	ENE			1		10			0.017	0.43	Snowing	Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.65	753.1	29.74	755.3	17.8	— 7.9	82	NE			2		9			0.098	2.5	Snowing	Prof. E. Luther.
Köslin			29.74	755.3	14.4	— 9.8		Calm			0		1			1.020	25.9		H. Müller.
Leipsic Observatory	29.28	743.6	29.72	754.8	29.1	— 1.6	92	WNW			1		8	NW		0	0		Prof. Dr. Bruhns, Privy Counselor
Magdeburg	29.51	749.5	29.73	755.2	28.4	— 2.0	80	NE			3		10ks	NNE		0.016	0.4		Dr. Assmann.
Memel	29.75	755.7	29.80	756.9	11.7	—11.3	54	ENE			1–2		0						Reinbrecht & Issermann.
Munich (München)	27.77	705.4	29.61	752.0	17.4	— 8.1	75	W			1		10			0.012	0.3	Snow-fog	Dr. C. Lang.
Neufahrwasser	29.68	753.9	29.70	754.3	29.8	— 1.2	80	NNE			2		10			0.016	0.6		A. Lothes.
Neustadt (Palatinate)	29.15	740.3	29.67	753.5	33.1	0.6	96						8			0.063	1.6		Reallehrer Dicknether.
Posen	29.42	747.3	29.72	754.8	37.4	3.0	79	NW			1		1			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	29.16	740.7	29.74	755.3	29.3	— 1.5	82	NE			2		4	NE					Imp. University Observatory
Stuttgart	28.71	729.2	29.60	754.1	28.0	— 2.2	73	N					10			0.008	0.2		Prof. Dr. Schoder.
Weissenburg (Bavaria)	28.13	714.5	29.67	753.7	26.4	— 3.1	89	N	2	1			10		N	0	0	Foggy	Reallehrer J. Hopfner
Wustrow	29.76	755.8	29.78	756.4	36.0	2.2	79	E			2		5ks			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.31	744.5	29.70	754.4	64.9	18.3		SW			4.0		10					Covered	Dr. J. F. J. Schmidt

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.97	761.3	30.03	762.6	73.0	22.8	78	SW	18	8.0			2			0	0	D. clouds	
Deesa	29.54	750.4	30.03	762.7	73.2	22.9	23	WSW	6.4	2.9			1	E		0	0	D. clouds	
Bombay	29.91	759.8	29.95	760.8	75.6	24.2	71	NW	11	4.9			0			0	0	Blue sky	
Poona (Yerrowda)	28.09	713.4	29.96	760.8	76.3	24.6	12	NE	5	2.2			0			0	0	Blue sky	
Belgaum	27.38	695.5	29.94	760.5	72.6	22.6	59	Calm	0	0			0			0	0	Blue sky	
Lahore	29.24	742.8	30.03	762.8	56.6	13.7	33	Calm	0.4	0.2			0			0	0	Blue sky	
Roorkee	29.11	739.4	30.05	763.3	59.8	15.4	39	NW	0.8	0.4						0	0		
Agra	29.46	748.2	30.05	763.2	60.8	16.0	36	Calm	1.1	0.5						0	0		
Nagpur	28.95	735.3	30.02	762.4	71.4	21.9	30	Calm	1.9	0.9						0	0	Blue sky	
Jubbulpore	28.61	726.8	30.05	763.3	57.8	14.3	54	NE	1.4	0.6						0	0	Blue sky	
Lucknow	29.68	753.8	30.07	763.8	61.3	16.3	43	Calm	0.2	0.1						0	0	Blue sky	
Allahabad	29.72	755.0	30.05	763.3	59.2	15.1	57	Calm	1.2	0.5			0			0	0	Blue sky	
Patna	29.87	758.7	30.06	763.5	67.8	19.9	35	Calm	0.4	0.2			0			0	0	Blue sky	
Hazaribagh	27.96	710.3	30.05	763.2	62.8	17.1	43	NW	2	1.0			0			0	0	Blue sky	
Cuttack	29.93	760.3	30.02	762.4	67.9	19.9	74	NE	1	0.4			0			0	0	Blue sky	
Calcutta (Alipore)	29.98	761.4	30.00	762.0	67.1	19.5	77	NE	3.0	1.3			0			0	0	Blue sky	
Goalpara	29.80	751.8	30.00	762.0	71.1	21.7	64	ENE	2.8	1.2			0			0	0	Blue sky	
Chittagong	29.89	759.2	29.98	761.5	72.5	22.5	71	WNW	1.8	0.8			0			0	0		
Sibsagar	29.70	754.4	30.05	763.3	67.0	19.4	79	ENE	1.1	0.5			2			0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversion are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,026 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,361 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	Lo'er 0—10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER.
Udine	28.04	735.1	29.36	745.8	29.5	— 1.4	98	SE	7.4	3.3	.....	.....	10	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	28.85	732.7	29.37	746.1	34.3	1.3	85	W	.....	.....	1	.....	10	.....	.....	0.059	1.5	.....	Prof. Schiaparelli.
Padua	29.24	742.8	29.36	745.7	31.3	— 0.4	94	N	9.8	4.4	.....	.....	10	.....	.....	0.244	6.2	.....	Prof. Dott. Lorenzoni.
Moncalieri	28.45	722.7	29.38	746.3	30.0	3.9	82	SE	0.7	0.3	.....	.....	9	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.13	739.9	29.33	744.9	39.2	4.0	64	N	8.1	3.6	.....	.....	10	NE	.....	0.358	9.1	.....	Prof. G. M. Garibaldi.
Mondovi	27.43	696.7	29.39	746.4	34.2	1.2	83	E	.....	.....	2	.....	8	.....	.....	0.197	5.0	.....	Prof. D. C. Bruno
Pesaro	29.24	742.6	29.29	743.6	34.5	1.4	91	W	30.4	13.6	.....	.....	10	S	.....	0.969	24.6	.....	Prof. Luigi Guidi.
Florence	29.09	738.8	29.35	745.4	36.7	2.6	89	N	.....	.....	4	.....	10	N	.....	0.512	13.0	.....	Cav. F. Meucci.
Leghorn	29.21	742.0	29.30	744.2	43.5	6.4	95	E	1.8	0.8	.....	.....	10	.....	.....	1.322	33.6	.....	Prof. P. Monte.
Rome	29.21	741.9	29.39	746.4	52.2	11.2	94	SW	5.6	2.5	.....	.....	10	.....	.....	0.169	4.3	.....	Prof. P. S. Ferrari.
Lecce	29.19	741.4	29.45	747.9	64.2	17.9	51	W	36.7	16.4	.....	.....	3	SW	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	28.73	729.7	29.01	752.2	58.6	14.8	80	NW	3.1	1.4	.....	.....	10	.....	.....	0.587	14.9	.....	Prof. D. Conti.
Cagliari	29.28	743.6	29.47	748.5	62.3	11.3	70	NW	.....	.....	1	.....	10	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.34	745.1	29.59	757.5	65.1	18.4	47	WSW	11.9	5.3	.....	.....	10	WSW	.....	0	0	.....	Prof. G. Ciaccatore.
Syracuse	29.56	750.9	29.64	752.8	65.5	18.6	68	NW	7.4	3.3	.....	.....	8	WSW	.....	0.091	2.3	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	28.92	734.6	29.43	747.6	57.7	14.3	65	SW	22.4	10.0	.....	.....	10	.....	.....	0.169	4.3	.....	Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.94	760.5	29.95	760.7	53.1	11.7	89	SSW	0.6	0.3	.....	.....	10ks;ck	.....	W	0	0	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.80	756.9	30.00	762.0	62.4	16.9	72	W	7.9	3.5	.....	7c;ck	.....	.....	.....	0.030	0.76	Cloudy	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.91	759.7	29.98	761.5	45.9	7.7	91	S	4.9	2.2	.....	0	0	.....	.....	0	0	Clear	The Staff.
Wakayama	29.94	760.5	29.99	761.7	48.1	8.9	86	E	5.2	2.3	.....	7ck	.....	.....	W	0	0	Cloudy	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	25.15	638.8	30.31	769.9	46.4	8.0	60	SE	.....	.....	1	.....	0	.....	.....	0	0	Fine	Prof. L. Perez.
Leon	24.51	623.0	30.39	771.8	51.1	10.6	83	NW	.....	.....	1	0	0	.....	.....	Inap.	Inap.	Blue sky	Prof. M. Leal.
Mazatlan	29.77	756.1	30.03	762.8	63.0	17.2	86	W	.....	.....	2	0	0	.....	.....	0	0	Fine	I. Guerrero, C. E.
Mexico, Central Observatory	23.17	588.5	30.37	771.5	44.2	6.8	84	Calm	0	0	.....	9k	0	.....	.....	0	0	Cloudy	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	45.5	7.5	83	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.56	598.4	30.52	775.3	43.3	6.3	47	Calm	0	0	.....	0	0	.....	.....	0.03	0.8	Fine	Prof. P. Spina.
San Luis Potosi	24.22	615.1	30.31	769.8	49.3	9.6	62	E	.....	.....	1	.....	0	.....	SE	0	0	Covered	G. Barroeta, M. D.
Tlacotalpam	30.16	766.1	30.17	766.4	69.8	21.0	78	N	.....	.....	5	3	7	ESE	N	0.012	0.3	Threatening	Prof. M. M. Ohàzaro.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell
Zacatecas	22.61	574.2	30.31	769.9	48.2	9.0	60	Calm	.....	.....	0	0	0	.....	.....	0	0	Pleasant	J. C. Castrillon

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,708.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,490 m., or 8,169 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column; the instrumental correction —0.88 mm., or —0.035 inch, has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.68	753.9	29.68	753.9	34.5	1.4	.....	W	.....	.....	2	.....	.....	.....	.....	0.209	5.3	.....	
Groningen	29.61	752.1	29.67	753.5	29.5	— 1.4	.....	S	.....	.....	.....	.....	.....	.....	.....	0.063	1.6	.....	
Helder	29.63	752.5	29.63	752.5	31.6	— 0.2	.....	SSE	.....	.....	2	.....	.....	.....	.....	0.315	8.0	.....	
Hellevoetsluis	29.68	753.9	29.68	753.9	35.2	1.8	94	SW	.....	.....	1	.....	.....	.....	.....	0	0	.....	
Utrecht	29.63	752.5	29.67	753.7	35.1	1.7	89	WSW	.....	.....	1	.....	10	.....	.....	0.087	2.2	Dull	H. v. d. Brink

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.73	755.2	29.79	756.6	24.8	— 4.0	77	Calm	0	0	.....	.....	1	.....	.....	0	0	.....	
Brönö	30.03	762.7	30.07	763.7	17.8	— 7.9	68	Calm	0?	0?	.....	.....	6	.....	.....	0	0	.....	
Christiana	29.84	757.8	29.99	761.7	13.1	—10.5	83	NE	9	4	.....	.....	10	.....	.....	0.039	1.0	Snowing	
Tromsö	29.94	760.4	29.98	761.5	21.9	— 5.6	75	NNE	13	6	.....	.....	7	.....	.....	0.120	3.3	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	29.69	754.0	29.88	758.9	58.3	14.6	70	E	19.9	8.9	.....	.....	8	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	28 .61	726.8	29.66	753.3	52.2	11.2	95	SSW	6.3	2.8	.....	.....	10	.....	.....	0.469	11.9	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	29. 98	761.6	30.07	763.8	65.3	18.5	60	S	1.8	0.8	.....	.....	10	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29. 36	745.7	29.72	754.9	57.4	14.1	69	N	27.3	12.2	.....	.....	3	.....	.....	0.189	4.8	.....	The Staff.
Ponta Delgada (Azores)	30.00	762.1	30.08	763.9	60.1	15.6	59	ESE	13.0	5.8	.....	.....	10	.....	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.																Sea or swell. Height scale 0-9	Sea or swell. Direction form—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't
Rio Lima, Capt. S. C. da Silva Costa. Fogo, Cape Verd Islands.	.....	.....	.....	.....	81.0	27.2	.....	N	.....	.....	1	.....	2	.....	N	1	N	D. clouds	A. D. de Fonseca Sarurento
Sà da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Louiz Apra, Q. Ma.
Sado, Capt. J. A de Brito Capello, St. Paul de Loando	.....	.....	29.80	756.8	83.7	28.7	.....	W	.....	.....	5	.....	6	.....	W	.....	.....	D. clouds.....	H. Mecudoneo, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	.....	.....	30.17	766.2	74.1	23.4	.....	NE	.....	.....	2	.....	0	.....	.....	0	.....	Blue sky.....	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between upper and lower clouds, and no humidity is given; duration of rain-fall in hours. The Sà da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	29.65	753.0	29.67	753.5	—13.7	—25.4	80	Calm	0	0	.....	.....	2cs	.....	.....	.....	.....	.....	Capt. Sseliwerstow
Astrakhan	30.08	763.9	29.99	761.8	34.7	1.5	94	E	2	1	.....	10cp	.....	.....	.....	Bl'nk	Bl'nk	Heavy clouds....	Capt. Wisganow.
Barnaul	29.35	745.4	29.88	759.0	15.3	— 9.3	96	SW	4	2	.....	.....	9	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	29.54	750.3	29.80	757.0	10.9	—11.7	75	W	7	3	.....	6ck	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Ekaterinburg	28.64	727.6	29.69	754.0	6.4	—14.2	87	WSW	9	4	.....	.....	6	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Kasan	29.28	743.7	29.57	751.0	17.1	— 8.3	83	SSW	7	3	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.09	738.8	29.76	755.8	21.7	— 5.7	98	WNW	2	1	.....	ck	7cks,cs	.....	.....	.....	.....	Light clouds	Physical Cabinet.
Krotkowo*	29.22	742.1	29.71	754.7	21.9	— 5.6	76	SW	0	0	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	29.61	752.2	29.83	757.6	31.6	— 0.2	70	S	4	2	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs
Moscow	29.08	738.6	29.66	753.4	18.9	— 7.3	84	SW	4	2	.....	.....	10s	.....	.....	.....	.....	Light snow.	Meteorological Obs.
Nertchinsk	27.57	700.3	30.13	765.3	— 5.1	—20.6	62	NW	11	5	.....	.....	9	.....	.....	Bl'nk	Bl'nk	Light clouds	Meteorological Obs.
Nikolaiev	29.62	752.3	29.69	754.1	34.7	1.5	96	Calm	0	0	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	29.47	748.6	29.71	754.7	43.2	6.2	88	NNE	7	3	.....	.....	2ks	.....	.....	.....	.....	.....	
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Pekin (China)	30.16	766.1	30.30	769.7	28.8	— 1.8	36	NW	22	10	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	29.71	754.7	29.73	755.1	6.3	—14.3	92	SE	7	3	.....	.....	10n	.....	.....	.....	.....	Light snow.	Central Physical Obs.
Tashkend	28.47	723.1	30.05	763.2	53.2	11.8	70	.....	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.60	726.4	30.02	762.5	55.9	13.3	75	N	4	2	.....	.....	10	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Warsaw	29.27	743.5	29.71	754.7	26.2	— 3.2	87	WNW	2	1	.....	.....	10ks	.....	.....	.....	.....	Light clouds	Astronomical Obs.
Wilna	29.35	745.5	29.80	757.0	12.4	—10.9	75	Calm	0	0	.....	.....	3	.....	.....	.....	.....	Light clouds	Astronomical Obs.
Yenisiesk	29.54	750.4	29.87	758.7	—17.0	—27.2	75	E	20	9	.....	.....	10	.....	.....	.....	.....	.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	29.39	746.5	29.50	749.2	53.6	12	46	WSW	5.5	2.44	.....	.....	5	.....	.....	0.060	1.53	.....	Antonio Rave, Director
Bilbao, Met. Obs'y	29.90	759.4	29.96	760.9	42.4	5.8	91	N	1.4	0.61	.....	.....	10	.....	.....	0.661	16.8	Raining	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.87	682.5	.....	.....	34.0	1.1	79	E	5.6	2.50	.....	0	8	.....	.....	0	0	Cloudy	Domingo Martin y Perez.
Madrid, Royal Observatory	27.46	697.4	29.71	754.5	46.0	7.8	62	NE	15.7	7.00	.....	0	9	.....	.....	0.008	0.2	Almost cov'd	The Staff.
Murcia, Met. Obs'y	29.50	749.3	29.65	753.2	61.2	16.2	64	SW	1.7	0.78	.....	4	5	ENE	.....	0.059	1.51	Raining	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.06	738.0	29.93	760.2	46.8	8.2	63	NNE	34.9	15.6	.....	.....	3	.....	.....	0	0	Cloudy	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.05	763.3	30.12	765.0	66.1	18.9	86	ENE	0	0	.....	1c;ck	1k	W	.....	0	0	Fair	Benito Vines S. J.
Manilla, Phillippine Islands	29.87	758.7	29.92	760.0	82.0	27.8	81	ESE	0	0	.....	.....	0	.....	.....	0	0	Clear.	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.61	752.2	29.71	754.7	61.9	16.6	79	WSW	24.9	11.1	.....	0	9	.....	W	0.313	8.0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.92	759.9	30.01	762.2	77.7	25.4	76	NE	12.3	5.49	.....	4ck	3kn	NE	NE	0.157	4.00	Cloudy	Enrique Gadea, Chief Eng'r

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8.19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	OBSERVEh.
Haparanda	30.00	762.1	30.04	763.1	— 9.8	—23.2	.....	N	.....	.....	2	.....	10	.....	.....	0	0	.....	
Umea	29.95	760.7	30.00	762.0	2.5	—16.4	90	N	.....	.....	4	.....	9	.....	.....	0	0	.....	
Hernosand	29.96	761.0	30.01	762.3	4.3	—15.4	81	NW	.....	.....	2	.....	3	.....	.....	0	0	.....	
Stockholm	29.71	754.7	29.89	759.2	7.5	—13.6	92	NW	.....	.....	2	.....	3	.....	.....	0	0	.....	
Wisby	29.71	754.6	29.77	756.1	22.3	— 5.4	66	NNE	.....	.....	6	.....	5	.....	.....	0.083	2.1	.....	
Sub-Series.																			
Upsala	29.79	756.6	29.87	758.8	6.4	—14.2	89	NW	4.0	1.8	.....	.....	6	NE	NNE	0.014	0.34	Snowing.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.19	715.9	29.69	754.0	30.7	— 0.7	66	NE	.....	.....	6	.....	9	.....	.....	0	0	Covered.....	The Observatory.
Zurich	28.00	711.3	29.76	755.8	22.3	— 5.4	74	NE	.....	.....	6	.....	10	.....	.....	.....	.....	Snowing.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, —11.0 mm.; Thermometer, —5.1 Cent.; Relative Humidity, —12 per cent.
NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.67	753.7	62.1	16.7	66	SW	10	4.5	.....	.....	8	.....	SW	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.56	750.8	64.6	18.1	.....	S	.....	.....	3	.....	2	.....	.....	0.12	3.	Slightly cld'y	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.98	761.5	30.09	764.3	71.1	21.7	69	NW	.....	.....	1	8c	.....	.....	.....	0	0	D. clouds.....	Prof. C. V. A. van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	29.68	753.9	29.75	755.6	21.8	— 5.7	79	SW	11	4.9	.....	5k	2ks	SW	.....	0.74	18.8	Fair.....	G. A. Blair.
Charlottetown, P. E. Island	29.70	754.4	29.75	755.6	31.7	— 0.2	71	W	10	4.5	.....	.....	10s	.....	N	0.01	0.3	Cloudy.....	H. J. Cundall, C. E.
Cornwall, Ontario	30.19	766.8	30.41	772.4	7.7	—13.5	93	NW	.....	.....	3	0	1s	.....	.....	0.01	0.3	Clear.	James Smith, M. A.
Dalhousie, N. B	29.54	750.3	29.72	754.9	13	—10.6	.....	W	.....	.....	4	0	5k	.....	.....	0.50	12.7	Fair.....	H. A. Johnson.
Father Point, Quebec	29.75	755.6	29.77	756.1	13.9	—10.1	82	NW	45	20.1	.....	.....	10n	.....	.....	0.16	4.1	Light snow.	J. McWilliams.
Fredericton, N. B	29.81	757.2	29.88	758.9	17.0	— 8.3	67	NW	16	7.2	.....	0	2s	.....	W	Inap.	Inap.	Clear	Prof. Harrison.
Fort Garry, Manitoba	28.92	734.6	29.79	756.7	18.0	— 7.8	84	S	14	6.3	.....	5k	5n	W	.....	0.08	2.0	Cloudy.....	James Stewart.
Granton, Ontario	29.35	745.5	30.55	776.0	15	— 9.4	.....	SW	.....	.....	1	.....	10n	.....	.....	0.40	10.2	Cloudy.....	James Grant.
Halifax, N. S	29.71	754.6	29.84	757.9	33.5	0.8	78	SW	12	5.4	.....	.....	10ks	.....	.....	0.61	15.5	Cloudy.....	A. Allison.
Hamilton, Ontario	30 18	766.6	30.59	777.0	10.7	—11.8	78	NW	.....	.....	1	0	0	.....	.....	0	0	Clear.	Geo. Dickson, B. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	30.13	765.3	30.50	774.7	11.8	—11.2	92	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear.	S. Woods, M. A.
Little Glace Bay, N. S	29.75	755.6	29.79	756.7	40.7	4.8	95	SW	8	3.6	.....	7k	0	SW	.....	0.45	11.4	Fair...	C. H. Rigby.
Montreal, Quebec	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. H. McLeod, C. E.
Moose Factory, Ontario	30.31	769.9	30.35	770.9	2.0	—16.7	97	SW	.....	.....	4	.....	10	.....	.....	0	0	Cloudy.....	J. R. Nelson.
Norwood	29.70	754.4	30.47	773.9	8.1	—13.3	100	NW	.....	.....	2	0	0	.....	.....	0	0	Clear.	Rev. T. F. Fotheringham, M. A.
Parry Sound, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. R. Mosley.
Peterboro, Ontario	29.72	754.9	30.55	776.0	10.7	—11.8	69	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine..	J. F. Jeffers, M. A.
Port Dover, Ontario	29.82	757.4	30.58	776.7	12.1	—11.1	80	Calm	0	0	.....	0	0	.....	.....	0.10	1.5	Clear.	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.86	758.4	30.56	776.2	21.0	— 6.1	88	N	4	1.8	.....	.....	10n	.....	NW	0.03	0.8	Cloudy.....	M. Payne.
Quebec, Quebec	29.52	749.8	29.87	758.7	11	—11.7	70	N	.....	.....	5	0	2s	.....	.....	0.10	2.5	Fair.....	Capt. Ashe, R. N.
Rockliffe, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. McIntyre.
St. Andrews, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Gove.
St. John, N. B	29.73	755.1	29.91	759.7	21	— 6.1	71	W	18	8.0	.....	.....	10ks	.....	.....	0.02	0.5	Overcast	G. Murdock, C. E.
Saugeen, Ontario	29.75	755.6	30.54	775.7	15.2	— 9.3	91	SE	9	4.0	.....	.....	9ks	.....	.....	0.20	5.1	Cloudy.....	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	29.19	741.4	30.62	777.7	8.1	—13.3	96	Calm	0	0	.....	.....	10s	.....	.....	0.20	5.1	Cloudy.....	C. J. MacGregor, M. A.
Sydney, C. B	29.73	755.1	29.77	756.1	40.8	4.9	77	SW	14	6.3	.....	0	9ks	.....	.....	0.04	1.0	Cloudy.....	T. C. Hill, C. E.
Toronto, Ontario	30.15	765.8	30.57	776.5	14.9	— 9.5	87	NW	2	0.9	.....	.....	2s	.....	.....	0	0	Clear.	Magnetic Observatory.
Windsor, N. S	29.70	754.4	29.79	756.7	31.5	— 0.3	95	W	10	4.5	.....	10k	0	.....	.....	0.76	19.3	Cloudy.....	Prof. John E. Oram, M. A.
Woodstock, Ontario	29.40	746.7	30.59	777.0	5.1	—14.9	88	SW	3	1.3	.....	9k	0	N	.....	0	0	Cloudy.....	Prof. J. Montgomery.
Yarmouth, N. S	29.87	758.7	29.94	760.5	26.5	— 3.1	77	NW	35	15.6	.....	.....	9s	.....	.....	0.58	14.7	Snowing....	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.99	761.7	30.25	768.3	35.0	1.7	90	S	.....	.....	.....	5k	10s	.....	.....	0	0	Fair.....	John Delany.
St. Pierre, N. F., l'Hopital Maritime	.....	.....	29.94	760.5	41.0	5	.....	SE	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	The Commandant.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10, except Yarmouth and St. Johns on scale 0 to 20. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of BVT. BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0–10.	CLOUDS. Amount. Up'er 0–10.	Lo'er 0–10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER.
Albany, New York	30.14	765.5	30.39	771.9	19	— 7.2	69	NW	12	5.4	.....	1k	0	Calm	.....	0	0	Clear.	.....
Alpena, Michigan	29.82	757.4	30.55	776.0	9	—12.8	78	W	2	0.9	.....	0	0	.....	.....	0.20	5.1	Clear.	.....
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Atlanta, Georgia	29.23	742.4	30.45	773.4	33	0.6	61	NE	12	5.4	.....	0	0	.....	.....	0	0	Clear.	.....
Atlantic City, New Jersey	30.45	773.4	30.47	773.9	27	— 2.8	76	W	6	2.7	.....	0	0	.....	.....	0	0	Clear.	.....
Augusta, Georgia	30.30	769.6	30.51	774.9	39	3.9	38	NE	6	2.7	.....	2cs	1s	N	Calm	0	0	Fair...	.....
Baltimore, Maryland	29.49	749.0	30.54	775.7	30	— 1.1	68	W	8	3.6	.....	2c	0	W	.....	0	0	Clear.	.....
Barnegat, New Jersey	30.41	772.4	30.43	772.9	28	— 2.2	77	NW	12	5.4	.....	0	0	.....	.....	0.02	0.5	Clear.	.....
Bismarck, Dakota	27.94	709.7	29.80	756.9	30	— 1.1	78	Calm	0	0	.....	5ck	0	W	.....	0	0	Fair...	.....
Boerne, Texas	28.88	733.5	30.28	769.1	32	0.0	79	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.	.....
Boise City, Idaho	27.19	690.6	30.15	765.8	37	2.8	86	Calm	0	0	.....	.....	10n	.....	Calm	0.25	6.3	Light rain...	
Boston, Massachusetts	30.04	763.0	30.20	767.1	23	— 5.0	60	W	12	5.4	.....	0	1s	.....	Calm	0.07	1.8	Clear.	.....
Brackettville, Texas	29.17	740.9	30.28	769.1	38	3.3	54	E	7	3.1	.....	0	0	.....	.....	0	0	Clear.	.....
Breckenridge, Minnesota	28.86	733.0	29.90	759.4	22	— 5.6	86	SE	14	6.3	.....	.....	10s	.....	Calm	0	0	Cloudy	.....
Brownsville, Texas	30.26	768.6	30.30	769.6	51	10.6	79	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	.....
Buffalo, New York	29.78	756.4	30.56	776.2	18	— 7.8	84	W	9	4.0	.....	0	5s	.....	NW	Inap.	Inap.	Fair..	.....
Burkes, Arizona	.....	.....	.....	.....	39	3.9	55	NE	.....	.....	1	2c	5s	W	Calm	0	0	Cloudy	.....
Burlington, Vermont	30.02	762.5	30.34	770.6	13	—10.6	81	NW	13	5.8	.....	0	2ks	.....	NW	0.05	1.3	Fair...	.....
Cairo, Illinois	30.18	766.6	30.61	777.5	32	0.0	59	S	5	2.2	.....	0	0	.....	.....	0	0	Clear.	.....
Campo, California	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cape Hatteras, N. Carolina	30.45	773.4	30.46	773.7	42	5.6	58	NE	24	10.7	.....	2c	5ks	S	NE	0	0	Cloudy	.....
Cape Henry, Virginia	30.51	774.9	30.53	775.4	37	2.8	53	N	28	12.5	.....	1k	0	N	.....	0	0	Clear.	.....
Cape Lookout, N. Carolina	30.44	773.2	30.46	773.7	39	3.9	55	NE	30	13.4	.....	5c	0	W	.....	0	0	Fair...	.....
Cape May, New Jersey	30.44	773.2	30.47	773.9	32	0.0	49	NW	36	16.1	.....	5k	0	NW	.....	0.01	0.3	Fair...	.....
Castroville, Texas	29.56	750.8	30.31	769.9	34	1.1	61	NW	2	0.9	.....	2c	0	Calm	.....	0	0	Fair...	.....
Cedar Keys, Florida	30.24	768.1	30.27	768.8	50	10.0	72	NE	14	6.3	.....	.....	8s	.....	NE	0	0	Cloudy	.....
Charleston, South Carolina	30.40	772.1	30.46	773.7	41	5.0	49	N	18	8.0	.....	0	0	.....	.....	0	0	Clear.	.....
Charlotte, North Carolina	29.63	752.6	30.50	774.7	31	— 0.6	58	NE	5	2.2	.....	0	Sm'e	.....	Calm	0	0	Clear.	.....
Chattanooga, Tennessee	29.67	753.6	30.54	775.7	32	0.0	59	N	7	3.1	.....	1cs	0	Calm	.....	0	0	Clear.	.....
Cheyenne, Wyoming	24.02	610.1	29.96	761.0	45	7.2	11	W	14	6.3	.....	0	0	.....	.....	0	0	Clear.	.....
Chicago, Illinois	29.74	755.4	30.48	774.2	30	— 1.1	78	SW	6	2.7	.....	8ck	0	Calm	.....	0	0	Cloudy	.....
Cincinnati, Ohio	29.92	760.0	30.64	778.2	27	— 2.8	76	E	2	0.9	.....	0	0	.....	.....	0.01	0.3	Clear.	.....
Cleveland, Ohio	29.80	756.9	30.58	776.7	27	— 2.8	64	NW	4	1.8	.....	2k	0	NW	.....	Inap.	Inap.	Clear.	.....
Coleman City, Texas	28.52	724.4	30.30	769.6	30	— 1.1	57	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	.....
Columbus, Ohio	29.69	754.1	30.61	777.5	25	— 3.9	62	N	1	0.4	.....	0	Fog	.....	.....	0	0	Clear.	.....
Concho, Texas	28.38	720.8	30.14	765.5	28	— 2.2	54	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	.....
Corsicana, Texas	29.93	760.2	30.44	773.2	35	1.7	70	E	3	1.3	.....	0	0	.....	.....	0	0	Clear.	.....
Davenport, Iowa	29.70	754.4	30.38	771.6	26	— 3.3	75	S	8	3.6	.....	0	0	.....	.....	0	0	Clear.	.....
Deadwood, Dakota	25.25	641.3	.....	.....	42	5.6	42	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	.....
Decatur, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Denison, Texas	29.54	750.3	30.38	771.6	37	2.8	63	S	7	3.1	.....	0	0	.....	.....	0	0	Clear.	.....
Denver, Colorado	24.77	629.2	29.99	761.7	35	1.7	53	S	12	5.4	.....	Haze	0	.....	.....	0	0	Hazy	.....
Des Moines, Iowa	29.21	741.9	30.14	765.5	26	— 3.3	75	SW	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	.....
Detroit, Michigan	29.84	757.9	30.58	776.7	20	— 6.7	85	NW	1	0.4	.....	0	0	.....	.....	Inap.	Inap.	Clear.	.....
Dodge City, Kansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dubuque, Iowa	29.61	752.1	30.36	771.1	25	— 3.9	75	S	2	0.9	.....	.....	10ks	.....	S	0	0	Cloudy	.....
Duluth, Minnesota	29.37	746.0	30.09	764.3	23	— 5.0	86	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	.....
Eagle Pass, Texas	29.58	751.3	30.37	771.4	32	0.0	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	.....
Eastport, Maine	29.84	757.9	29.91	759.7	19	— 7.2	69	W	21	9.4	.....	10k	0	NW	.....	0.53	13.5	Cloudy	.....
Edinburg, Texas	.....	.....	.....	.....	58	14.4	70	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear.	.....
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Erie, Pennsylvania	29.81	757.2	30.58	776.7	26	— 3.3	63	NW	6	2.7	.....	2k	0	NW	.....	0.05	1.3	Fair...	.....
Escanaba, Michigan	29.64	752.8	30.35	770.9	23	— 5.0	73	SW	7	3.1	.....	.....	10s	.....	SW	0	0	Cloudy	.....
Florence, Arizona	28.57	725.7	30.17	766.3	44	6.7	60	Calm	0	0	.....	5c	0	E	.....	0	0	Fair...	.....
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fort Buford, Dakota	27.76	705.1	29.67	753.6	21	— 6.1	85	NW	10	4.5	.....	10cs	0	NW	.....	Inap.	Inap.	Cloudy	.....
Fort Custer, Montana	26.73	678.9	.....	.....	38	3.3	63	S	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	.....
Fort Davis, Texas	25.34	643.6	30.30	769.6	31	— 0.6	48	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear.	.....
Fort Gibson, Indian Ter	29.81	757.2	30.38	771.6	36	2.2	53	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear.	.....
Fort Grant, Arizona	25.31	642.9	30.11	764.8	44	6.7	31	E	8	3.6	.....	0	0	.....	.....	0	0	.....	.....
Fort Griffin, Texas	29.00	736.6	30.36	771.1	33	0.6	61	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	.....
Fort Keogh, Montana	27.21	691.1	.....	.....	32	0.0	69	Calm	0	0	.....	0	5cs	.....	Calm	0	0	Fair...	.....
Fort McKavett, Texas	28.00	711.2	30.03	762.7	35	1.7	61	Calm	0	0	.....	1c	0	.....	.....	0	0	Clear.	.....
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fort Sill, Indian Territory	29.08	738.6	30.26	768.6	31	— 0.6	48	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	.....
Fort Stevenson, Dakota	27.90	708.6	.....	.....	23	— 5.0	86	W	12	5.4	.....	8c	0	W	.....	0	0	Cloudy	.....
Fort Verde, Arizona	.....	.....	.....	.....	28	— 2.2	88	NW	.....	.....	1	5cs	0	W	.....	0	0	Fair...	.....
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fredericksburg, Texas	28.46	722.9	30.06	763.5	45	7.2	61	S	1	0.4	.....	0	0	.....	.....	0	0	Clear.	.....
Galveston, Texas	30.36	771.1	30.40	772.1	48	8.9	70	NE	11	4.9	.....	0	0	.....	.....	0	0	Clear.	.....
Graham, Texas	29.23	742.4	30.36	771.1	32	0.0	59	S	2	0.9	.....	5cs	0	NW	.....	0	0	Fair...	.....
Grand Haven, Michigan	29.77	756.1	30.47	773.9	27	— 2.8	76	SE	10	4.5	.....	.....	10s	.....	SE	0.16	4.1	Cloudy	.....
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Henrietta, Texas	29.34	745.2	30.33	770.4	36	2.2	61	SE	11	4.9	.....	0	0	.....	.....	0	0	Clear.	.....
Indianapolis, Indiana	29.71	754.6	30.56	776.2	23	— 5.0	86	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.	.....
Indianola, Texas	30.35	770.9	30.38	771.6	48	8.9	63	NE	18	8.0	.....	0	0	.....	.....	0	0	Clear.	.....
Jacksboro, Texas	29.28	743.7	30.49	774.4	30	— 1.1	68	N	8	3.6	.....	0	0	.....	.....	0	0	Clear.	.....
Jacksonville, Florida	30.27	768.8	30.29	769.4	50	10.0	72	N	8	3.6	.....	.....	10s	.....	NE	0	0	Cloudy	.....
Keokuk, Iowa	29.66	753.4	30.32	770.1	27	— 2.8	76	SE	11	4.9	.....	2cs	0	Calm	.....	0	0	Clear.	.....
Key West, Florida	30.10	764.5	30.14	765.5	71	21.7	80	NE	10	4.5	.....	5k	0	NW	.....	0	0	Fair...	.....
Kittyhawk, North Carolina	30.46	773.7	30.49	774.4	36	2.2	45	N	33	14.8	.....	0	0	.....	.....	0	0	Clear.	.....
Knoxville, Tennessee	29.50	749.3	30.59	777.0	28	— 2.2	66	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear.	.....
La Crosse, Wisconsin	29.42	747.3	30.20	767.1	28	— 2.2	66	S	8	3.6	.....	0	0	.....	.....	0	0	Clear.	.....
La Mesilla, New Mexico	26.25	666.7	30.40	772.1	27	— 2.8	42	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear.	.....
Laredo, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Leavenworth, Kansas	29.32	744.7	30.20	767.1	35	1.7	70	S	15	6.7	.....	9cs	0	.....	.....	0	0	Cloudy	.....
Little Rock, Arkansas	30.16	766.1	30.55	776.0	35	1.7	80	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear.	.....
Los Angeles, California	29.70	754.4	30.05	763.3	46.0	7.8	69	N	2	0.9	.....	5c	0	Calm	.....	0	0	Fair...	.....
Louisville, Kentucky	29.99	761.7	30.59	777.0	30	— 1.1	68	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	.....
Lynchburg, Virginia	29.86	758.4	30.60	777.2	30	— 1.1	57	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear.	.....
Madison, Wisconsin	29.28	743.7	30.32	770.1	25	— 3.9	75	SE	13	5.8	.....	2c	0	W	.....	0	0	Fair...	.....
Marquette, Michigan	28.50	723.9	30.26	768.6	16	— 8.9	83	SW	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	.....
Mason, Texas	28.58	728.5	30.59	777.0	28	— 2.2	77	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear.	.....
Memphis, Tennessee	30.16	766.1	30.52	775.2	33	0.6	51	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear.	.....
Milwaukee, Wisconsin	29.63	752.6	30.42	772.7	23	— 5.0	86	S	12	5.4	.....	5ck	7s	NW	Calm	0	0	Cloudy	.....
Mobile, Alabama	30.35	770.9	30.40	772.1	36	2.2	86	N	10	4.5	.....	0	1s	.....	Calm	0	0	Clear.	.....
Montgomery, Alabama	30.29	767.1	30.45	773.4	33	0.6	69	N	6	2.7	.....	0	0	.....	.....	0	0	Clear.	.....

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Morgantown, West Virginia	29.54	750.3	30.62	777.7	27	— 2.8	64	Calm	0	0	.....	0	0	.....	.....	Inap.	Inap.	Clear.	
Mt. Washington, N. H.	23.24	590.3	29.60	751.8	—13	—25.0	100	NW	96	43.0	.....	.....	Fog	.....	NW	0.05	1.3	Foggy	
Nashville, Tennessee	30.00	762.0	30.58	776.7	31	— 0.6	69	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
New Haven, Connecticut	30.20	767.1	30.32	770.1	28	— 2.2	66	NW	4	1.8	.....	0	0	.....	.....	Inap.	Inap.	Clear.	
New London, Connecticut	30.23	767.8	30.28	769.1	27	— 2.8	64	NW	14	6.3	.....	0	0	.....	.....	0.02	0.5	Clear.	
New Orleans, Louisiana	30.33	770.4	30.39	771.9	44	6.7	66	NE	8	3.6	.....	1c	1s	Calm	Calm	0	0	Clear.	
Newport, Rhode Island	30.18	766.6	30.24	768.1	27	— 2.8	64	W	24	10.7	.....	0	0	.....	.....	0.06	1.5	Clear.	
New York, New York	30.19	766.8	30.38	771.6	26	— 3.3	64	NW	17	7.6	.....	0	0	.....	.....	0	0	Clear	
Norfolk, Virginia	29.48	748.8	30.54	775.7	33	0.6	51	N	12	5.4	.....	0	0	.....	.....	0	0	Clear.	
North Platte, Nebraska	27.02	686.3	29.71	754.6	23	— 5.0	73	NW	10	4.5	.....	5c	0	Calm	.....	0	0	Fair.....	
Olympia, Washington Ter.	29.66	753.4	29.70	754.4	51.5	10.8	93	S	4	1.8	.....	.....	10s	.....	Calm	0.53	13.5	Cloudy.....	
Omaha, Nebraska	28.85	732.8	29.97	761.2	37	2.8	71	S	12	5.4	.....	0	5s	.....	E	0	0	Fair.....	
Oswego, New York	30.15	765.8	30.49	774.4	21	— 6.1	86	NW	12	5.4	.....	0	5ks	.....	NW	0.03	0.8	Fair.....	
Pembina, Dakota	28.88	733.5	29.76	755.9	19	— 7.2	85	S	17	7.6	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Pensacola, Florida	30.36	771.1	30.39	771.9	39	3.9	64	NE	9	4.0	.....	Haze	0	Calm	.....	0	0	Clear.	
Philadelphia, Pennsylvania	30.42	772.7	30.48	774.2	29	— 1.7	67	NW	16	7.2	.....	0	0	.....	.....	Inap.	Inap.	Clear.	
Phœnix, Arizona	28.90	734.0	30.76	781.3	45	7.2	61	E	1	0.4	.....	2c	0	Calm	.....	0	0	Clear.	
Pike's Peak, Colorado	17.77	451.4	29.98	761.5	16	— 8.9	66	NW	34	15.2	.....	10cs	0	NW	.....	0	0	Cloudy.....	
Pilot Point, Texas	29.61	752.1	30.47	773.9	45	7.2	52	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Pioche, Nevada	.....	.....	.....	.....	39	3.9	31	S	8	3.6	.....	5c	0	Calm	.....	0	0	Fair.....	
Pittsburg, Pennsylvania	29.70	754.4	30.59	777.0	24	— 4.4	74	NW	1	0.4	.....	0	0	.....	.....	0.02	0.5	Clear.	
Port Huron, Michigan	29.82	757.4	30.56	776.2	16	— 8.9	83	Calm	0	0	.....	0	0	.....	.....	Inap.	Inap.	Clear.	
Portland, Maine	30.06	763.5	30.11	764.8	24	— 4.4	48	W	13	5.8	.....	2k	0	Calm	.....	0.36	9.1	Clear.	
Portland, Oregon	29.73	755.1	29.80	756.9	46.5	8.1	94	Calm	0	0	.....	.....	10n	.....	Calm	0.41	10.4	Light rain...	
Portsmouth, N. Hampshire	.....	.....	.....	.....	41	5.0	57	N	32	14.3	.....	5cs	0	NW	.....	0	0	Fair	
Prescott, Arizona	24.87	631.7	30.23	767.8	29	— 1.7	78	NE	.....	.....	1	8cs	0	NW	.....	0	0	Cloudy.....	
Punta Rassa, Florida	30.12	765.0	30.14	765.5	67	19.4	89	NE	14	6.3	.....	5cs	5ks	W	NE.	0	0	Threatening	
Red Bluff, California	29 61	752.1	29.98	761.5	44	6.7	92	N	5	2.2	.....	.....	10n	.....	S	2.18	55.4	Light rain...	
Rio Grande City, Texas	30.15	765.8	30.38	771.6	44	6.7	76	W	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Rochester, New York	29.83	757.7	30.50	774.7	20	— 6.7	70	W	8	3.6	.....	0	1s	.....	Calm	0.14	3.6	Clear.....	
Roseburg, Oregon	29.26	743.2	29.82	757.4	51.5	10.8	79	SW	2	0.9	.....	.....	10n	.....	Calm	0.01	0.3	Light rain...	
Sacramento, California	29.89	759.2	29.96	761.0	46	7.8	100	N	4	1.8	.....	.....	10s	.....	Calm	0.35	8.9	Cloudy.....	
St. Louis, Missouri	29.89	759.2	30.51	774.9	28	— 2.2	54	SE	9	4.0	.....	0	0	.....	.....	0	0	Clear.	
St. Paul, Minnesota	29.18	741.1	30.05	763.3	25	— 3.9	75	SE	14	6.3	.....	10cs	0	Calm	.....	0	0	Cloudy.....	
Salt Lake City, Utah	25.73	653.5	30.06	763.5	35	1.7	53	NW	5	2.2	.....	10k	0	W	.....	0	0	Cloudy.....	
San Antonio, Texas	29.69	754.1	30.31	769.9	40	4.4	65	E	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
San Diego, California	29.96	761.0	30.03	762.7	46	7.8	84	N	2	0.9	.....	5cs	0	W	.....	0	0	Fair.....	
Sandusky, Ohio	29.87	758.7	30.60	777.2	26	— 3.3	75	W	6	2.7	.....	2k	2ks	NW	NW	0	0	Fair.....	
Sandy Hook, New Jersey	30.36	771.1	30.40	772.1	29	— 1.7	67	NW	30	13.4	.....	0	0	.....	.....	0.02	0.5	Clear.	
San Francisco, California	29.86	758.4	29.92	760.0	56	13.3	87	SE	6	2.7	.....	.....	10n	.....	Calm	0.90	22.9	Light rain...	
Santa Fé, New Mexico	23.37	593.6	29 91	759.7	29	— 1.7	56	N	10	4.5	.....	0	0	.....	.....	0	0	Clear.	
Savannah, Georgia	30.33	770.4	30.43	772.9	41	5.0	49	NE	12	5.4	.....	10cs	0	Calm	.....	0	0	Cloudy.....	
Shreveport, Louisiana	30.24	768.1	30.48	774.2	36	2.2	71	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.43	772.9	30.47	773.9	35	1.7	61	N	12	5.4	.....	2c	0	N	.....	0	0	Clear.	
Socorro, New Mexico	25.60	650.2	29.66	753.4	30	— 1.1	57	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Springfield, Illinois	29.78	756.4	30.51	774.9	25	— 3.9	62	SE	14	6.3	.....	0	0	.....	.....	0	0	Clear.	
Springfield, Massachusetts	30.17	766.3	30.31	769.9	23	— 5.0	60	W	14	6.3	.....	0	0	.....	.....	0.03	0.8	Clear.	
Stockton, Texas	27.15	689.6	30.15	765.8	36	2.2	4	SE	.....	.....	.....	0	0	.....	.....	0	0	Clear.	
Thatcher's Island, Mass	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Toledo, Ohio	29.83	757.7	30.58	776.7	26	— 3.3	75	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Tucson, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon	29.55	750.6	30.06	763.5	32.0	0.0	94	SW	3	1.3	.....	.....	10s	.....	.....	0.03	0.8	Cloudy.....	
Uvalde, Texas	29.42	747.3	30.30	769.6	36	2.2	61	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	30.20	767.1	30.48	774.2	37	2.8	63	NE	5	2.2	.....	2cs	0	Calm	.....	0	0	Cloudy.....	
Virginia City, Montana	24.17	613.9	29.65	753.1	29	— 1.7	78	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Visalia, California	29.57	751.1	29.94	760.5	52.5	11.4	70	E	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Washington, D. C.	30.44	773.2	30.56	776.2	29	— 1.7	67	NW	7	3.1	.....	1c	.....	NW	.....	0	0	Clear	
Wickenburg, Arizona	.....	.....	.....	.....	35	1.7	61	NW	.....	.....	1	5c	0	W	.....	0	0	Fair.....	
Wilmington, North Carolina	30.39	771.9	30.48	774.2	34	1.1	52	N	6	2.7	.....	5c	0	Calm	.....	0	0	Fair.....	
Winnemucca, Nevada	25.63	651.0	29.99	761.7	36	2.2	90	E	10	4.5	.....	.....	Fog	.....	E	0.29	7.4	Light fog....	
Wood's Holl, Massachusetts	30.19	766.8	30.23	767.8	27	— 2.8	66	NW	26	11.6	.....	0	0	.....	.....	1.28	32.5	Clear.	
Yankton, Dakota	28.62	726.9	29.96	761.0	28	— 2.2	54	SE	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Yuma, Arizona	29.92	760.0	30.10	764.5	47	8.3	48	NE	4	1.8	.....	5cs	0	SW	.....	0	0	Fair.....	
Sub-Series.																			
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	30.03	762.7	30.08	764.0	70	21.1	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.20	767.1	30.21	767.3	74	23.3	82	Calm	0	0	.....	2k	2s	Calm	.....	0	0	Fair	James Gall.
Navassa, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.94	760.5	29.94	760.5	79	26.1	82	E	.....	.....	2	.....	8ks	.....	.....	0.310	7.87	Cloudy.....	C. J. Hering.
Santiago de Cuba, W. I.	30.01	762.2	30.04	763.0	74	23.3	76	N	8	3.6	.....	0	2s	.....	N	0	0	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	29.82	757.4	29.88	758.9	— 1.0	—18.3	86	SW	4	1.8	.....	3ck	3s	SW	NW	0	0	Cloudy.....	J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,100 (?) ft., or 354 (?) m.; Denver, 5,289 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 m.m.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.34‡	770.6‡	.....	.....	40	4.4	83	N	10	4.5	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Navy Yard, Portsmouth, N.H.	30.19‡	766.8‡	.....	.....	23	—5.0	73	W	5	2.2	.....	.....	0	.....	.....	0	0	.....	.....	Pleasant	
Naval Hospital, Yokohama, Japan	29.96‡	761.0‡	.....	.....	51	10.6	79	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	.....	Clear	
Adams, Mare I'd., Navy Yard, Cal.	30.02‡	762.5‡	.....	.....	52	11.1	100	E	.....	.....	2	.....	10	.....	E	.....	.....	.....	.....	Cloudy	
Alaska, Iquique, Peru	29.97‡	761.2‡	.....	.....	64	17.8	83	Calm	.....	.....	0	.....	8	.....	.....	.....	.....	.....	.....	Hazy	
Alliance, N. 25° 16′, W. 65° 15′	30.07‡	763.8‡	.....	.....	75	23.9	60	NE	.....	.....	4–5	.....	5	.....	NE	.....	.....	Mod'ate	NE	Showery	
Colorado, New York, N. Y.	30.34‡	770.6‡	.....	.....	27	—2.8	90	WNW	20	8.9	.....	.....	0	.....	.....	0	0	.....	.....	Hazy	
Constitution, Hampton Roads, Va.	30.55‡	776.0‡	.....	.....	35	1.7	68	NW	17	7.6	.....	.....	2	.....	N	.....	.....	.....	.....	Clear	
Enterprise, Jappa, Palestine	30.12‡	765.0‡	.....	.....	72	22.2	80	NW	.....	....	3	.....	2?	.....	NW	.....	.....	Smooth	.....	Cloudy?	
Franklin, Off Navy Yard, Norfolk, Va.	30.54‡	775.7‡	.....	.....	35	1.7	74	N	12	5.4	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Independence, Mare I'd, Navy Yard, Cal.	29.96‡	761.0‡	.....	.....	55	12.8	80	ESE	1.5	0.7	.....	.....	10	.....	ESE	0.3	8.	.....	.....	Overcast	
Kearsage, Savannah, Ga.	30.42‡	772.7‡	.....	.....	64	17.8	.....	NNE	.....	.....	4	.....	10	.....	NE	.....	.....	Smooth	.....	Cloudy	
Lackawana, N. 34° 00′ W. 158° 00′	29.85‡	758.2‡	.....	.....	65	18.3	89	WSW	.....	.....	5	.....	10	.....	W	.....	.....	Long	SW	Raining	
Marion, Navy Yard, Brooklyn, N.Y.	30.40‡	772.1‡	.....	.....	39	3.9	91	WNW	.....	.....	3	.....	0	.....	.....	.....	.....	Smooth	.....	Clear	
Michigan, Erie, Pa.	30.52‡	775.2‡	.....	.....	26	—3.3	95	NNW	.....	.....	4	.....	8	.....	NNW	.....	.....	.....	.....	Cloudy	
Monocacy, Shanghai, China.	30.06‡	763.5‡	.....	.....	59	15.0	94	W	.....	.....	1	.....	0?	.....	.....	.....	.....	.....	.....	Misty	
New Hampshire, Port Royal, S. C.	30.37‡	771.4‡	.....	.....	46	7.8	54	NE	28	12.5	.....	.....	8?	.....	NNE	0	0	.....	.....	Clear?	
Onward, Callao, Peru †.	29.95‡	760.7‡	.....	.....	64	17.8	83	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Long	W	Misty	
Palos, Tientsin, China.	30.29‡	769.4‡	.....	.....	26	—3.3	90	NNW	.....	.....	3–6	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Passaic, Washington, D. C.	30.50‡	774.7‡	.....	.....	33	0.6	82	NW	.....	.....	2	.....	5	.....	.....	0	0	.....	.....	Fair	
Pensacola, Callao, Peru	29.94‡	760.5‡	.....	.....	63	17.2	94	S	.....	.....	1	.....	10	.....	.....	.....	.....	Smooth	.....	Hazy	
Powhatan, Navy Yard, Brooklyn, N.Y.	30.37‡	771.4‡	.....	.....	35	1.7	74	W	.....	.....	2	.....	0	.....	.....	0	0	.....	.....	Clear	
Quinnebaug, Genoa, Italy	29.30‡	744.2‡	.....	.....	41	5.0	75	NE	.....	.....	5	.....	10	.....	NE	.....	.....	.....	.....	Cloudy	
Ranger, N. 28° 30′, W. 179° 40′	30.08‡	764.0‡	.....	.....	54	12.2	74	WNW	.....	... ..	9	.....	10	.....	NW	.....	.....	Heavy	WSW	Cloudy	
Richmond, Shanghai, China.	30.07‡	763.8‡	.....	.....	60	15.6	82	WNW	.....	.....	2	.....	10	.....	N	0	0	Smooth	.....	Misty	
Rio Bravo, Brownsville, Texas. †.	30.46‡	773.7‡	.....	.....	51	10.6	93	NW	4	1.8	.....	.....	5	.....	N	0	0	.....	.....	Fair	
Santee, Annapolis, Md	30.52‡	775.2‡	.....	.....	32	0.0	.....	NW	.....	.....	3	.....	2	.....	W	0	0	.....	.....	Clear	
Shenandoah, S. 23° 21′, W. 41° 27′	29.78‡	756.4‡	.....	.....	75	23.9	90	N	.....	.....	4	.....	5	.....	.....	.....	.....	Smooth	.....	Fair	
St. Louis, League Island, Pa.	30.41‡	772.4‡	.....	.....	30	—1.1	.....	NW	9	4.0	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Trenton, Gibraltar, Mediterranean	29.73‡	755.1‡	.....	.....	61	16.1	71	WSW	.....	.....	5	.....	10	.....	W	0.04	1.0	Smooth	.....	Raining	
Tuscarora, Chacaqua Bay, Mexico.	29.92‡	760.0‡	.....	.....	78	25.6	86	E	.....	.....	1	.....	2	.....	Calm	0	0	Smooth	.....	Fair	
Vandalia, N. 34° 00′, W. 74° 15′	30.41‡	772.4‡	.....	.....	.....	.....	??	NNW	.....	.....	6	.....	8	.....	N	.....	.....	Long	N	Cloudy	
Wabash, Boston, Mass.	30.15‡	765.8‡	.....	.....	23	—5.0	81	NW	10	4.5	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Wachusett, S. 7° —′, W 31° —′	29.98‡	761.5‡	.....	.....	81	27.2	91	ESE	.....	.....	4	.....	8	.....	ESE	.....	.....	Smooth	ESE	Fair	
Wyoming, Cadiz, Spain	29.69‡	754.1‡	.....	.....	62	16.7	77	WSW	.....	.....	3–6	.....	5	.....	W	.....	.....	Mod'ate	W	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		Character.	Direction from—		

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S. S. Samaria									*										Capt. T. Roberts.

NOTE—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitebury.
S. S. Costa Rica																			W. House & R. Lawless.
S. S. Dakota, Capt. H. G. Morse																			Capt. Connolly.
S. S. Georgia																			F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin																			Capt. A. Fuller.
S. S. Wilmington																			R. C. Ghest, 1st Officer.
S. S. Zealandia, Sydney, New South Wales		29.88‡	757.7‡				NE			4			N				Fine		

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The orginals give the barometer as read off; wind-force by the scale 0 to to 12; for the Brittanic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer Hong-Kong, China	†	30.02‡	762.5‡	69	20.6	95	NE			2		5		N		Smooth		D. clouds	D. A. Joyce, 2nd Officer
S. S. Gaelic, Capt. Davidson																			J. A. Thompson, C. C.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undutsch.
S. S. Leipzig, Capt. F. Pfeiffer. N. 38° 17', W. 68° 16'		30.22‡	767.6‡	45.0	7.2	84	NW			6		8		NNW	0	Long	NW	Fair	S. Risius, 3rd Officer.
S. S. Nurnberg																			Capt. A. Jaeger.
S. S. Ohio. N. 49° 59', W. 15° 20'		30 40‡	772.1‡				NE			5		10		E		4	NE	Raining	Capt G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa.		30.51‡	774.9‡	44	6.7	??	W			3		1		WNW	0			Clear	Capt. R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.
RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents.																			
Belgenland, N. 45° 27′, W. 45° 25′		29.91‡	759.7‡	51	10.6		N	26	11.6			1		N	0	Mod'ate	N	Clear	Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian. N. 50° 35′, W. 37° 12′		30.47‡	773.9‡	53	11.7		ENE			6		5		ENE		Mod'ate	E	Fair	J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES—Miscellaneous.																			
Furnished by the co-operation of the Observers named.																			
Schooner Addie Fuller, Hyannis, Mass.		30.01‡	762.2‡	51	10.6	35	WNW				0				0			Clear	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George" of Halifax																			N. B. Foss.
Schooner Harry and Fred																			Capt. George Gardner.
Haytian																			
§ Iron Cross																			Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from, sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; do not distinguish between upper and lower clouds; sea-swell in general terms, as published. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg'd.) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 1, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time
1:57 P. M. CAPE TOWN, C. G. H. mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 1—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.00	762.0	64.4	18.0	78	NE			2		5			0	0	Cloudy..	
Nemours			29.89	759.3	65.1	18.4	80	N			2		5			0.087	2.2	Cloudy	Kesxuche.
Algiers			29.91	759.8	50.0	10.0	92	W			3		10			2.953	75.0	Raining	Tourilliere.
La Calle			29.70	754.4	49.5	9.7	85	NNW			5		10			0.736	18.7	Raining	Foufrede.
Tunis																			Jacques.
Sfax			29.79	756.7															Gau.
Saida																			Herbin.
Tebessa			29.80	756.9	39.4	4.1	97	NNW			3		10			0.110	2.8	Raining	Watrin.
Geriville					55.9	13.3	55	W			3		5			Inap.	Inap.	Cloudy	Brugninax.
Laghouat			29.89	759.2	55.0	12.8	21	NW			6		2			0	0	Fair	Bertrand.
Biskra			29.79	756.7	61.9	16.6	75	NW			5		2			0	0	Fair	Chanvaux.

NOTE.—The originals give the amount of cloudiness by the scale 0–4; no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 1—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram																			
Cracow, I. R. Observatory	29.01	736.9	29.59	751.6	24.3	— 4.3	93	W			3		10			0.102	2.6	Snowing	Prof. Ivan Stozir.
Eperies	28.88	733.5	29.69	754.0	23.0	— 5.?	88	ENE	5.8	2.6			10			0.232	5.9		Dr. Wierzbicki.
Gratz	28.68	728.4	29.60	751.9	25.2	— 3.8	80	N			3		10s			0.445	11.30		Julius Mikolik.
Hermannstadt	28.27	718.1	29.58	751 3	27.5	— 2.5	69	ENE			2		10						Andreas Rospini.
Kremsmünster	28 04	712.2	29.51	749.6	30.2	— 1.0	92	N			2		10			0.546	13.85		Prof. A. Gottschling.
Lemberg	28.24	717.4	29.66	753.4	22.1	— 5.5	96	Calm			0		10			0.327	8.3		Prof. C. Wagner.
Pola	28.51	724.1	29.54	750.3	30.2	— 1.0	96	NW			2		10			0.088	2.1		Dr. T. Stanecki.
Szathmar	29.19	741.3	29.30	744.2	31.6	— 0.2	98	E			6		5			0.437	11.1	Raining	I.R.Hydrographic Office.
Szegedin	29.11	739.5	29.60	751.8	25.9	— 3.4	95	NE			2		10			0.394	10.0	Snowing	Pet. Pancsics, S. J.
Trieste	29.24	742.6	29.53	750.1	23.0	— 5.0	98	Calm			0		10			0	0		Karl Stancel.
Vienna	29.30	744.1	29.40	746 7	3?.2	— 1.0	80	ENE			6		10			Inap.	Inap.	Snowing	P. Busin.
	28.88	733.5	29.60	751.9	28.5	— 4.7	93	N			2		10			0.315	8.0		I.R. Central Met. Ob'sy

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 884 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 1—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			
Brussels																			Prof. M. Passau.
Furnes																			Royal Observatory.
Maeseyck																			M. E. de Cae.
																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C., as Second-Class Matter

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.80	756.9	29.90	759.4	30.6	— 0.8		NW	10	4.5			3			0.190	4.83	Blue sky	W. Boswell.
Ardrossan	29.93	760.2	29.95	760.7	36	2.2		ENE			3		2					Blue sky	Wm. McNeil & G. Carrick.
Armagh, (Observatory)	29.77	756.1	30.03	762.7	31.0	— 0.6		NW	2	0.9			0					Blue sky	S. Call.
Bidston (Liverpool Obs)			29.88	758.9	33.2	0.7		N	14	6.3			1					Blue sky	John Hartnup.
Bolton (Sharples)	29.30	744.2	29.83	757.7	33.5	0.8		NE	6	2.7			6					Snowing	Thomas Mackereth.
Bradford, Yorkshire	29.44	747.8	29.84	757.9	31.1	— 0.5		N			2		10					Snowing	J McLandsborough.
Bridgetown, Barbadoes	29.89	759.2	29.92	760.0	80	26.7		NE			2		3					D. clouds	Pvt. G. Surgener, A.H.C.
Cambridge (Observatory)	29.59	751.6	29.69	754.1	35.0	1.7		NE			1		7					Snowing	H. Todd.
Cardington			29.68	753.9	33.0	0.6		N			1		6					Snowing	John McLaren.
Chatham (School M. E.)	29.56	750.8	29.69	754.1	29.2	— 1.6		W			1		10					Overcast	J. Carmell, Supper, R.E.
Donaghadee	29.93	760.2	29.97	761.2	38	3.3		NNE			3		4					D. clouds	J. Mac Gowan.
Dover	29.64	752.8	29.87	753.6	33	0.6		WNW			2		10					Misty	J. Costello.
Falmouth (Observatory)	29.65	753.1	29.88	758.9	37.0	2.8		N			1		5					D. clouds	The Staff.
Fort Napier, Natal	27.65	702.3	29.86	758.4	71.0	21.7		E			2		10					Overcast	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone																			
Galway (Queen's College)			29.98	761.5	35	1.7		N			1		7					D. clouds	Prof. A. H. Curtis.
Gibraltar, Mediterranean																			Sergt. Wm. Allen, A. H.
Glasgow, (Observatory)	29.73	755.1	29.94	760.5	33.9	1.1		NNW			1	2c						Blue sky	D. G. Maclean. [C.
Great Yarmouth	29.71	754.6	29.72	754.9	36	2.2		E			6		8					Snowing	G. T. Watson.
Greenwich (Royal Obs'y)	29.48	748.8	29.66	753.4	31.2	— 0.4		NW			2		10					Snowing	The Staff, for G.B. Airy.
Guernsey	29.56	750.8	29.79	756.7	36.5	2.5		NNW			3		5			Blank	Blank	D. clouds	Dr. S.E Hoskins, F.R.S.
Helston	30.02	762.5	30.13	765.3	38	3.3		N			0	4ck						Snow-showers	M. P. Moyle.
Holyhead	29.84	757.9	29.91	759.7	37	2.8		NNE			5		2					Blue sky	John Tilston.
Jersey	29.52	749.8	29.83	757.7	36.6	2.6		N			3		7			Blank	Blank	Gloomy	J. Fisher.
Kew (Observatory)	29.67	753.6	29.71	754.6	32.2	0.1		NW	12	5.4			10					Misty	The Met'g'l Office.
Leicester (Museum)	29.49	749.0	29.79	756.7	32.5	0.3		NW			4		10					Snowing	Wm. J. Harrison, F.G.S
Malta, Mediterranean	29.46	748.3	29.55	750.6	68	20.0		SW			2		0					Blue sky	A. King.
Nairn	29.87	758.7	29.96	761.0	34	1.1		NE			5		5			Blank	Blank	½ clouded	W. D. Penny.
Nassau, Bahamas			30.08	764.0	72.5	22.5		E			1		9					D. clouds	C. S. Duncombe.
Nottingham (Observatory)	29.62	752.3	29.82	757.4	31.7	— 0.2		N			3		10n		N	0.122	3.10	Snowing	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.25	742.9	29.80	756.9	32.1	0.1		NNE			4–5		9					Snowing	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)			29.76	755.9	32	0.0		NW			2		10					Threatening	H. E. Bellamy.
Plymouth	29.76	755.9	29.84	757.9	36.2	2.3		NNW			2		0					Blue sky	John Merrifield.
Prince Town																			W. H. Tooker.
*Roche's Point	29.94	760.5	30.00	762.0	38	3.3		N			5		5					¾ clouded	Wm. Kennedy.
St. Ann's Head	29.73	755.1	29.90	759.4	35	1.7		N			4		5					Snowing	John C. Walker.
Sandwick Manse, Orkneys			30.02	762.5	31.8	— 0.1		NE	11	4.9			3					D. clouds	Rev. C. Clouston, L.L.D.
Scutari Cemetery, Turkey	29.52	749.8	29.58	751.3	62.4	16.9		SW			2		9					D. clouds	Serg't W. H. Lane.
Sheffield	29.58	751.3	29.87	758.7	32.0	0.0		NNW			2		10			0.03	0.8	Snowing	W. F. Cooper.
Silloth Rectory	29.88	758.9	29.91	759.7	33.0	0.6	84	Calm			0		0			0	0	Blue sky	Francis Redford, A.M.
Stonyhurst (Observatory)			29.84	757.9	33.7	0.9		NNE	8	3.6			6					D. clouds	Rev. S. J. Perry.
Straffield, Turgiss	29.51	749.5	29.74	755.4	31.7	— 0.2		NW			2–3		9					Snowing	Rev. C.H. Griffith, F.M.S.
Truro (Royal Institution)	29.74	755.4	29.92	760.0	40	4.4		NE			0		4					D. clouds	W. Newcombe.
Valencia Observatory)	30.01	762.2	30.04	763.0	39.3	4.1		ENE	4	1.8			7					Misty	The Met'g'l Office.
Sub-Series.																			
Cape Town (C. G. H. Obs'y)																			The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.50	647.7			85	29.4		W					1						Robert Burnet.
Constable, Cape Colony	26.82	681.2			76	24.4		W					0						Francis Abbott, F.R.A.S.
Hobart Town, Tasmania			29.65	753.1	59.0	15.0	82	NW			2		7k			0.15	3.8	Heavy clouds	Andrew Gibb.
Leith (Restalrig Park) Sc'tl'd			29.93	760.2	32.0	0.0		NW			2		5k	NE		0	0	Cloudy	C. Meldrum.
Mauritius (Observatory)	29.83	757.7	30.02	762.5	80.0	26.7	67	ENE	17.0	7.6		2	5	NNE	ENE	0.02	0.5	Squally	R. L. J. Ellery.
Melbourne (Observatory)	29.88	758.9	29.97	761.2	56.0	13.3	74	WSW	5	2.2			2			0.24	6.1	Very fine	J. Youngclause.
Monach Lt-house, Hebrides			30.04	763.0	37	2.8		ENE			4	5	3	SE		0	0		
North Unst, Shetland Is			30.03	762.7				E			2	10	10			Blank	Blank		

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters; Prince Town, 1,400 feet, or 427 meters; Colesberg Bridge and Constable, unknown.

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. 0—10.	Clouds. Direction. From—	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. Alert, Tom Bay, Patagonia			29.88‡	758.9‡	45.5	7.5		NNW			3	8				D. clouds	Capt. J.P. Maclear, R.N.
H. M. Sloop Gannet, S. 18° 28′, W. 70° 21′			30.01‡	762.2‡	68	20.0		Calm			0	9				Overcast	Commander E. Bourke, R. N.
H. M. S. Magpie, Shaweishan I'd., China			30.28‡	769.1‡	51.0	10.6		NNW			2	0				Blue sky	Capt. R. H. Napier, R.N.
Brig Alliance, N. 43° 00′, W. 40° 20′			29.72‡	754.9‡	61.4	16.3		NNE			7	6				D. clouds	Capt. W. Scott.
Barque Belle-Isle, N. 33° 14′, W. 74° 15′			30.09	764.3	78	25.6		ENE			1	8		3	NE	D. clouds	Capt. A. J. Brown
City of Cashmere, N. 33° 57′, W. 128° 20′			30.06‡	763.5‡	60.5	15.8		W			3	4				D clouds	Capt. W. M. Grieve.
S. S. Ethiopia, N. 54° 55′, W. 18° 00′			30.04	763.0	45	7.2		WNW			3	9		3	NNW	Overcast	Capt. Campbell.
Barque Fedalma, N. 8° 00′, W. 57° 05′			29.87	758.7	81	27.2		NNE			4	10		3	NNE	Raining	Capt. H. L. Fox.
S. S. Iron Cross, N. 28° 00′, W. 88° 40′			30.22	767.6	67	19.4		ESE			3	8		3	ESE	Raining	Capt. W. Randall.
S. S. Strathleven, Off Wilson's Promontory, Australia			29.85‡	758.2‡	56.5	13.6		W			5	5				D. clouds	Capt. C. W. Pearson
S. S. Sunbeam, N. 41° 10′, W. 65° 00′			30.34	770.6	35	1.7		WNW			6	5		5	WSW	Squally	Capt. C. M. Dobson.
Light House Tender Richmond, Off Orange Cay, Florida Strait			30.13	765.3	76	24.4		E			3	6		2		D. clouds	Capt. W. H. Stewart.
S. S. Gordon Castle																	Capt. Wm. Waring.
German Brig "W. von Freeden"																	Capt. H. V. Freeden.

NOTE.—The originals give the wind-directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrumental error and temperature. Inches.	BAROMETER. Corrected for instrumental error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. L'w'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
San José	26.23	666.2	29.95	760.7	64.4	18.0	88	NE			4	3c	2d		E	0	0		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.86	758.5	29.91	759.7	18.0	—7.8	80	NNE			4		1						
Faröe	29.95	760.7	29.97	761.2	20.8	—6.2	64	ENE			4		5						
Godthaab (Greenland)																			
Stykkisholm (Iceland)	30.26	768.6	30.30	769.7	29.1	—1.6	84	NE			7		0						
Thorshavn (Faröe)	30.02	762 6	30.06	763.5	34.9	1.6	71	S			2		6						
Vestervig	29.90	759.4	30.01	762.2	18.1	—7.7	76	ENE			2		1						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.24	742.6	29.79	756.6	35.6	2	64	N			1		2k		N	0.031	0.8	Slightly cld'y	Collignon, Director.
Amiens, Normal School	29.50	749.2	29.61	752.1	35.6	2	70	WNW			1		0			0	0	Clear	Vaillant, Director.
Arras, Engin'r school	29.43	747.6	29.70	754.3	27.0	—2.8	87	NW			2					0	0		Klein, Commandant.
Avignon, Normal School	29.64	752.9	29.72	754.9	36.0	2.2	61	N			2		0			0	0	Clear	Giraud, Director.
Bar-sur-Seine	29.13	739.9	29.71	754.6	29.1	—1.6	88	W			1		10			0.114	2.9	Snowing	C. Saillard, Director
Beauvais, Normal School	29.45	747.9	29.72	754.9	35.2	1.8	67	NW			1		8		NNW	0	0	Very cloudy	Frère Eugene Marie
Besançon, Normal School	28.79	731.3	29.72	754.9	31.1	—0.5		S			1		5		SW	0.083	2.1	Cloudy	A. Carré, Director.
Bourg-en-Bresse, N. School	28.90	734.1	29.77	756.1	29.8	—1.2	100	N			1	c		N	N	0	0		Marlot, Diretor.
Bourges, Normal School	29.21	742.0	29.79	756.6	30.2	—1	92	WNW			1		10n		WNW			Snowing	M. Gence, Director.
Brest, Naval Observatory	29.65	753.0	29.89	759.1	37.8	3.2	86	N			1		3		N	0.079	2.00	Snowing	Ch. de Rermaree, Dir.
Caen, Normal School	29.72	755.0	29.80	757.0	40.5	4.7	67	NNW			1				NNW	0	0		M. Bietrin, Director.
Carcassonne, N. School	29.42	747.2	29.85	758.1	35.6	2	79	WNW			2		10	WNW	WNW	0	0	Covered	September, Director.
Châlons-sur-Marne, N. Sch'	29.39	746.5	29.71	754.5	30.2	—1.0		Calm			0		10					Covered	Jadot, Director.
Chartres, Normal School	29.17	740.8	29.72	754.8	34.2	1.2	93	NW			1		5		SE	0	0		Yergier, Director.
Clermont-Fd, Puy de D. Obs	28.35	720.2	29.73	755.2	28.8	—1.8	68	W			3		5			0.039	1.0	Showery	Alluard, Director.
Commercy, Normal School	28.80	731.4	29.69	754.2	28.9	—1.7	92	WNW			1		10		WNW	0	0	Covered	Dr. Coullet, Director.
Commune de Gréasque*	28.48	723.5	29.68	752.6	30.6	—0.8	68	NW			6		5		NW	0	0		L. Kina, Director.
Grenoble, Normal School	28.92	734.6	29.73	755.1	27.7	—2.4		NW			2		10			0.04	1.	Snowing	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	29.65	753.0	29.87	758.6	37.0	2.8	86	WNW			1		0			0.008	0.2	Clear	Mouillot, Director.
Le Mans, Normal School	29.49	749.0	29.81	757.2	35.6	2	64	N			2		2		NNW	0.004	0.1	Slightly cld'y	Poirrier, Director.
Lons-Le-Saulnier, N. School	28.79	729.8	29.69	754.0	28.4	—2	92	W			1		10			0	0	Covered	A. Baudry, Director
Lorient, Naval Observatory	29.77	756.2	29.88	759.0	38.8	3.8	76	W			1				W	0	0		Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.11	739.3	29.76	755.8	30.2	—1.0	73	WNW			1		10					Snowing	Ch. André, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.38	746.2	29.65	753.2	35.8	2.1	57	NW			4-6		1		NW	0	0		E. Stephan, Director.
Mirecourt, Normal School	28.62	726.9	29.71	754.7	28.4	—2	88	NW			1		n		NW	0	0		Barbier, Director.
Mont-Louis	24.45	620.9	29.76	755.9	25.7	—3 5	66	SW	18.6	8.3			9		N	0.118	3.0		M. Cave.
Nice	29.38	746.2	29.41	747.1	42.8	6.0	70	E			1		5	W	E	0.378	9.6	Cloudy	M. Boissière, Director.
Nismes, Normal School	29.52	749.0	29.74	755.3	37.4	3	52	NW			4		2		N	0	0	Slightly cld'y	M. Boyer, Director.
Paris, Montsouris Obs'y	29.44	747.8			33.8	1.0	80	NW			1		1			0.047	1.2		Marié Davy, Director.
Perpignan	29.09	754.1	29.80	756.9	37.9	3.3	76	N	16.8	7.5			7	NW	NW	0	0		Dr. Fines.
Pic du Midi (Plantade) H. P.	22.07	560.6			9.7	—12.4									NW	0.709	18.0		Gen'l de Nansouty.
Pic du Midi (Summit) H. P.																			M. Baylac.
Privas, Normal School	28.64	727.5	29.68	753.8	29.5	—1.4		N			1		1	N	N	0	0	Clear	M. Tallieu
Puy de Dome (Summit) Obs	24.69	627.0			11.5	—11.4	100	WNW			3					0.492	12.5	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	29.89	759.1	29.92	759.9	37.8	3.2	97	NW			2		2	NW	NW	0	0	¼ covered	Lt E. Decante, Director
Rouen, Normal School	29.64	752.8	29.72	755.0	36.0	2.2	53	WNW			1		2		W	0.043	1.1	Slightly cld'y	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.76	756.0	29.80	756.8	34.2	1.2	93	NNE			2		10	N	NNW			Snowing	Lt. Hercouet, Director
Saint Maur (near Paris)	29.56	750.8	29.72	755.0	34.7	1.5	70	NW			2		6		NNW	0.075	1.9	Snowing	E. Renou, Director.
Tarbes, Normal School	28.80	731.4	29.95	760.8	32.0	0	81	W			1		0			0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.18	741.1	29.90	759.4	34.0	1.1	95	NW			3		5			0	0	Cloudy	M. Julier Mercadier.
Tours	29.60	751.8	29.80	756.8	33.4	0.8	85	N			1		3	Calm	N	0.004	0.1	Snowing	Cousin-Marquet.
Versailles, Observatory	29.22	742 3	29.72	754.8	32.4	0.2		NW			1		5			0.077	1.96	Fair	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.03	737.3	29.78	756.3	30.2	—1	90	NW			1		8		NW	0.04	1.	Very cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.89	759.2	29.92	759.9	73.8	23.2										0	0		L'Abbé Marchésl
Zi-Ka-Wei (near Shanghai	30.26	768.6	30.29	769.3	42.8	6.0	77	NNE	0.4	0.2			0			0	0	Clear	Marc Dechevrens.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:58 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity Miles per hour.	Wind. Velocity Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.82	732.0	29.69	754.2	23.9 — 4.5		75	E			4		7ks			0.012	0.3		Prof. Dr. Hoh.
Berlin	29.62	752.4	29.81	757.1	19.4 — 7.0		100				1		10			0	0		Prof. Dr. Arndt.
Breslau	29.25	743.0	29.78	756.4	16.9 — 8.4		100	NNW			1		10			0.015	0.38	Snow-flakes	Royal University Obs'y.
Carlsruhe	29.27	743.4	29.72	754.8	25.5 — 3.6		91	NE			0		9	N		0.008	0.2	Light snow.	Albert Senz.
Cassel	29.18	741.2	29.79	756.6	23.0 — 5.0		82	NE			3		5	NE		0	0		Dr. H. Möhl.
Emden			29.88	759.0	27.0 — 2.8		88	ENE			2		8			0	0		Prof. Dr. Prestel.
Frankfort on the Main	29.34	745.1	29.74	755.5	28.4 — 2.0		72	NNE			2		4			Inap.	Inap.		Physical Society.
Friedrichshafen	28.19	715.9	29.69	754.0	25.2 — 3.8		87	N			3		10	N		0.130	3.3	Snowing	Chief Telegrapher Wilhelm.
Hamburg	29.80	757.0	29.88	758 9	23.9 — 4.5		88	NNE			4		8					Light snow.	Capt.P.F.A.Hegerman.
Kiel	29.89	759.2	29.91	759.7	23.0 — 5.0		64	NE			4		3			0.026	0.65	Snowing	Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.79	756.4	29.87	758.7	9.0 —12.8		68	E			2		0			0	0		Prof. E. Luther.
Köslin			29.84	758.0	5.4 —14.8			Calm			0		1			0	0		H. Müller.
Leipsic Observatory	29.38	746.2	29.83	757.7	12.9 —10.6		97	NNE			1		6			0.039	1.0	Foggy	Prof.Dr.Bruhns,Privy Counselor
Magdeburg	29.60	751.8	29.82	757.5	22.6 — 5.2		80	N			1		0			0	0		Dr. Assmann.
Memel	29.85	758.2	29.90	759.4	7.9 —13.4		84	E			1		18						Reinbrecht & Issermann.
Munich (München)	27.77	705.3	29.60	751.9	21.4 — 5.9		75	NW			3		10			0.185	4.7	Light snow.	Dr. C. Lang.
Neufahrwasser	29.85	758.2	29.87	758.6	18.9 — 7.3		64	SSE			1		0			0	0		A. Lothes.
Neustadt (Palatinate)	29.16	740.7	29.68	753.9	29.3 — 1.5			Calm			0		8			0	0		Reallehrer Dicknether.
Posen	29.50	749.2	29.80	757.0	21.6 — 5.8		90	N			4		10			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	29.16	740.6	29.74	755.3	27.0 — 2.8		89	NNE			2		10			0.028	0.71	Snowing	Imp. University Observatory.
Stuttgart	28.72	729.4	29.70	754.4	25.7 — 3.5		92	N			1		10			0.075	1.9		Prof. Dr. Schoder.
Weissenburg (Bavaria)	28.13	714.6	29.68	753.8	23.5 — 4.7		90						10		NE	0.047	1.2	Light snow.	Reallehrer J. Hopfner
Wustrow	29.85	758.3	29.88	758.9	24.6 — 4.1		89	NE			2		88			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.22	742.3	29 61	752.1	67.3	19.6		S			4.0		Haze					Hazy	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	30.02	762.5	30.07	763.8	79.6	26.4	7	NE	25.0	11.2			0			0	0	Blue sky	
Deesa	29.56	750.9	30.05	763.2	76.2	24.6	15	N	6.9	3.1			0			0	0	Blue sky	
Bombay	29.92	759.9	29.96	760.9	74.9	23.8	74	NNW	14.0	6.3			0			0	0	Blue sky	
Poona (Yerrowda)	28.10	713.7	29.98	761.4	75.0	23.9	15	E	4.0	1.8			0			0	0	Blue sky	
Belgaum	27.40	696.0	29.96	760.9	73.3	22.9	43	ENE	6.0	2.7			0			0	0	Blue sky	
Lahore	29.32	744.6	30.10	764.5	58.6	14.8	38	Calm	0.6	0.3			0			0	0	Blue sky	
Roorkee	29.16	740.8	30.10	764.7	61.8	16.6	27	Calm	1.4	0.6			0			0	0	Blue sky	
Agra	29.50	749.3	30.09	764.3	63.8	17.7	45	W	1.8	0.8			0			0	0		
Nagpur	28.95	735.2	30.01	762.3	71.7	22.1	39	Calm	2.1	0.9			0			0	0	Blue sky	
Jubbulpore	28.61	726.7	30.00	762.0	73.0	22.8	16	Calm	0.6	0.3			0			0	0	Blue sky	
Lucknow	29.67	753.5	30.06	763.6	60.3	15.7	37	NNW	0.9	0.4			0			0	0	Blue sky	
Allahabad	29.74	755.4	30.07	763.8	58.6	14.8	66	Calm	0.6	0.3			0			0	0	Blue sky	
Patna	29.85	758.1	30.04	762.9	68.4	20.2	38	Calm	0.8	0.4			0			0	0	Blue sky	
Hazaribagh	27.97	710.4	30.05	763.4	62.0	16.7	46	NW	0.8	0.4			0			0	0	Blue sky	
Cuttack	29.94	760.4	30.02	762.5	67.9	19.9	71	Calm	0.7	0.3			0			0	0	Blue sky	
Calcutta (Alipore)	29.98	761.5	30.00	762.1	67.5	19.7	77	NW	2.0	0.9			0			0	0	Blue sky	
Goalpara	29.60	751.7	30.00	761.9	70.9	21.6	70	SE	5.3	2.4			0			0	0	Blue sky	
Chittagong	29.88	758.8	29.97	761.2	73.8	23.2	76	Calm	2.1	0.9			1			0	0	Misty	
Sibsagar	29.69	754.1	30.04	763.0	66.6	19.2	75	ENE	7.7	0.8			0			0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,361 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	29.05	737.9	29.48	748.9	30.6	— 0.8	67	E	4.3	1.9	.....	.....	10	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	28.93	734.7	29.45	748.1	34.5	1.4	83	S	.....	.....	1	.....	10	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.35	745.5	29.47	748.4	29.7	— 1.3	98	N	13.7	6.1	.....	.....	10	.....	.....	0.205	5.2	.....	Prof. Dott. Lorenzoni.
Moncalieri	28.53	724.7	29.49	749.1	34.2	1.2	92	N	0	0	.....	.....	8	NE	.....	0.256	6.5	.....	Prof. P. F. Denza.
Genoa	29.22	742.1	29.42	747.2	35.2	1.8	65	NE	13.0	5.8	.....	.....	10	SE	.....	0.138	3.5	.....	Prof. G. M. Garibaldi.
Mondovi	27.51	698.7	29.52	749.7	30.4	— 0.9	81	W	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. D. C. Bruno
Pesaro	29.31	744.5	29.36	745.8	36.3	2.4	79	W	18.6	8.3	.....	.....	6	W	.....	0.217	5.5	.....	Prof. Luigi Guidi.
Florence	29.12	739.7	29.39	746.5	35.6	2.0	89	N	.....	.....	2	.....	9	S	.....	0.142	3.6	.....	Cav. F. Meucci.
Leghorn	29.29	744.0	29.38	746.2	43.5	6.4	70	WSW	11.9	5.3	.....	.....	10	.....	.....	0.098	2.5	.....	Prof. P. Monte.
Rome	29.24	742.8	29.43	747.4	50.0	10.0	74	SW	10.5	4.7	.....	.....	10	.....	.....	0.075	1.9	.....	Prof. P. S. Ferrari.
Lecce	29.19	741.4	29.45	747.9	61.5	16.4	65	SW	13.7	6.1	.....	.....	5	SW	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	28.61	726.8	29.52	749.7	59.5	15.3	76	NW	0.7	0.3	.....	.....	10	.....	.....	1.150	29.2	.....	Prof. D. Conti.
Cagliari	29.37	746.1	29.57	751.1	47.7	8.7	40	NW	.....	.....	6	.....	4	.....	.....	0.264	6.7	.....	Prof. A. Pacinotti.
Palermo	29.31	744.4	29.57	751.0	54.5	12.5	89	W	9.4	4.2	.....	.....	10	W	.....	0.263	1.6	.....	Prof. G. Ciacciatore.
Syracuse	29.47	748.5	29.54	750.4	64.6	18.1	55	WNW	11.2	5.0	.....	.....	8	SW	.....	0	0	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	28.95	735.3	29.48	748.8	49.3	9.6	65	SW	8.1	3.6	.....	.....	10	.....	.....	0.256	6.5	.....	Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.98	761.5	29.99	761.7	51.8	11.0	60	NNW	4.4	2.0	.....	1ck	.....	.....	.....	0	0	Clear.	K. Sasaki.
Nagasaki, I. M. Obs'y	29.89	759.2	30.70	764.5	49.1	9.5	72	NNW	5.6	2.5	.....	ck	6s	.....	.....	0	0	Clondy.	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.65	753.1	29.72	754.9	50.5	10.3	89	NW	3.3	1.5	.....	2ck;cs	0	WSW	.....	0	0	Fair.	The Staff.
Wakayama	29.86	758.4	29.91	759.7	58.1	14.5	58	NW	13.1	5.9	.....	ck	10s	.....	.....	0	0	Cloudy	

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bârcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	25.14	638.5	30.34	770.7	42.4	5.8	57	Calm	.....	.....	0	.....	0	.....	.....	0	0	Fine	Prof. L. Perez.
Leon	24.51	622.6	30.34	770.5	50.0	10.0	82	N	.....	.....	1	0	0	.....	.....	0	0	Fine	Prof. M. Leal.
Mazatlan	29.80	757.0	30.07	763.7	66.4	19.1	93	Calm	.....	.....	0	3c	0	.....	.....	0	0	Clear.	I. Guerrero, C. E.
Mexico, Central Observatory	23.16	588.2	30.40	772.2	41.7	5.4	75	Calm	0	0	.....	1s	0	.....	.....	0	0	Very fine	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	43.3	6.3	81	NW	.....	.....	1	0	0	.....	.....	0	0	Fine	M. Y. de Leon, M. E.
Puebla (Catholic Institute)	23.47	596.0	30.41	772.4	41.2	5.1	51	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.31	617.4	30.43	772.9	48.6	9.2	66	E	.....	.....	1	.....	10	.....	E	0	0	Covered	G. Barroeta, M. D.
Tlacotalpam	30.14	765.6	30.15	765.9	68.0	20.0	85	W	.....	.....	1	1	1	N	NE	0.032	9.8	Clear.	Prof. M. M. Châzaro
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell
Zacatecas	22.60	574.1	30.28	769.0	51.4	10.8	64	Calm	0	0	.....	.....	0	.....	.....	0	0	Fine	J. C. Castrillon

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7.433.9 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column; the instrumental correction —0.88 mm., or —0.035 inch, has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing																			
Groningen	29.71	754.6	29.71	754.6	31.5	— 0.3	.....	E	.....	.....	4	.....	.....	.....	.....	0.642	16.3	.....	
Helder	29.81	757.2	29.87	758.6	.....	.....	.....	E	.....	.....	.....	.....	.....	.....	.....	0.161	4.1	.....	
Hellevoetsluis	29.82	757.4	29.82	757.4	28.4	— 2.0	.....	E	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Utrecht	29.71	754.6	29.71	754.6	30.6	— 0.8	90	E	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	
	29.74	755.5	29.79	756.7	28.2	— 2.1	89	E	.....	.....	3	.....	5	.....	.....	0.024	0.6	Cloudy	H. v. d. Brmk.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.11	764.8	30.17	766.2	17.6	— 8.0	71	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	
Brönö	30.01	762.3	30.05	763.3	19.8	— 6.8	89	S	9	4	.....	.....	8	.....	.....	0	0	.....	
Christiana	29.95	760.8	30.11	764.9	12.6	—10.8	69	NNW	9	4	.....	.....	7	.....	.....	0.039	1.0	.....	
Tromsö	29.96	761.0	30.00	762.1	20.7	— 6.3	82	SW	11	5	.....	.....	4	.....	.....	0	0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	29.31	744.4	29.50	749.3	60.1	15.6	87	W	6.3	2.8	.....	.....	3	.....	.....	0.807	20.5	.....	Dr. J. A. Sampaio.
Campo Major	29.01	736.9	30.04	762.9	48.6	9.2	44	NNE	4.9	2.2	.....	.....	2	.....	.....	0.118	3.0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	29.88	759.0	29.97	761.3	63.3	17.4	70	NW	1.3	0.6	.....	.....	10	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.72	755.0	30.10	764.4	48.4	9.1	57	NE	8.7	3.9	.....	.....	1	NW	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	29.50	749.2	29.57	751.0	66.9	19.4	81	SW	9.4	4.2	.....	.....	3	.....	.....	1.599	40.6	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	A. M. de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa, Fogo, Cape Verd Islands.	.....	Blue sky.	.....	A. D. de Fonseca Saruento
Sá da Bandeira	.....	.....	.....	F. Teixeira da Silva, Comd't.
Sado, Capt. J. A de Brito Capello, St. Paul de Loando	.....	D. clouds, 2½ hr's rain-fall.	.....	Luiz Aprá, Q. M.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	2	SE	Blue sky	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	29.88	759.0	29.90	759.5	2.1	—16.6	84	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow
Astrakhan	29.98	761.6	29.90	759.5	45.0	7.2	98	Calm	0	0	.....	.....	10	.....	.....	Bl'nk	Bl'nk	Heavy clouds...	Capt. Wisganow.
Barnaul	29.22	742.2	29.75	755.7	14.2	— 9.9	100	SW	0	0	.....	.....	10	.....	.....	.....	.....	Snowing.	Meteorological Obs.
Dorpat	29.72	754.9	29.99	761.7	7.5	—13.6	83	NE	7	3	.....	.....	10n	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	28.73	729.8	29.77	756.2	6.4	—14.2	83	W	22	10	.....	.....	9	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	29.69	754.2	29.99	761.7	4.1	—15.5	89	NNE	4	2	.....	.....	8	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	28.83	732.2	29.49	749.0	25.3	— 3.7	98	E	2	1	.....	.....	10n	.....	.....	.....	.....	Light fog	Physical Cabinet.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Caud. Fatjanow.
Lugan	29.25	743.0	29.46	748.2	42.4	5.8	94	SW	13	6	.....	.....	10	.....	.....	Blank	Blank	.....	Meteorological Obs.
Moscow	29.36	745.8	29.97	761.2	2.5	—16.4	85	NE	7.8	3.5	.....	.....	7s	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	27.74	704.6	30.39	772.0	—19.5	—28.6	60	W	4	2	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	29.53	750.1	29.60	751.9	34.3	1.3	98	SW	4	2	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	29.89	759.3	30.14	765.5	35.8	2.1	85	ESE	7	3	.....	.....	0	.....	.....	.....	.....	.....	.....
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	30.00	761.9	30.14	765.5	26.6	— 3.0	70	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	29.98	761.5	30.00	761.9	3.7	—15.7	100	S	4	2	.....	.....	7sn	.....	.....	.....	.....	.....	Central Physical Obs.
Tashkend	28.52	724.3	30.10	764.4	54.7	12.6	60	.....	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.63	727.1	30.04	763.0	57.4	14.1	74	Calm	0	0	.....	.....	6s	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	29.29	743.9	29.74	755.4	14.9	— 9.5	77	NNE	11	5	.....	5c	.....	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.40	746.7	29.85	758.3	10.9	—11.7	65	NE	7	3	.....	.....	10	.....	.....	.....	.....	Heavy clouds...	Astronomical Obs.
Yenisiesk	29.64	752.9	29.97	761.2	—13.7	—25.4	77	E	9	4	.....	.....	10	.....	.....	.....	.....	Snowing	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	29.63	752.6	29.74	755.4	47.7	8.7	50	W	5.2	2.33	.....	.....	1	.....	.....	0	0	Almost clear	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.89	759.2	29.95	760.7	43.9	6.6	83	NW	2.6	1.17	.....	.....	10	.....	.....	0.504	12.8	Hailing	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.95	684.6	.....	.....	35.6	2.0	64	NE	4.8	2.14	.....	0	2	.....	.....	0	0	Light clouds	Domingo Martin y Perez.
Madrid, Royal Observatory	27.69	703.4	29.98	761.6	42.4	5.8	55	NW	20.8	9.34	.....	0	7	.....	.....	0	0	Cloudy	The Staff.
Murcia, Met. Obs'y	29.80	756.8	29.95	760.7	54.5	12.5	43	NW	7.2	3.23	.....	0	0	.....	.....	0	0	Clear.	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.12	739.7	30.05	763.2	42.4	5.8	94	SE	0	0	.....	.....	9	.....	.....	0.004	0.1	Almost cov'd	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.04	762.9	30.10	764.6	68.2	20.1	87	Calm	0	0	.....	1c	1k	W	NE	0	0	Fair	Benito Vines S. J.
Manilla, Phillippine Islands	29.87	758.7	29.92	760.0	80.6	27.0	84	ESE	0	0	.....	1cs	1s	W	E	0	0	Clear.	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.88	758.9	29.98	761.4	51.4	10.8	45	NE	16.4	7.3	.....	1	3	W	W	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.95	760.7	30.04	763.0	72.7	22.6	87	NE	0	0	.....	2c	0	NE	.....	0.059	1.50	Clear.	Enrique Gadea, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8 19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.06	763.4	30.10	764.4	— 2.2	—19.0	.....	N	.....	.....	2	.....	10	.....	.....	0	0	.....	
Umea	30.04	763.1	30.10	764.4	6.4	—14.2	100	NNW	.....	.....	2	.....	10	.....	.....	0	0	.....	
Hernosand	30.02	762.6	30.08	763.9	10.8	—11.8	93	NNW	.....	.....	2	.....	5	.....	.....	0	0	.....	
Stockholm	29.80	757.0	29.98	761.5	11.1	—11.6	93	N	.....	.....	2	.....	5	.....	.....	0	0	.....	
Wisby	29.78	756.3	29.84	757.8	21.2	- 6.0	74	E	.....	.....	4	.....	5	.....	.....	0.268	6.8	.....	
Sub-Series.																			
Upsala	29.90	759.4	29.98	761.6	6.4	—14.2	100	NNW	0	0	.....	.....	6	.....	NE	0.008	0.20	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.22	716.8	29.72	755.0	28.9	— 1.7	69	S	.....	.....	1	.....	10	.....	.....	0.012	0.3	Covered	The Observatory.
Zurich	28.00	711.1	29.74	755.3	25.2	— 3.8	87	NW	.....	.....	1	.....	10	.....	.....	0.106	2.7	Snowing	The Observatory.
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, —10.1 mm.; Thermometer, —5.8 Cent.; Relative Humidity, —10 per cent.
NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.65	753.0	65.3	18.5	49	SW	27	12.0	.....	.....	10	.....	SW	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.51	749.5	64.2	17.9	.....	S	.....	.....	1	.....	5	.....	.....	0.20	5.	Cloudy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.96	761.0	30.07	763.8	71.6	22.0	73	NE	.....	.....	2	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. van Dyck
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B.	30.22	767.6	30.29	769.4	11.1	—11.6	90	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	G. A. Blair.
Charlottetown, P. E. Island	30.16	766.1	30.20	767.1	16.1	— 8.8	75	W	18	8.0	.....	0	9s	.....	.....	0.01	0.3	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.89	759.2	30.09	764.3	27.5	— 2.5	60	SW	.....	.....	1	.....	10n	.....	.....	0.01	0.3	Cloudy	James Smith, M. A.
Dalhousie, N. B.	30.04	763.0	30.23	767.8	9.5	—12.5	.....	W	.....	.....	3	0	2s	.....	.....	0	0	Fine	H. A. Johnson.
Father Point, Quebec	30.19	766.8	30.21	767.3	8.3	—13.2	89	S	12	5.4	.....	2k	5s	NW	.....	0	0	Cloudy	J. McWilliams.
Fredericton, N. B.	30.29	769.4	30.36	771.1	12.1	—11.1	79	NW	6	2.7	.....	1c	0	.....	.....	Inap.	Inap.	Clear	Prof. Harrison.
Fort Garry, Manitoba	29.38	746.2	30.32	770.1	— 3.0	—19.4	94	NW	15	6.7	.....	5k	5n	W	.....	0	0	Cloudy	James Stewart.
Granton, Ontario	28.96	735.6	30.12	765.0	30	— 1.1	.....	SW	.....	.....	2	1cs	0	SW	.....	0	0	Fair	James Grant.
Halifax, N. S.	30.16	766.1	30.30	769.6	18.7	— 7.4	90	NW	12	5.4	.....	0	0	.....	.....	0.02	0.5	Clear	A. Allison.
Hamilton, Ontario	29.77	756.1	30.16	766.1	35.7	2.1	96	NW	.....	.....	1	9cs	0	.....	.....	0	0	Cloudy	Geo. Dickson, B. A.
Heart's Content, N. F.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.79	756.7	30.14	765.5	30.7	— 0.7	89	SW	18	8.0	.....	.....	10ks	.....	.....	Inap.	Inap.	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S.	30.03	762.7	30.07	763.8	22.2	— 5.4	87	NW	12	5.4	.....	5k	0	NW	.....	0	0	Fair	C. H. Rigby.
Montreal, Quebec	29.97	761.2	30.18	766.6	20.3	— 6.5	82	S	16	7.2	.....	.....	10s	.....	.....	Inap.	Inap.	Overcast	C. H. McLeod, C. E.
Moose Factory, Ontario	29.63	752.6	29.67	753.6	12.0	—11.1	88	NW	.....	.....	6	.....	10	.....	.....	0.05	1.3	Stormy	J. R. Nelson.
Norwood	29.34	745.2	30.07	763.8	31.0	— 0.6	94	SW	.....	.....	2	.....	10s	.....	.....	0	0	Cloudy	Rev. T. F. Fotheringham, M. A.
Parry Sound, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. R. Mosley.
Peterboro, Ontario	29.31	744.5	30.09	764.3	35.2	1.8	74	SW	.....	.....	1	.....	10s	.....	.....	0.10	2.5	Overcast	J. F. Jeffers, M. A.
Port Dover, Ontario	29.44	747.8	30.16	766.1	37.0	2.8	71	SW	23	10.3	.....	5ck	0	SW	.....	0	0	Fair	H. Morgan.
Port Hastings, N. S.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Port Stanley, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Quebec, Quebec	29.48	748.8	30.14	765.5	38.2	3.4	61	SW	32	14.3	.....	5ck	0	W	.....	0.02	0.5	Fair	M. Payne.
Rockliffe, Ontario	29.91	759.7	30.07	768.8	7	—13.9	54	W	.....	.....	1	.....	10s	.....	.....	0	0	Fair	Capt. Ashe, R. N.
St. Andrews, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. McIntyre.
St. John, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Gove.
Saugeen, Ontario	30.18	766.6	30.36	771.1	14	—10.0	81	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	G. Murdock, C. E.
Stayner, Ontario	29.27	743.4	30.01	762.2	34.0	1.1	89	SW	24	10.7	.....	5cs	0	.....	.....	0	0	Fair	K. Stewart.
Stratford, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Sydney, C. B.	28.79	731.3	30.14	765.5	29.0	— 1.7	87	SW	9	4.0	.....	1c	2s	NW	.....	0	0	Fair	C. J. MacGregor, M. A.
Toronto, Ontario	30.02	762.5	30.07	763.8	23.3	— 4.8	91	NW	9	4.0	.....	.....	10n	.....	.....	0.36	9.1	Snowing	T. C. Hill, C. E.
Windsor, N. S.	29.72	754.9	30.12	765.0	34.9	1.6	70	SW	17	7.6	.....	8ck	2s	W	W	0	0	Cloudy	Magnetic Observatory.
Woodstock, Ontario	30.18	766.6	30.28	769.1	17.5	— 8.1	92	NW	8	3.6	.....	4cs	4c;ks	.....	.....	0.75	19.1	Cloudy	Prof. John E. Oram, M. A.
Yarmouth, N. S.	29.00	736.6	30.11	764.8	32.6	0.3	81	S	20	8.9	.....	7c;cs	0	Calm	.....	0	0	Cloudy	Prof. J. Montgomery.
Sub-Series.	30.31	769.9	30.38	771.6	24.5	— 4.2	83	N	6	2.7	.....	3k	2s	W	.....	0.05	1.3	Fair	Lt. F. E. Wilmot, R. N.
St. Johns, Newfoundland	29.59	751.6	29.85	758.2	37.0	2.8	100	SW	.....	.....	.....	.....	10	.....	.....	Inap.	Inap.	Light snow	John Delany,
St. Pierre, N. F., l'Hopital Maritime.	.....	.....	29.82	757.4	36.7	2.6	.....	NW	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	The Commandant.
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.**

UNITED STATES SERIES.

Furnished by the co-operation of Byt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer.
Albany, New York	30.13	765.3	30.38	771.6	21	— 6.1	71	S	8	3.6	.....	8cs	0	W	.....	0	0	Fair	
Alpena, Michigan	29.26	743.2	29.93	760.2	32	0.0	89	SW	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	29.24	742.7	30.48	774.2	30	— 1.1	59	E	9	4.0	.....	2c	0	Calm	.....	0	0	Clear.	
Atlantic City, New Jersey	30.52	775.2	30.54	775.7	27	— 2.8	76	N	3	1.3	.....	2c;hz'	0	Calm	.....	0	0	Fair	
Augusta, Georgia	30.30	769.6	30.52	775.2	34	1.1	52	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Baltimore, Maryland	30.46	773.7	30.52	775.2	31	— 0.6	58	W	4	1.8	.....	5ck	0	W	.....	0	0	Fair	
Barnegat, New Jersey	30.50	774.7	30.53	775.4	25	— 3.9	87	NW	4	1.8	.....	8c	0	Calm	.....	0	0	Fair	
Bismarck, Dakota	28.20	716.3	30.06	763.5	15	— 9.4	82	NE	8	3.6	.....	10cs	0	W	.....	0	0	Cloudy	
Boerne, Texas	28.72	729.5	30.09	764.3	38	3.3	72	SW	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Boise City, Idaho	27.11	688.6	30.07	763.8	45	7.2	92	SE	2	0.9	.....	.....	10n	.....	Calm	0.36	9.1	Light rain	
Boston, Massachusetts	30.27	768.8	30.44	773.2	24	— 4.4	61	SW	6	2.7	.....	1cs	5s	Calm	Calm	0	0	Fair	
Brackettville, Texas	29.01	736.8	30.10	764.5	47	8.3	92	NE	5	2.2	.....	.....	8s	.....	SE	0	0	Fair	
Breckenridge, Minnesota	29.01	736.8	30.09	764.3	12	—11.1	100	N	12	5.4	.....	10ck	0	NW	.....	0	0	Cloudy	
Brownsville, Texas	30.14	765.5	30.19	766.8	66	18.9	79	E	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Buffalo, New York	29.43	747.5	30.16	766.1	36.5	2.5	57	SW	10	4.5	.....	0	5s	.....	W	0	0	Fair	
Burkes, Arizona	.....	.....	.....	.....	40	4.4	56	Calm	.....	.....	0	.....	10s	.....	Calm	0	0	Cloudy	
Burlington, Vermont	29.95	760.7	30.26	768.6	23	— 5.0	73	S	21	9.4	.....	5ck	5ks	W	S	0	0	Cloudy	
Cairo, Illinois	29.96	761.0	30.37	771.4	41	5.0	57	S	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Campo, California	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Cape Hatteras, N. Carolina	30.44	773.2	30.45	773.4	52	11.1	60	NE	17	7.6	.....	2c	0	NW	.....	0	0	Clear.	
Cape Henry, Virginia	30.51	774.9	30.53	775.4	38	3.3	63	NW	6	2.7	.....	2ks;hz	0	Calm	.....	0	0	Clear.	
Cape Lookout, N. Carolina	30.41	772.4	30.43	772.9	41	5.0	73	N	21	9.4	.....	5cs	0	Calm	.....	0	0	Fair	
Cape May, New Jersey	30.50	774.7	30.53	775.4	36	2.2	62	W	10	4.5	.....	2cs	2ks	Calm	Calm	0	0	Fair	
Castroville, Texas	29.39	746.5	30.13	765.3	39	3.9	82	NW	4	1.8	.....	5ck	0	W	.....	0	0	Fair	
Cedar Keys, Florida	30.23	767.8	30.26	768.6	53	11.7	86	NE	18	8.0	.....	0	2s	.....	NW	0	0	Fair	
Charleston, South Carolina	30.36	771.1	30.42	772.7	39	3.9	82	NE	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Charlotte, North Carolina	29.61	752.1	30.50	774.7	28	— 2.2	66	N	6	2.7	.....	2	Sm'e	Calm	Calm	0	0	Fair	
Chattanooga, Tennessee	29.62	752.3	30.47	773.9	35	1.7	61	SE	4	1.8	.....	1c	0	Calm	.....	0	0	Clear.	
Cheyenne, Wyoming	23.92	607.6	29.86	758.4	33	0.6	51	W	6	2.7	.....	5c	0	W	.....	0	0	Fair	
Chicago, Illinois	29.36	745.7	30.07	763.8	36	2.2	61	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Cincinnati, Ohio	29.66	753.4	30.34	770.6	40	4.4	56	SW	5	2.2	.....	9k	0	W	.....	0	0	Cloudy	
Cleveland, Ohio	29.43	747.5	30.18	766.6	36	2.2	61	SE	16	7.2	.....	2cs	8s	SW	S	0	0	Cloudy	
Coleman City, Texas	28.30	718.8	30.04	763.0	36	2.2	61	S	5	2.2	.....	0	0	.....	.....	0	0	Clear.	
Columbus, Ohio	29.40	746.7	30.29	769.4	32	0.0	79	S	6	2.7	.....	.....	10ks	.....	S	0	0	Cloudy	
Concho, Texas	28.19	716.0	29.94	760.5	39	3.9	55	Calm	.....	.....	0	.....	10s	.....	Calm	0	0	Cloudy	
Corsicana, Texas	29.74	755.4	30.24	768.1	39	3.9	64	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Davenport, Iowa	29.38	746.2	30.04	763.0	35	1.7	80	SW	6	2.7	.....	5c	0	Calm	.....	0	0	Fair	
Dayton, Washington T'y	.....	.....	.....	.....	47	8.3	77	SW	.....	.....	1	.....	10s	.....	Calm	0.21	5.3	Cloudy	
Deadwood, Dakota	25.14	638.5	.....	.....	35	1.7	61	Calm	0	0	.....	0	1s	.....	.....	0	0	Clear.	
Decatur, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Denison, Texas	29.36	745.7	30.18	766.6	43	6.1	51	S	11	4.9	.....	1cs	0	.....	.....	0	0	Clear.	
Denver, Colorado	24.68	626.9	29.90	759.4	37	2.8	63	S	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Des Moines, Iowa	29.10	739.1	30.00	762.0	35	1.7	80	Calm	0	0	.....	0	Sm'e	.....	Calm	0	0	Clear.	
Detroit, Michigan	29.43	747.5	30.12	765.0	33	0.6	79	SW	8	3.6	.....	0	2s	.....	Calm	0	0	Clear	
Dodge City, Kansas	27.34	694.4	29.69	754.1	32	0.0	69	Calm	0	0	.....	0	5s	.....	Calm	0	0	Fair	
Dubuque, Iowa	29.30	744.2	30.03	762.7	32	0.0	79	S	3	1.3	.....	0	Fog	.....	Calm	Inap.	Inap.	Foggy	
Duluth, Minnesota	29.26	743.2	29.96	761.0	32	0.0	79	NW	4	1.8	.....	0	5s	.....	W	0	0	Fair	
Eagle Pass, Texas	29.41	747.0	30.07	763.8	45	7.2	68	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Foggy	
Eastport, Maine	30.30	769.6	30.37	771.4	16	— 8.9	66	NW	4	1.8	.....	5c	0	Calm	.....	Inap.	Inap.	Fair	
Edinburg, Texas	.....	.....	.....	.....	66	18.9	69	Calm	.....	.....	0	.....	10s	.....	SE	0	0	Cloudy	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.45	748.0	30.19	766.8	36	2.2	53	S	15	6.7	.....	2ck	0	W	.....	0.02	0.5	Fair	
Escanaba, Michigan	29.24	742.7	29.92	760.0	31	— 0.6	79	SW	6	2.7	.....	.....	10s	.....	SW	0	0	Cloudy	
Florence, Arizona	28.49	723.6	30.09	764.3	44	6.7	76	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.98	710.7	29.97	761.2	12	—11.1	80	NE	7	3.1	.....	.....	10n	.....	NW	Inap.	Inap.	Light snow	
Fort Custer, Montana	26.71	678.4	.....	.....	20	— 6.7	85	N	12	5.4	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Fort Davis, Texas	25.26	641.6	30.22	767.6	40	4.4	48	NW	2	0.9	.....	1c	0	SW	.....	0	0	Clear.	
Fort Gibson, Indian Ter	29.60	751.8	30.16	766.1	42	5.6	42	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Fort Grant, Arizona	25.27	641.8	30.07	763.8	50	10.0	28	E	9	4.0	.....	10cs	0	Calm	.....	0	0	Cloudy	
Fort Griffin, Texas	28.80	731.5	30.11	764.8	41	5.0	65	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Fort Keogh, Montana	27.36	694.9	.....	.....	10	—12.2	61	Calm	0	0	.....	.....	10s	.....	NE	0	0	Threatening	
Fort McKavett, Texas	27.84	707.1	29.79	756.7	48	8.9	85	S	16	7.2	.....	.....	10s	.....	S	0	0	Cloudy	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.83	732.3	29.96	761.0	41	5.0	49	SE	12	5.4	.....	0	0	.....	.....	0	0	Clear.	
Fort Stevenson, Dakota	28.23	717.0	.....	.....	13	—10.6	81	NW	9	4.0	.....	.....	10s	.....	NW	0	0	Cloudy	
Fort Verde, Arizona	.....	.....	.....	.....	31	— 0.6	79	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.30	718.8	29.87	758.7	54	12.2	74	S	4	1.8	.....	0	5ks	.....	Calm	0	0	Fair	
Galveston, Texas	30.20	767.1	30.25	768.3	55	12.8	68	SE	1	0.4	.....	0	1s	.....	Calm	0	0	Clear.	
Graham, Texas	29.00	736.6	30.08	764.0	43	6.1	59	S	5	2.2	.....	0	0	.....	.....	0	0	Clear.	
Grand Haven, Michigan	29.37	746.0	30.03	762.7	42	5.6	74	SW	24	10.7	.....	0	0	.....	.....	0	0	Clear.	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.11	739.4	30.07	763.8	45	7.2	61	SE	10	4.5	.....	2c	0	NW	.....	0	0	Fair	
Indianapolis, Indiana	29.41	747.0	30.22	767.6	33	2.2	53	S	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Indianola, Texas	30.22	767.6	30.24	768.1	58	14.4	88	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear.	
Jacksboro, Texas	28.95	735.3	30.10	764.5	45	7.2	53	S	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Jacksonville, Florida	30.29	769.4	30.32	770.1	53	11.7	73	N	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
Keokuk, Iowa	29.41	747.0	30.04	763.0	39	3.9	64	SW	9	4.0	.....	1cs	0	Calm	.....	0	0	Clear	
Key West, Florida	30.08	764.0	30.12	765.0	70	21.1	90	NE	14	6.3	.....	2k	0	NE	.....	0	0	Fair	
Kittyhawk, North Carolina	30.49	774.4	30.52	775.2	38	3.3	72	N	15	6.7	.....	5cs	0	Calm	.....	0	0	Fair	
Knoxville, Tennessee	29.41	747.0	30.49	774.4	31	— 0.6	84	Calm	0	0	.....	5cs	Haze	Calm	Calm	0	0	Hazy	
La Crosse, Wisconsin	29.20	741.7	29.96	761.0	31	— 0.6	69	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
La Mesilla, New Mexico	26.17	664.7	30.32	770.1	28	— 2.2	54	Calm	0	0	.....	5c	2s	Calm	Calm	0	0	Cloudy	
Laredo, Texas	29.78	756.4	30.12	765.0	64	17.8	73	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Leavenworth, Kansas	29.17	740.9	30.04	763.0	38	3.3	81	S	3	1.3	.....	1cs	0	NW	.....	0	0	Clear	
Lewiston, Idaho	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Little Rock, Arkansas	29.97	761.2	30.36	771.1	37	2.8	81	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Los Angeles, California	29.71	754.6	30.05	763.3	54.0	12.2	90	Calm	0	0	.....	.....	10s	.....	Calm	0.20	5.1	Cloudy	
Louisville, Kentucky	29.76	755.9	30.34	770.6	40	4.4	45	S	8	3.6	.....	8ck	2s	NW	Calm	0	0	Cloudy	
Lynchburg, Virginia	29.83	757.7	30.56	776.2	29	— 1.7	88	Calm	0	0	.....	10cs	0	W	.....	0	0	Cloudy	
Madison, Wisconsin	28.95	735.3	29.97	761.2	33	0.6	70	S	11	4.9	.....	0	0	.....	.....	0	0	Clear.	
Marquette, Michigan	29.16	740.7	29.87	758.7	37	2.8	71	SW	4	1.8	.....	.....	10s	.....	SW	0	0	Cloudy	
Mason, Texas	28.49	723.6	30.29	769.4	48	8.9	85	S	6	2.7	.....	10cs	0	S	.....	0	0	Cloudy	
Memphis, Tennessee	29.99	761.7	30.35	770.9	39	3.9	63	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Milwaukee, Wisconsin	29.24	742.7	30.00	762.0	31	— 0.6	79	SW	9	4.0	.....	0	0	.....	.....	Inap.	Inap.	Clear.	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mobile, Alabama	30.30	769.6	30.34	770.6	42.5	5.8	87	NE	3	1.3	.....	0	8s	.....	W	0	0	Fair	
Montgomery, Alabama	30.18	766.6	30.43	772.9	41	5.0	48	NE	8	3.6	.....	8k	0	S	.....	0	0	Fair	
Morgantown, West Virginia	29.35	745.5	30.40	772.1	34	1.1	61	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Mt. Washington, N. H.	23.68	601.5	30.04	763.0	4	—15.6	74	NW	54	24.1	.....	0	5ks	.....	NW	0	0	Fair	
Nashville, Tennessee	29.87	758.7	30.44	773.2	33	0.6	70	Calm	0	0	.....	0	Sm'e	.....	Calm	0	0	Clear	
New Haven, Connecticut	30.36	771 1	30.49	774.4	29	— 1.7	67	W	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
New London, Connecticut	30.44	773.2	30.50	774.7	24.5	— 4.2	68	SW	3	1.3	.....	10cs	0	SW	.....	0	0	Cloudy	
New Orleans, Louisiana	30.24	768.1	30.31	769.9	47	8.3	69	NE	6	2.7	.....	0	Sm'e	.....	Calm	0	0	Smoky	
Newport, Rhode Island	30.43	772.9	30.48	774.2	28	— 2.2	66	SW	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
New River, North Carolina	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
New York, New York	30.32	770.1	30.51	774.9	29	— 1.7	59	SW	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Norfolk, Virginia	30.46	773.7	30.53	775.4	33	0.6	70	N	4	1.8	.....	0	5s	.....	Calm	0	0	Fair	
North Platte, Nebraska	26.94	684.3	29.58	751.3	29	— 1.7	83	NW	6	2.7	.....	2c	0	Calm	.....	0	0	Fair	
Olympia, Washington Ter.	29.67	753.6	29.71	754.6	51.5	10.8	90	S	5	2.2	.....	.....	10n	.....	SW	0.18	4.6	Light rain	
Omaha, Nebraska	28.80	731.5	29.92	760.0	36	2.2	71	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Oswego, New York	29.86	758.4	30.20	767.1	32	0.0	79	S	10	4.5	.....	.....	10s	.....	W	0	0	Cloudy	
Pembina, Dakota	29.24	742.7	30.16	766.1	2	—16.7	100	N	10	4.5	.....	.....	10s	.....	W	0	0	Cloudy	
Pensacola, Florida	30.33	770.4	30.36	771.1	45	7.2	76	NE	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Philadelphia, Pennsylvania	30.46	773.7	30.51	774.9	28	— 2.2	66	SW	8	3.6	.....	0	5s;fg	.....	Calm	0	0	Fair	
Phœnix, Arizona	28.84	732.5	30.69	779.5	45	7.2	68	E	3	1.3	.....	5c	0	Calm	.....	0	0	Fair	
Pike's Peak, Colorado	17.71	449.8	29.92	760.0	16	— 8.9	33	W	48	21.5	.....	8cs	0	NW	.....	0	0	Fair	
Pilot Point, Texas	29.39	746.5	30.24	768.1	46	7.8	47	S	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Pioche, Nevada	.....	.....	.....	.....	37	2.8	90	NW	2	0.9	.....	.....	10n	.....	Calm	0.02	0.5	Heavy rain	
Pittsburg, Pennsylvania	29.49	749.0	30.34	770.6	33	0.6	61	SW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Port Huron, Michigan	29.40	746.7	30.09	764.3	23	0.6	89	SW	20	8.9	.....	8cs	0	W	.....	0	0	Fair	
Portland, Maine	30.36	771.1	30.41	772.4	23	— 5.0	60	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Portland, Oregon	29.73	755.1	29.81	757.2	50.0	10.0	93	S	6	2.7	.....	.....	10s	.....	SW	0.33	8.4	Threatening	
Portsmouth, N. Hampshire	.....	.....	.....	.....	44	6.7	84	NE	22	9.8	.....	0	0	.....	.....	0	0	Clear	
Prescott, Arizona	24.76	628.9	30.12	765.0	34	1.1	70	.....	.....	.....	1	8c	0	W	.....	0	0	Cloudy	
Punta Rassa, Florida	30.15	765.8	30.17	766.3	66	18.9	84	NE	15	6.7	.....	.....	10ks	.....	NE	Inap.	Inap.	Cloudy	
Red Bluff, California	29.70	754.4	30.07	763.8	48.5	9.2	97	Calm	0	0	.....	.....	10n	.....	.....	1.00	25.4	Light rain	
Rio Grande City, Texas	29.99	761.7	30.21	767.3	53	11.7	86	Calm	0	0	.....	.....	10s	.....	SE	0	0	Cloudy	
Rochester, New York	29.49	749.0	30.13	765.3	35	1.7	70	SW	12	5.4	.....	.....	10s	.....	W	0	0	Cloudy	
Roseburg, Oregon	29.32	744.7	29.89	759.2	48	8.9	96	Calm	0	0	.....	.....	10ks	.....	Calm	0.50	12.7	Cloudy	
Sacramento, California	29.99	761.7	30.07	763.8	50	10.0	93	Calm	0	0	.....	.....	10s	.....	Calm	0.46	11.7	Cloudy	
St. Louis, Missouri	29.63	752.6	30.23	767.8	36	2.2	53	S	10	4.5	.....	0	0	.....	.....	0	0	Clear	
St. Paul, Minnesota	29.07	738.4	29.93	760.2	29	— 1.7	78	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Salt Lake City, Utah	25.61	650.5	29.94	760.5	44	6.7	92	W	4	1.8	.....	.....	10n	.....	Calm	0.06	1.5	Light rain	
San Antonio, Texas	29.52	749.8	30.13	765.3	42	5.6	83	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
San Diego, California	29.97	761.2	30.04	763.0	52	11.1	93	N	1	0.4	.....	5ck	5s	SW	W	0	0	Cloudy	
Sandusky, Ohio	29.50	749.3	30.19	766.8	38	3.3	45	SW	21	9.4	.....	10ck	0	W	.....	0	0	Cloudy	
Sandy Hook, New Jersey	30.48	774.2	30.52	775.2	28	— 2.2	77	SW	14	6.3	.....	5c	0	NW	.....	0	0	Fair	
San Francisco, California	29.98	761.5	30.04	763.0	55	12.8	93	Calm	0	0	.....	.....	10s	.....	S	0.31	7.9	Cloudy	
Santa Fé, New Mexico	23.35	593.1	29.86	759.2	23	— 5.0	34	NE	8	1.3	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.32	770.1	30.42	772.7	39	3.9	64	NE	12	5.4	.....	.....	10s	.....	NE	0	0	Cloudy	
Shreveport, Louisiana	30.06	763.5	30.29	769.4	37	2.8	71	Calm	0	0	.....	0	1s	.....	Calm	0	0	Clear	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.40	772.1	30.44	773.2	33	0.6	79	N	12	5.4	.....	0	1s	.....	Calm	0	0	Clear	
Socorro, New Mexico	25.50	647.7	29.56	750.8	27	— 2.8	53	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois	29.48	748.8	30.17	766.3	38	3.3	45	S	15	6.7	.....	0	0	.....	.....	0	0	Clear	
Springfield, Massachusetts	30.31	769.9	30.45	773.4	23	— 5.0	60	S	6	2.7	.....	0	8s	.....	SW	0	0	Cloudy	
Stockton, Texas	27.06	687.3	30.06	763.5	39	3.9	31	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	30.39	771.9	30.44	773.2	26	— 3.3	75	SW	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Toledo, Ohio	29.44	747.8	30.15	765.8	35	1.7	70	S	14	6.3	.....	5c	0	NW	.....	0	0	Fair	
Tucson, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon	29.51	749.5	30.00	762.0	40.0	4.4	100	SE	4	1.8	.....	.....	10n	.....	.....	0.05	1.3	Light rain	
Uvalde, Texas	29.30	744.2	30.14	765.5	46	7.8	69	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	30.07	763.8	30.34	770.6	39	3.9	64	SE	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Virginia City, Montana	23.98	609.1	29.46	748.3	33	0.6	89	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Visalia, California	29.64	752.8	30.02	762.5	51	10.6	96	Calm	0	0	.....	8k	0	Calm	.....	0.19	4.8	Fair	
Washington, D. C.	30.40	772.1	30.52	775.2	28	— 2.2	77	SW	6	2.7	.....	5c;ck	0	W	.....	0	0	Fair	
Wickenburg, Arizona	.....	.....	.....	.....	35	1.7	80	N	.....	.....	1	9cs	0	Calm	.....	0	0	Cloudy	
Wilmington, North Carolina	30.38	771.6	30.47	773.9	32	0.0	59	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Winnemucca, Nevada	25.62	650.7	29.98	761.5	38	3.3	91	S	4	1.8	.....	.....	10s	.....	SW	0.11	2.8	Cloudy	
Wood's Holl, Massachusetts	30.43	772.9	30.47	773.9	30	— 1.1	78	N	4	1.8	.....	.....	8s	.....	Calm	0	0	Cloudy	
Yankton, Dakota	28.58	725.9	29.92	760.0	27	— 2.8	76	E	1	0.4	.....	2c	0	NW	.....	0	0	Fair	
Yuma, Arizona	29.82	757.4	29.99	761.7	47	8.3	62	N	2	0.9	.....	5c	0	Calm	.....	0	0	Fair	
SUB-SERIES.																			
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	30.01	762.2	30.06	763.5	72	22.2	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.19	766.8	30.20	767.1	73	22.8	86	Calm	0	0	.....	0	2cs	.....	.....	.....	.....	Fair	James Gall.
Navassa, W. I.	29.93	760.2	30.01	762.2	74	23.3	69	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.96	761.0	29.96	761.0	79	26.1	82	E	.....	.....	1	6k	8ks	E	.....	0.290	7.37	Cloudy	C. J. Hering.
Santiago de Cuba, W. I.	30.01	762.2	30.03	762.7	74	23.3	76	NW	3.6	1.6	.....	.....	.....	.....	.....	0	0	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	30.07	763.8	30.13	765.3	—22.5	—30.3	.....	W	10	4.5	.....	2c	5s	W	W	0.05	1.3	Cloudy	J. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,289 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 m m.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.34‡	770.6‡	.....	.....	50	10.0	86	NE	13	5.8	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Navy Yard, Portsmouth, N.H	29.99‡	761.7‡	.....	.....	20	—6.7	85	W	5	2.2	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Naval Hospital, Yokohama, Japan	29.74‡	755.4‡	.....	.....	55.1	12.8	87	Calm	.....	.....	0	2ck	.....	SW	.....	0	0	.....	.....	Fair	
Adams, Mare I'd., Navy Yard, Cal.	30.05‡	763.3‡	.....	.....	54	12.2	87	S	.....	.....	1	.....	2	.....	S	.....	.....	.....	.....	Clear	
Alaska, Iquique, Peru	29.99‡	761.7‡	.....	.....	68	20.0	79	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Blue sky	
Alliance, N. 26° 26′, W. 66° 33′	30.10‡	764.5‡	.....	.....	74	23.3	63	E	.....	.....	2	.....	1	.....	E	.....	.....	Smooth	E	D. clouds	
Colorado, New York, N. Y.	30.47‡	773.9‡	.....	.....	30	—1.1	89	SW	3	1.3	.....	.....	5	.....	Calm	0	0	.....	.....	Misty	
Constitution, Hampton Roads, Va.	30.53‡	775.4‡	.....	.....	38	3.3	72	NNW	.....	.....	1	.....	2	.....	NW	.....	.....	.....	.....	Bright	
Enterprise, Jaffa, Asiatic Turkey	30.09‡	764.3‡	.....	.....	72	22.2	85	NNW	.....	.....	1	.....	0	.....	.....	.....	.....	Smooth	.....	Clear	
Franklin, Off Navy Yard, Norfolk, Va.	30.56‡	776.2‡	.....	.....	36	2.2	80	N	5	2.2	.....	.....	2	.....	W	0	0	.....	.....	Fair	
Independence, Mare I'd, Navy Yard, Cal.	30.02‡	762.5‡	.....	.....	60	15.6	82	E	1.2	0.5	.....	.....	10?	.....	ESE	0.061	1.55	.....	.....	Clear	
Kearsage, Savannah, Ga	30.40‡	772.1‡	.....	.....	44	6.7	76	NNE	.....	.....	2	.....	1	.....	NNE	0	0	Smooth	.....	D. clouds	
Lackawana, N. 33° 00′ W. 156° 36′	29.95‡	760.7‡	.....	.....	65	18.3	89	SW	.....	.....	2	.....	10	.....	W	.....	.....	Long	W	Raining	
Marion, Navy Yard, Brooklyn, N.Y.	30.53‡	775.4‡	.....	.....	30	—1.1	66	SW	.....	.....	3	.....	2	.....	SW	.....	.....	.....	.....	Clear	
Michigan, Erie, Pa.	30.14‡	765.5‡	.....	.....	37	2.8	60	WSW	.....	.....	4	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Monocacy, Shanghai, China	30.29‡	769.4‡	.....	.....	45	7.2	84	N	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear	
New Hampshire, Port Royal, S. C.	30.39‡	771.9‡	.....	.....	41	5.0	83	NE	24	10.7	.....	.....	8	.....	Calm	0	0	.....	.....	Cloudy	
Onward, Callao, Peru †.	29.98‡	761.5‡	.....	.....	64	17.8	89	W	.....	.....	1	.....	10	.....	.....	.....	.....	Mod'ate smooth	W	Misty	
Palos, Tientsin, China	30.17‡	766.3‡	.....	.....	31	—0.6	89	ENE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Passaic, Washington, D. C.	30.33‡	770.4‡	.....	.....	31	—0.6	89	SW	.....	.....	2	.....	5	.....	.....	.....	.....	.....	.....	Fair	
Pensacola, Callao, Peru	29.97‡	761.2‡	.....	.....	63	17.2	94	W	.....	.....	1	.....	10	.....	.....	.....	.....	Smooth	W	Overcast	
Powhatan, Navy Yard, Brooklyn, N.Y.	30.50‡	774.7‡	.....	.....	30	—1.1	68	SW	.....	.....	2	.....	8	.....	SW	0	0	.....	.....	Cloudy	
Quinnebaug, Genoa, Italy	29.39‡	746.5‡	.....	.....	38	3.3	63	N	.....	.....	6	.....	10	.....	NE	.....	.....	.....	.....	Cloudy	
Ranger, N. 27° 00′, W. 178° 15′	30.01‡	762.2‡	.....	.....	54	12.2	80	N	.....	.....	5	.....	10	.....	NW	.....	.....	Long	NNW	Cloudy	
Richmond, Shanghai, China	30.30‡	769.6‡	.....	.....	48	8.9	70	N	.....	.....	1-2	.....	0	.....	.....	.....	.....	Smooth	.....	Pleasant	
Rio Bravo, Brownsville, Texas	30.32‡	770.1‡	.....	.....	65	18.3	89	E	2	0.9	.....	.....	8	.....	SSE	0	0	.....	.....	Cloudy	
Santee, Annapolis, Md	30.54‡	775.7‡	.....	.....	36	2.2	67	S	.....	.....	1	.....	8	.....	SW	0	0	.....	.....	Cloudy	
Shenandoah, S. 23° 00′, W. 42° 00′	29.85‡	758.2‡	.....	.....	76	24.4	91	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	Smooth	.....	Fair	
St. Louis, League Island, Pa.	30.49‡	774.4‡	.....	.....	26	—3.3	.....	SW	7	3.1	.....	.....	8	.....	SSW	0	0	.....	.....	Fair	
Tuscarora, N. 16° 08′, W. 98° 10′	29.93‡	760.2‡	.....	.....	74	23.3	90	NNW	.....	.....	2	.....	0	.....	.....	0	0	Long	.....	Clear	
Vandalia, N. 37° 50′, W. 74° 35′	30.53‡	775.4‡	.....	.....	45	7.2	92	NE	.....	.....	2	.....	2	.....	NE	.....	.....	.....	.....	Clear	
Wabash, Boston, Mass.	30.48‡	774.2‡	.....	.....	20	—6.7	85	WSW	5	2.2	.....	.....	2	.....	.....	0	0	.....	.....	Fair	
Wachusett, S. 9° —′, W 32° —′	29.97‡	761.2‡	.....	.....	80	26.7	96	SE	.....	.....	2	.....	3	.....	.....	.....	.....	Smooth	.....	Fair	
Wyoming, Cadiz, Spain	29.98‡	761.5‡	.....	.....	51	10.6	59	NNE	.....	.....	3-5	.....	2	.....	NE	.....	.....	Smooth	NE	Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		CHARACTER.	DIRECTION FROM—		

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S. S. Samaria																			Capt. T. Roberts.

NOTE—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitebury.
S. S. Costa Rica																			W. House & R. Lawless.
S. S. Dakota, Capt. H. G. Morse																			Capt. Connolly.
S. S. Georgia																			F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin																			Capt. A. Fuller.
S. S. Wilmington																			
S. S. Zealandia, Sydney, New South Wales		29.94‡	760.5‡				NE			5				N				Overcast	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The orginals give the barometer as read off; wind-force by the scale 0 to 12; for the Brittanic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer																			
Hong-Kong, China†		30.00‡	762.0‡	71	21.7	80	NE			2		5		N		Smooth		D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson																			J. A. Thompson, C. U.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES

Furnished by the co-operation of A. Schumacher & Co., Agents

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undutsch.
S. S. Leipzig, Capt. F. Pfeiffer, N. 40° 02', W. 63° 03'		30.88‡	771.6‡	43.0	6.1	75	NNW			6		8		N	0	Long	NNW	Fair	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 49° 54', W. 21° 40'		30.32‡	770.1‡				N			4		8		NE		3	E	Cloudy	Capt G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'er 0—10.	Upper. From—	Lower. From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa.		30.58‡	776.7‡	34	1.1	??	SW			3		1		SW	0			Clear	Capt. R. W. Sargent
S. S. Ohio																			Wm. Shackford, Chief Officer
S. S. Pennsylvania																			Capt. Harris.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from, sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents.

Belgenland, N. 44° 17′, W. 51° 24′		29.80‡	756.9‡	38	3.3		WNW	34	15.2			5		WNW	4 h'rs	Mod'ate	NW	Cloudy	Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

Note.—The originals give the barometer as read off; do not distinguish between upper and lower clouds; sea-swell in general terms, as published. ‡Corrections for temperature, instrumental error and elevation applied at this office.

ALLAN LINE MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12. *The error of the barometer is not known. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES—Miscellaneous.

Furnished by the co-operation of the Observers named.

Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George" of Halifax, N. 18° 02′, W. 67° 35′		29.97‡	761.2‡	82	27.8		NE			5		2		NE		Mod'ate		Fine	N. B. Foss.
Schooner Harry and Fred																			Capt. George Gardner.
Haytian																			
§ Iron Cross																			
Nordenskiold of Sundsvall, Sweden																			Capt. W. Randall.
Sch'r A. A. Rowe, Capt. Beckwith																			Capt. P. Sandelin.
																			L. Dunbar.

Note.—The originals give the barometer as read off; amount of cloudiness by vario is scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

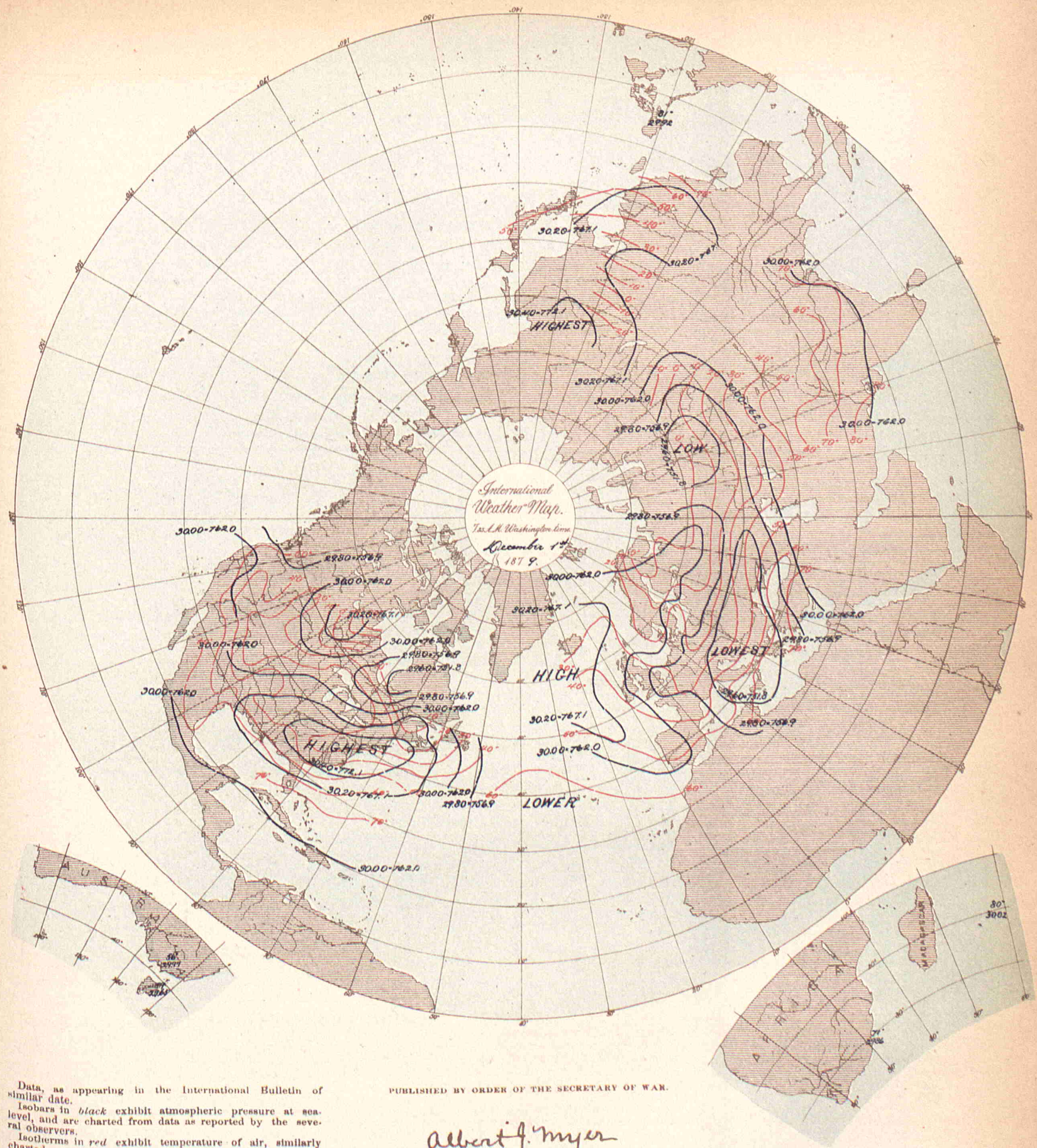
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg'd,) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 2, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time
1:57 P. M. CAPE TOWN, C. G. H. mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	29.90	759.5	64.0	17.8	83	SW	.....	.....	1	.....	5	.....	.....	0	0	Cloudy.....	
Nemours	.....	.....	29.78	756.3	61.8	16.3	72	N	.....	.....	2	.....	8	.....	.....	0	0	Very cloudy	Kesxuche.
Algiers	.....	.....	29.82	757.5	57.9	14.4	47	E	.....	.....	2	.....	0	.....	.....	0	0	Clear.....	Touriliere.
La Calle	.....	.....	29.85	758.2	59.0	15.0	64	NNW	.....	.....	4	.....	2	.....	.....	0.126	3.2	Fair...	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	29.93	760.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Herbin.
Tebessa	.....	.....	29.97	761.1	49.3	9.6	76	NW	.....	.....	2	.....	0	.....	.....	0	0	Clear.....	Watrin.
Geriville	.....	.....	.....	.....	41.2	5.1	56	N	.....	.....	4	.....	8	.....	.....	0	0	Very cloudy	Brugniuax.
Laghouat	.....	.....	30.02	762.5	52.9	11.6	37	WNW	.....	.....	2	.....	5	.....	.....	0	0	Cloudy.....	Bertrand.
Biskra	.....	.....	29.98	761.5	61.2	16.2	71	NW	.....	.....	1	.....	2	.....	.....	0	0	Fair.....	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0-4; no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Cracow, I. R. Observatory	29.09	738.9	29.67	753.6	25.0	—3.9	89	NE	.....	.....	1	.....	10	.....	.....	0.076	1.9	Snowing	Prof. Ivan Stozir.
Eperies	28 92	734.5	29 74	755.4	13.3	—10.4	100	NNE	3.1	1.4	.....	.....	10	.....	.....	0.138	3.5	.....	Dr. Wierzbicki.
Gratz	28.66	728.0	29.60	751.8	18.0	—7.8	83	N	.....	.....	2	.....	10	.....	.....	0	0	.....	Julius Mikolik.
Hermannstadt	28.39	721.0	29.70	754.3	25.7	—3.5	72	NW	.....	.....	5	.....	0	.....	.....	0	0	.....	Andreas Rospini.
Kremsmünster	27.98	710.7	29.45	748.1	28.4	—2.0	90	NNW	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. A. Gottschling.
Lemberg	28.41	721.7	29 85	758.2	18.5	—7.5	86	WNW	.....	.....	1	.....	10	.....	.....	0.217	5.5	.....	Prof. C. Wagner.
Pola	28.49	723.6	29.55	750.6	13.6	—10.2	97	W	.....	.....	2	.....	10	.....	.....	0.193	4.9	.....	Dr. T. Stanecki.
Szathmar	29.56	750.7	29.67	753.7	29.7	—1.3	71	N	.....	.....	1	.....	4	.....	.....	0.551	14.0	Snowing.....	I.R.Hydrographic Office.
Szegedin	29.00	736.7	29.49	749.1	23.4	—4.8	98	S	.....	.....	1	.....	10	.....	.....	0.118	3.0	.....	Pet. Pancsics, S. J.
Trieste	29.28	743.7	29.58	751.2	21.6	—5.8	95	Calm	.....	.....	0	.....	10	.....	.....	0.085	2.15	.....	Karl Stancel.
Vienna	29.60	751.9	29.71	754.5	33.3	0.7	82	NE	.....	.....	1	.....	7	.....	.....	0	0	.....	P. Busin.
.....	28.97	735.9	29.69	754.1	19.8	—6.8	92	NW	.....	.....	3	.....	10	.....	.....	0.146	3.7	.....	I.R.Central Met. Ob'sy
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

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BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.80	756.9	29.90	759.4	31.0	— 0.6		N	13	5.8			3			0.040	1.02	Blue sky	W. Boswell.
Ardrossan	29.86	758.4	29.88	758.9	33	0.6		E			1		1					Blue sky	Wm.McNeil &G.Carrick.
Armagh, (Observatory)	29.63	752.6	29.89	759.2	25.0	— 3.9		NW	2	0.9			10					Overcast	S. Call.
Bidston (Liverpool Obs)			29.87	758.7	28.2	— 2.1		SE	4	1.8			10					Misty	John Hartnup.
Bolton (Sharples)	29.32	744.7	29.84	757.9	27.7	— 2.4		NE	6	2.7			10					Overcast	Thomas Mackereth.
Bradford, Yorkshire	29.45	748.0	29.85	758.2	29.2	— 1.6		N			3		10			0.05	1.3	Overcast	J McLandsborough.
Bridgetown, Barbadoes	29.91	759.7	29.94	760.5	79	26.1		NE			1		3					D. clouds	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	29.84	757.9	29.94	760.5	28.0	— 2.2		SW			1		5					D. clouds	H. Todd.
Cardington			29.91	759.7	30.0	— 1.1		SW			0–1		6					D. clouds	John McLaren.
Chatham (School M. E.)	29.82	757.4	29.96	761.0	32.2	0.1		S			1		0					Blue sky	J. Carmell, Sapper, R.E.
Donaghadee	29.84	757.9	29.88	758.9	37	2.8		SE			2		3					D. clouds	J. Mac Gowan.
Dover	29.89	759.2	29.92	760.0	30	— 1.1		SW			3		1					¾ clouded	J. Costello.
Falmouth (Observatory)	29.60	751.8	29.84	757.9	35.3	1.8		SE			4		10					Overcast	The Staff.
Fort Napier, Natal	27.50	698.5	29.72	754.9	84.0	28.9		NW			2		0					Blue sky	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone																			
Galway (Queen's College)			29.75	755.6	31.5	— 0.3		E			1		10					Overcast	Prof. A. H. Curtis.
Gibraltar, Mediterranean																			Sergt.Wm. Allen, A. H.
Glasgow, (Observatory)	29.67	753.6	29.88	758.9	34.2	1.2		NE			3		6					D. clouds	D. G. Maclean. [C.
Great Yarmouth	29.90	759.4	29.91	759.7	27	— 2.8		WSW			2		4					Misty	G. T. Watson.
Greenwich (Royal Obs'y)	29.76	755.9	29.94	760.5	31.9	— 0.1		S			1		1					Blue sky	The Staff, for G.B.Airy.
Guernsey	29.64	752.8	29.87	758.7	35	1.7		ESE			2		5					D. clouds	Dr.S.E Hoskins, F.R.S.
Helston	30.00	762.0	30.12	765.0	37	2.8		E			1		4k			Blank	Blank	Fine	M. P. Moyle.
Holyhead	29.76	755.9	29.84	757.9	35	1.7		S			2		10					Overcast	John Tilston.
Jersey	29.62	752.3	29.93	760.2	31.4	— 0.3		SE			3		8					Gloomy	J. Fisher.
Kew (Observatory)	29.90	759.4	29.94	760.5	31.3	— 0.4		S	10	4.5			1					Misty	The Met'g'l Office.
Leicester (Museum)	29.64	752.8	29.91	759.7	21.2	— 6.0		SW			1		10					Misty	Wm.J.Harrison, F.G.S
Malta, Mediterranean	29.83	757.7	29.90	759.4	59	15.0		W			3		2k					Blue sky	A. King.
Nairn	29.84	757.9	29.93	760.2	28	— 2.2		Calm			0		8			Blank	Blank	¾ clouded	W. D. Penny.
Nassau, Bahamas			30.06	763.5	69.2	20.7		NE			2		4					D. clouds	C. S. Duncombe.
Nottingham (Observatory)	29.70	754.4	29.90	759.4	18.0	— 7.8		Calm			0	c;ck	6cs		WNW	0	0	D. clouds	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.35	745.5	29.90	759.4	27.7	— 2.4		SW			2		10					Overcast	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)			29.91	759.7	31	— 0.6		SSE			1		2					Blue sky	H. E. Bellamy.
Plymouth	29.77	756.1	29.85	758.2	36.0	2.2		E			2		2			Blank	Blank	D. clouds	John Merrifield.
Prince Town																			W. H. Tooker.
*Roche's Point	29.74	755.4	29.80	756.9	35	1.7		Calm			0		5					½ clouded	Wm. Kennedy.
St. Ann's Head	29.68	753.9	29.85	758.2	38	3.3		SSE			4		7					D. clouds	John C. Walker.
Sandwick Manse, Orkneys			29.94	760.5	28.2	— 2.1		E	10	4.5			2					D. clouds	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	29.42	747.3	29.48	748.8	60.0	15.6		SW			3		8					Showery	Serg't W. H. Lyne.
Sheffield	29.60	751.8	29.91	759.7	30.4	— 0.9		SW			1		6			0.02	0.5	D. clouds	W. F. Cooper.
Silloth Rectory	29.85	758.2	29.88	758.9	33.1	0.6	92	Calm			0		7			0	0	D. clouds	Francis Redford, A. M.
Stonyhurst (Observatory)			29.83	757.7	28.0	— 2.2		NNE	3	1.3			10					Snowing	Rev. S. J. Perry.
Straffield, Turgiss	29.71	754.6	29.94	760.5	30.5	— 0.8		N			1		7					D. clouds	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	29.78	756.4	29.87	758.7	38	3.3		SE			6		10					Raining	W. Newcombe.
Valencia (Observatory)	29.70	754.4	29.73	755.1	40.3	4.6		SE	24	10.7			6					D. clouds	The Met'g'l Office.
Sub-Series.																			
Cape Town (C. G. H. Obs'y)																			The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.52	648.2			90	32.2		W					1						Robert Burnet
Constable, Cape Colony	26.82	681.2			81	27.2		SW					0						Francis Abbott, F.R.A.S.
Hobart Town, Tasmania			29.65	753.1	59.0	15.0	82	NW			2		8kn			0.03	0.8		Andrew Gibb.
Leith(RestalrigPark)Sc'tl'd			29.90	759.4	32.0	0.0		NW			2		10k	NE		0.17	4.3	Cloudy	C. Meldrum.
Mauritius (Observatory)	29.83	757.7	30.02	762.5	80.6	27.0	65	NNE	11.5	5.1		4	4	WSW	NE	0.07	1.8	Cloudy	R. L. J. Ellery.
Melbourne (Observatory)	29.78	756.4	29.88	758.9	58.0	14.4	75	SE	2	0.9		0	1			0	0	Very fine	J. Youngclause.
Monach Lt-house, Hebrides			29.91	759.7	38	3.3		SE			3	10	0			0	0		
North Unst, Shetland Is			29.90	759.4				SW			4		6	Calm		0	0		

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters; Prince Town, 1,400 feet, or 427 meters; Colesberg Bridge and Constable, unknown.

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. Alert, Port Henry, Patagonia			30.04‡	763.0‡	48	8.9		N			2		10					Showery	Capt.J.P. Maclear, R.N.
H. M. Sloop Gannet, S. 18° 28′, W. 70° 21′			30.01‡	762.2‡	67	19.4		SW			1		9					Overcast	Commander E. Bourke, R. N.
H. M. S. Magpie, Shaweishan I'd., China			30.16‡	766.1‡	55.0	12.8		S			2		0					Blue sky	Capt. R. H. Napier, R.N.
Brig Alliance, N. 43° 55′, W. 40° 55′			29.56‡	750.8‡	59.2	15.1		E			5		9			7	W	D. clouds	Capt. W. Scott.
Barque Belle-Isle, N. 23° 25′, W. 74° 15′			30.01	762.2	74	23.3		NW			2		8			5	N	D. clouds	Capt. A. J. Brown
City of Cashmere, N. 33° 04′, W. 128° 10′			30.22‡	767.6‡	60.8	16.0		WSW			2		8					D. clouds	Capt. W. M. Grieve.
Barque Fedalma, N. 8° 35′, W. 57° 15′			29.87	758.7	79	26.1		ENE			3		10			4	NNE	Raining	Capt. H. L. Fox.
S. S. Iron Cross, N. 27° 55′, W. 88° 15′			30.25	768.3	73	22.8		ESE			4		7			4	ENE	D. clouds	Capt. W. Randall.
S. S. Strathleven, Melbourne, Australia			29.85‡	758.2‡	64.5	18.1		S			3		4					D. clouds	Capt. C. W. Pearson.
S. S. Sunbeam, N. 40° 55′, W. 67° 55′			30.25	768.3	50	10.0		WSW			6		3			5	W	D. clouds	Capt. C. M. Dobson.
Light House Tender Richmond, Off Cay Sal Light, Florida Strait			30.16	766.1	75	23.9		ENE			4		6			4	NE	D. clouds	Capt. W. H. Stewart.
S. S. Gordon Castle																			Capt. Wm. Waring.
German Brig "W. von Freeden"																			Capt. H. V. Freeden.
S. S. Ethiopia																			Capt. Campbell.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12: the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum't'al error and temperature. Inches.	Barometer. Corrected for instrum't'al error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.21	665.7	29.93	760.2	65.3	18.5	90	NE			1		6d		E	0	0		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.80	756.9	29.85	758.1	18.1	—7.7	81	N			2		5						
Farõe	29.94	760.4	29.96	760.9	19.9	—6.7	68	ENE			4		1						
Godthaab (Greenland)																			
Stykkisholm (Iceland)	30.31	769.9	30.35	771.0	26.2	—3.2	74	S			2		0						
Thorshavn (Farõe)	29.93	760.3	29.97	761.2	34.5	1.4	74	Calm			0		7						
Vestervig	29.85	758.3	29.97	761.1	17.4	—8.1	77	E			2		2						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.41	746 9	29.96	760.9	26.6	—3	92	SE			1		10			0.024	0.6	Foggy	Cellignon, Director.
Amiens, Normal School	29.75	755.7	29.87	758.8	24.8	—4	77	NE			1		10		Calm	0	0	Covered	Vaillant, Director.
Arras, Engin'r School	29.73	755.1	29.99	761.7	14.9	—9.5	100	SE			1					0	0		Klein, Commandant.
Avignon, Normal School	29.83	757.7	29.91	759.7	36.0	2.2	64	N			1		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.39	746.5	29.98	761.4	26.4	—3.1	43	NE			1		10			0.173	4.4	Covered	C. Saillard, Director
Beauvais, Normal School	29.71	754.6	29.99	761.8	23.2	—4.9	92	E			1		5		E	0	0	Cloudy	Frère Eugene Marie
Besançon, Normal School	29.01	736.9	29.96	761.0	24.1	—4.4		S			1		10		N	0.047	1.2	Covered	A. Carré, Director.
Bourg-en-Bresse, N. School	29.10	739.2	30.00	762.0	28.4	—2	100	W			1	2c		N	N	0	0	Slightlycld'y	Marlot, Diretor.
Bourges, Normal School	29.32	744.6	29.90	759.4	29.1	—1.6	88	NNE			1		10n		NNE	0	0	Covered	M. Gence, Director.
Brest, Naval Observatory	29.22	742.1	29.85	758.3	40.6	4.8	77	ESE			1		0			0.010	0.25		Ch. de Rermaree, Dir.
Caen, Normal School	29.85	758.3	29.93	760.2	34.9	1.6	92	SE			1					0	0		M. Bietrin, Director.
Carcassonne, N. School	29.47	748.5	29.90	759.4	39.7	4.3	60	W			1		5	W	W	0	0	Cloudy	September, Director.
Châlons-sur-Marne, N. Sch'	29.68	753.8	30.02	762.6	22.6	—5.2		WNW			1		0					Clear	Jadot, Director.
Chartres, Normal School	29.37	745.9	29.97	761.2	26.2	—3.2	82	E			1		10			0	0	Foggy	Vergier, Director.
Clermont-Fd, Puy de D. Obs	28.52	724.3	29.94	760.5	29.3	—1.5	90	E			1		8			0.024	0.6		Alluard, Director.
Commercy, Normal School	29.03	737.4	29.94	760.5	22.3	—5.4	97	NNE			1		2n		NNE	0	0	Slightly cld'y	Dr. Coullet, Director.
Commune de Gréasque*	28.71	729.1	29.85	758.1	32.7	0.4	81	NW			2		0			0	0		L. Kina, Director.
Grenoble, Normal School	29.11	739.5	29.93	760.1	28.4	—2		NW			1		5kn		N	0.780	19.8	Cloudy	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	29.63	752.5	29.85	758.2	29.5	—1.4	96	E			1		0			0	0	Covered	Mouillot, Director.
Le Mans, Normal School	29.66	753.3	29.98	761.5	29.1	—1.6	72	E			2		10			0.026	0.65	Covered	Poirrier, Director.
Lons-Le-Saulnier, N. School	28.93	734.7	29.92	759.9	25.7	—3.5	87	NW			1		2k	NW	NW	0	0	Slightly cld'y	A. Baudry, Director
Lorient, Naval Observatory	29.78	756.4	29.89	759.2	26.6	—3.0	78	ESE			1		10			0	0	Covered	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.30	744.2	29.95	760.8	30.2	—1.0	68	NNW			1		10		NNW	0.010	0.25	Snowing	Ch. André, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.56	750.7	29.83	757.7	36.7	2.6	63	NNW			2-3		0			0	0	Clear	E. Stephan, Director.
Mirecourt, Normal School	28.86	733.1	29.98	761.4	23.5	—4.7	80	NE			1		n		NE	0	0		Barbier, Director.
Mont-Louis	24.48	621.9	29.80	756.9	26.6	—3.0	70	WSW	9.4	4.2			5		S	0.047	1.2		M. Cave.
Nice	29.70	754.4	29.73	755.2	44.6	7.0	31	E			2		1	E	E	0	0	Clear	M. Boissière, Director.
Nismes, Normal School	29.68	753.9	29.89	759.3	38.1	3.4	66	N			1		0			0	0	Clear	M. Boyer, Director.
Paris, Montsouris Obs'y	29.69	754.0			27.7	—2.4	75	NW			1		0			0	0		Marié Davy, Director.
Perpignan	29.79	756.6	29.90	759.4	39.7	4.3	53	N	1.8	0.8			5	N	W	0	0		Dr. Fines.
Pic du Midi (Plantade) H. P.	22.10	561.2			13.1	—10.5									NW	0.327	8.3		Gen'l de Nansouty.
Pic du Midi (Summit) H. P.																			M. Baylac.
Privas, Normal School	28.83	732.2	29.95	760.6	30.9	—0.6		N			1		1	NW	N	0	0	Clear	M. Tallieu
Puy de Dome (Summit) Obs	24.81	630.2			16.5	—8.6	97	N			1					0.457	11.6	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	29.91	759.7	29.95	760.5	29.8	—1.2	100	E			1		10	E	E	0	0	Covered	Lt E. Decante, Director
Rouen, Normal School	29.89	759.3	29.98	761.5	26.1	—3.3	80	SE			2		0			0	0	Clear	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.87	758.6	29.92	759.9	30.6	—0.8	86	SSE			3		8	SSE	SSE	0	0	Very cloudy	Lt. Hercouet, Director
Saint Maur (near Paris)	29.81	757.1	29.97	761.3	28.8	—1.8	66	ENE			2		0			0	0		E. Renou, Director.
Tarbes, Normal School	28.76	730.6	29.93	760.2	26.6	—3	100	W			3		0			0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.20	741.6	29.91	759.8	35.8	2.1	85	SE			1		0			0	0	Clear	M. Julier Mercadier.
Tours	29.75	755.7	29.95	760.7	30.2	—1.0		ESE			1		10			0.016	0.4	Snowing	Cousin-Marquet.
Versailles, Observatory	29.46	748.2	29.95	760.8	26.6	—3.0	61	E			1		0			0	0	Clear	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.21	742.0	29.96	761.0	31.1	—0.5	99	N			1		5		N	0	0	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.88	758.9	29.91	759.6	77.0	25										0.20	5.		L'Abbé Marchésl
Zi-Ka-Wei (near Shanghai	30.13	765.2	30.15	765.8	44.1	6.7	89	SE	5.4	2.4			0			0	0	Clear	Marc Dechevrens.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P,) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in gene al terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4.813 ft.; Tarbes 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft., Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.99	736.3	29.82	757.5	16.2	— 8.8	94	NW	.....	.....	4	.....	10ks	W	.....	.....	.....	Snowing.....	Prof. Dr. Hoh.
Berlin	29.68	753.8	29.85	758.2	15.1	— 9.4	93	NW	.....	.....	1	.....	10	.....	.....	0.024	0.6	.....	Prof. Dr. Arndt.
Breslau	29.31	744.5	29.84	757.9	7.9	—13.4	94	NW	.....	.....	3	.....	2	.....	.....	0	0	.....	Royal University Obs'y.
Carlsruhe	29.49	749.1	29.95	760.7	21.0	— 6.1	87	N	.....	.....	0	.....	9	N	.....	0	0	.....	Albert Senz.
Cassel	29.33	745.0	29.94	760.4	18.3	— 7.6	76	NNW	.....	.....	3	.....	5	N	.....	0	0	.....	Dr. H. Möhl.
Emden	.....	.....	29.94	760.5	21.7	— 5.7	82	E	.....	.....	0	.....	9	.....	.....	0	0	.....	Prof. Dr. Prestel.
Frankfort on the Main	29.63	752.6	30.00	762.1	22.1	— 5.5	87	NE	.....	.....	1	.....	4	.....	.....	Inap.	Inap.	.....	Physical Society.
Friedrichshafen	28.39	721.2	29.92	760.0	20.8	— 6.2	79	NE	.....	.....	2	.....	8	NE	.....	0.028	0.7	Snowing.....	Chief Telegrapher Wilhelm.
Hamburg	29.86	758.4	29.93	760.3	20.3	— 6.5	68	NNW	.....	.....	3	.....	3	.....	.....	0	0	.....	Capt. P. F. A. Hegerman.
Kiel	29.90	759.5	29.92	760.0	22.3	— 5.4	91	WNW	.....	.....	2	.....	8	.....	.....	0.008	0.20	Snowing.....	Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.80	757.0	29.89	759.3	3.6	—15.8	78	E	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. E. Luther.
Köslin	.....	.....	29.82	757.4	12.2	—11.0	.....	S	.....	.....	2	.....	2	.....	.....	0	0	.....	H. Müller.
Leipsic Observatory	29.48	748.7	29.93	760.2	16.9	— 8.4	82	NW	.....	.....	1	.....	10	.....	.....	.....	.....	Snowing.....	Prof. Dr. Bruhns, Privy Counselor
Magdeburg	29.69	754.0	29.91	759.7	23.2	— 4.9	84	NNW	.....	.....	1	.....	10s	.....	.....	0.004	0.1	.....	Dr. Assmann.
Memel	29.84	758.0	29.89	759.2	4.5	—15.3	100	E	.....	.....	1	4c	.....	.....	.....	.....	.....	.....	Reinbrecht & Issermann.
Munich (München)	27.96	710.1	29.80	757.0	14.5	— 9.7	81	NW	.....	.....	1	.....	10	.....	.....	0.087	2.2	.....	Dr. C. Lang.
Neufahrwasser	29 80	756.8	29.81	757.2	14.0	—10.0	71	SSE	.....	.....	2	.....	8	.....	.....	0	0	.....	A. Lothes.
Neustadt (Palatinate)	29.38	746.3	29.91	759.7	22.1	— 5.5	.....	NW	.....	.....	1	.....	10	.....	.....	0	0	.....	Reallehrer Dicknether.
Posen	29.55	750.5	29.86	758.5	12.7	—10.7	61	NW	.....	.....	1	.....	0	.....	.....	0.012	0.3	Snowing.....	Prof. Dr. Magener.
Strassburg (in Alsace)	29.39	746.6	29.98	761.6	21.4	— 5.9	74	NE	.....	.....	3	.....	4	NW	.....	0.006	0.16	.....	Imp. University Observatory.
Stuttgart	29.06	738.0	30.07	763.6	18.5	— 7.5	82	N	.....	.....	1	.....	10	.....	.....	0.008	0.2	.....	Prof. Dr. Schoder.
Weissenburg (Bavaria)	28.31	719.0	29.86	758.5	16.0	— 8.9	81	W	.....	.....	1	.....	10	.....	W	0	0	Foggy	Reallehrer J. Hopfner
Wustrow	29.85	758.3	29.88	758.9	22.1	— 5.5	93	E	.....	.....	1	.....	10s	.....	.....	0	0	.....	E. Schütz, Director.
German Naval Series.																			
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Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.32	744.7	29.71	754.6	62.1	16.7	.....	SW	.....	.....	3.0	.....	0	.....	.....	.....	.....	Clear.	Dr. J. F. J. Schmidt.
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Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	30.03	762.6	30.08	764.0	73.6	23.1	42	SW	24.0	10.7	.....	.....	4	SW	.....	0	0	D. clouds.....	
Deesa	29 55	750.5	30.02	762.8	77.0	25.0	26	ESE	10.6	4.7	.....	.....	0	.....	.....	0	0	Blue sky.....	
Bombay	29.89	759.3	29.93	760.3	75.6	24.2	75	NNW	16.0	7.2	.....	.....	0	.....	.....	0	0	Blue sky.....	
Poona (Yerrowda)	28.68	713.1	29.95	760.7	75.7	24.3	17	ESE	7.0	3.1	.....	.....	0	.....	.....	0	0	Blue sky.....	
Belgaum	27.38	695.4	29.94	760.4	71.8	22.1	42	E	5.0	2.2	.....	.....	0	.....	.....	0	0	Blue sky.....	
Lahore	29.30	744.2	30.08	764.1	58.1	14.5	40	Calm	0.7	0.3	.....	.....	0	.....	.....	0	0	Blue sky.....	
Roorkee	29.11	739.5	30.05	763.4	60.8	16.0	31	NW	1.4	0.6	.....	.....	0	.....	.....	0	0	Blue sky.....	
Agra	29.49	749.0	30.08	764.0	63.3	17.4	47	W	2.0	0.9	.....	.....	0	.....	.....	0	0	.....	
Nagpur	28.94	735.2	30.01	762.2	73.0	22.8	34	ENE	2.2	1.0	.....	.....	0	.....	.....	0	0	Blue sky.....	
Jubbulpore	28.62	726.8	30.02	762.4	69.1	20.6	33	NE	1.9	0.8	.....	.....	0	.....	.....	0	0	Blue sky.....	
Lucknow	29.68	753.8	30.07	763.7	67.1	19.5	41	Calm	0.3	0.1	.....	.....	0	.....	.....	0	0	Blue sky.....	
Allahabad	29.75	755.5	30.08	763.9	58.7	14.8	59	Calm	0.7	0.3	.....	.....	0	.....	.....	0	0	Blue sky.....	
Patna	29.85	758.2	30.04	762.9	69.1	20.6	38	Calm	0.3	0.1	.....	.....	0	.....	.....	0	0	Blue sky.....	
Hazaribagh	27.97	710.3	30.05	763.4	61.8	16.6	42	NW	1.7	0.8	.....	.....	0	.....	.....	0	0	Blue sky.....	
Cuttack	29.93	760.2	30.01	762.3	68.4	20.2	66	Calm	0.7	0.3	.....	.....	0	.....	.....	0	0	Blue sky.....	
Calcutta (Alipore)	29.98	761.4	30.00	762.0	67.0	19.4	74	N	2.0	0.9	.....	.....	0	.....	.....	0	0	Blue sky.....	
Goalpara	29.60	751.7	30.00	761.9	70.7	21.5	64	NE	3.3	1.5	.....	.....	0	.....	.....	0	0	Blue sky.....	
Chittagong	29.88	758.8	29.97	761.2	72.2	22.3	80	Calm	1.4	0.6	.....	.....	0	.....	.....	0	0	.....	
Sibsagar	29.68	753.7	30.02	762.5	67.2	19.6	74	ENE	1.2	0.5	.....	.....	0	.....	.....	0	0	Blue sky.....	
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Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufor notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,361 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	29.28	743.7	29.71	754.7	28.9	— 1.7	79	Calm	0	0	.....	.....	5	.....	.....	0.020	0.5	.....	Prof. Giovanni Clodig.
Milan	29.16	740.7	29.70	754.3	35.2	1.8	64	NW	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.59	751.5	29.70	754.4	31.1	— 0.5	94	SW	4.9	2.2	.....	.....	2	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	28.79	731.2	29.72	755.0	34.7	1.5	66	SE	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.54	750.3	29.74	755.4	38.7	3.7	27	N	4.3	1.9	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	27.74	704.7	29.75	755.7	30.7	— 0.7	29	W	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno
Pesaro	29.65	753.0	29.70	754.3	34.5	1.4	59	W	17.4	7.8	.....	.....	2	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.48	748.7	29.74	755.5	33.8	1.0	75	NE	.....	.....	2	.....	1	.....	.....	0.012	0.3	.....	Cav. F. Meucci.
Leghorn	29.64	752.9	29.73	755.2	35.1	1.7	71	NE	3.8	1.7	.....	.....	2	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.56	750.9	29.74	755.5	41.5	5.3	63	WNW	5.6	2.5	.....	.....	3	.....	.....	0.614	15.6	.....	Prof. P. S. Ferrari.
Lecce	29.48	748.8	29.74	755.3	52.3	11.3	39	NW	12.5	5.6	.....	.....	5	NW	.....	0.094	2.4	.....	Prof. C. De Giorgi.
Cosenza	28.87	733.2	29.77	756.1	52.9	11.6	74	SE	0	0	.....	.....	10	.....	.....	0.705	17.9	.....	Prof. D. Conti.
Cagliari	29.60	751.7	29.79	756.7	45.7	7.6	72	NW	.....	.....	2	.....	6	NW	.....	0.130	3.3	.....	Prof. A. Pacinotti.
Palermo	29.64	752.9	29.90	759.4	53.8	12.1	41	W	7.4	3.3	.....	.....	3	W	.....	0.098	2.5	.....	Prof. G. Ciacciatore.
Syracuse	29.82	757.5	29.90	759.4	57.0	13.9	39	WNW	4.9	2.2	.....	.....	3	W	.....	0	0	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.21	741.9	29.76	755.8	43.7	6.5	68	SW	12.5	5.6	.....	.....	8	.....	.....	0.035	0.9	.....	Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.11	764.8	30.12	765.0	44.6	7.0	68	NNE	5.9	2.6	.....	0	0	.....	.....	0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.94	760.5	30.15	765.8	42.9	6.1	87	N	0.6	0.2	.....	.....	0	.....	.....	0	0	Clear	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.85	758.2	29.92	759.9	48.8	9.3	69	N	3.5	1.6	.....	1ck	.....	SW	.....	0	0	Clear	The Staff.
Wakayama	30.04	763.0	30.09	764.3	43.8	6.6	82	NE	3.8	1.7	.....	ck	7s	NE	NE	0	0	Cloudy	

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima																			R. Banda, C. E.
Guadalajara	25.10	637.5	30.32	770.0	41.0	5.0	56	Calm	.....	.....	0	.....	9	.....	W	0	0	Very cloudy	Prof. L. Perez.
Leon	24.48	621.9	30.32	770.0	49.1	9.5	80	NW	.....	.....	1	1c	0	.....	.....	0	0	Clear	Prof. M. Leal.
Mazatlan	29.76	756.0	30.03	762.7	64.9	18.3	94	NE	.....	.....	2	8c	0	.....	.....	0	0	Lunar halo.	I. Guerrero, C. E.
Mexico, Central Observatory	23.12	587.2	30.32	770.2	43.3	6.3	82	Calm	0	0	.....	4c	1k	.....	.....	0	0	Fair	The Staff.
Pabellon (Aguascalientes)					42.8	6.0	75	W	.....	.....	1	2c	8	.....	.....	0	0	Clear.	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.53	597.7	30.47	773.8	44.6	7.0	56	E	0.2	0.1	.....	0	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.26	616.3	30.50	774.8	39.7	4.3	58	E	.....	.....	1	5	0	W	.....	0	0	½ covered	G. Barroeta, M. D.
Tlacotalpam	30.08	764.0	30.09	764.3	68.7	20.4	91	Calm	.....	.....	0	2	1	N	S	0.016	0.4	Clear	Prof. M. M. Chazaro.
Vera-Cruz																			Prof. J. Rossell
Zacatecas	22.58	573.6	30.28	769.2	50.0	10.0	58	Calm	0	0	.....	1cs	0	.....	.....	0	0	Clear	J. C. Castrillon

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column; the instrumental correction —0.88 mm., or —0.035 inch, has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing																			
Groningen	29.99	761.8	29.99	761.8	21.9	— 5.6	.....	SSW	.....	.....	3	.....	.....	.....	.....	0	0	.....	
Helder	29.91	759.7	29.97	761.1	21.0	— 6.1	.....	SW	.....	.....	1	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	29.92	759.9	29.92	759.9	20.5	— 6.4	.....	SSE	.....	.....	2	.....	.....	.....	.....	0.039	1.0	.....	
Utrecht	29.98	761.4	29.98	761.4	31.5	— 0.3	100	S	.....	.....	2	.....	.....	.....	.....			.....	
	29.94	760.4	29.98	761.6	22.8	— 5.1	71	ENE	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	H. v.d. Brink

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.05	763.3	30.11	764.7	19.8	— 6.8	63	Calm	0	0	.....	.....	10	.....	.....	0	0	.....	
Brönö	29.93	760.2	29.97	761.2	21.2	— 6.0	74	Calm	0	0	.....	.....	10	.....	.....	0	0	Foggy	
Christiana	29.87	758.6	30.03	762.7	7.0	—13.9	83	ENE	2	1	.....	.....	0	.....	.....	0	0	.....	
Tromsö	29.84	758.0	29.89	759.1	21.4	— 5.9	90	Calm	0	0	.....	.....	10	.....	.....	0.098	2.5	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	28.88	733.6	29.08	738.5	59.9	15.5	89	W	8.7	3.9	.....	.....	6	.....	.....	0.630	16.0	Raining	Dr. J. A. Sampaio.
Campo Major	28.84	732.4	29.87	758.8	39.2	4.0	83	Calm	0	0	.....	.....	10	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	29.57	751.0	29.65	753.2	68.4	20.2	77	W	6.9	3.1	.....	.....	9	.....	.....	0.980	24.9	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.35	745.4	29.72	754.8	45.1	7.3	73	E	21.0	9.4	.....	.....	10	S	.....	0.020	0.5	.....	The Staff.
Ponta Delgada (Azores)	29.06	738.0	29.13	739.8	63.0	17.2	80	W	35.3	15.8	.....	.....	3	.....	.....	0.272	6.9	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	A. M. de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.	.....	.....	.....	J. C. M. Cabrate, 1st Lt
Mindello	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa, Fogo, Cape Verd Islands.	2	ENE	Blue sky.....	A. D. de Fonseca Sarurento....
Sá da Bandeira	.....	.....	.....	F. Teixeira da Silva, Comd't.
Sado, Capt. J. A de Brito Capello, St. Paul de Loando	.....	.....	D. clouds	Luiz Aprá, Q. M.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	2	SE	Blue sky.....	J. G. Felgo, 2nd Lieut
.....	.....	.....	.....	
.....	.....	.....	.....	

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sá da Bandeirá gives the barometer reduced tofreezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	30.04	762.9	30.06	763.4	—13.4	—25.2	78	E	9	4	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow
Astrakhan	29.95	760.8	29.87	758.7	50.5	10.3	83	S	7	3	.....	.....	8s	.....	.....	.....	.....	Light clouds	Capt. Wisganow.
Barnaul	29.76	750.8	30.10	764.5	14.0	—10.0	95	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	29.66	753.4	29.93	760.3	— 0.2	—17.9	84	ENE	2	1	.....	.....	7k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	28.64	727.6	29.72	755.0	—12.1	—24.5	71	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	29.71	754.6	30.01	762.3	— 2.4	—19.1	82	NNE	2	1	.....	.....	8	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	28.67	728.2	29.34	745.3	16.5	— 8.6	100	NE	9	4	.....	.....	10n	.....	.....	.....	.....	Snow-fog....	Physical Cabinet.
Krotkowo*	29.43	747.4	29.93	760.3	14.0	—10.0	77	NE	0	0	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	29.23	742.4	29.43	747.5	54.1	12.3	77	SSW	9	4	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs
Moscow	29.22	742.2	29.83	757.7	0.3	—17.6	78	E	10.1	4.5	.....	.....	10s	.....	.....	.....	.....	Light snow.	Meteorological Obs.
Nertchinsk	27.62	701.5	30.30	769.7	—25.6	—32.0	70	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	29.22	742.3	29.30	744.1	49.8	9.9	98	SW	13	6	.....	.....	10n	.....	.....	.....	.....	Raining.....	Kurdakof.
Nukuss	29.85	758.3	30.09	764.3	50.7	10.4	72	Calm	0	0	.....	.....	6ks	.....	.....	.....	.....	.....	.....
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	29.84	757.8	29.98	761.4	30.6	— 0.8	60	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	29.90	759.4	29.91	759.8	— 7.8	—22.1	85	ENE	2	1	.....	.....	5kn	.....	.....	.....	.....	.....	Central Physical Obs.
Tashkend	28.55	725.1	30.14	765.6	49.6	9.8	80	.....	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.65	727.8	30.07	763.7	57.2	14.0	75	Calm	0	0	.....	.....	7s	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	29.32	744.6	29.78	756.3	8.2	—13.2	84	N	11	5	.....	.....	0	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.36	745.8	29.82	757.4	8.2	—13.2	74	N	4	2	.....	.....	9	.....	.....	.....	.....	Light clouds	Astronomical Obs.
Yenisiesk	29.78	756.5	30.11	764.9	—16.8	—27.1	82	E	7	3	.....	.....	10	.....	.....	.....	.....	.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	29.72	755.0	29.83	757.7	43.7	6.5	69	NE	4.2	1.86	.....	.....	9	.....	.....	0.060	1.53	Almost cov'd	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.75	755.6	29.81	757.1	50.5	10.3	70	SE	1.8	0.79	.....	2	3	W	.....	0.567	14.4	Cloudy.....	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.83	681.4	.....	.....	35.6	2.0	70	S	5.4	2.39	.....	0	9	.....	.....	0	0	Almost cov'd	Domingo Martin y Perez.
Madrid, Royal Observatory	27.60	701.1	29.90	759.5	39.2	4.0	81	S	1.5	0.67	.....	0	10	.....	.....	0	0	Covered.....	The Staff.
Murcia, Met. Obs'y	29.73	755.1	29.88	759.0	55.4	13.0	51	SSW	1.3	0.58	.....	0	3	.....	.....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	28.75	730.2	29.65	753.2	45.3	7.4	81	SE	3.1	1.4	.....	.....	9	.....	.....	0.063	1.6	Almost cov'd	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.04	762.9	30.10	764.6	70.0	21.1	86	E	2.5	1.1	.....	0	1k	.....	NE	0	0	Clear.	Benito Vines S. J.
Manilla, Phillippine Islands	29.87	758.6	29.93	760.1	80.3	26.8	87	NE	0	0	.....	.....	10kn	.....	E	0	0	Covered.	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.72	754.8	29.82	757.3	58.5	14.7	61	SSE	9.1	4.1	.....	0	10	.....	S	1.081	27.5	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I	29.94	760.5	30.03	762.8	72.3	22.4	85	W	0	0	.....	.....	3ck	0	W	0.098	2.50	Clear.	Enrique Gadea, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8·19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildeorandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.03	762.7	30.07	763.7	— 5.8	—21.0	.....	E	.....	.....	2	.....	9	.....	.....	0	0	.....	
Umea	30.02	762.4	30.07	763.7	2.8	—16.2	90	N	.....	.....	2	.....	9	.....	.....	0	0	.....	
Hernosand	29.99	761.8	30.04	763.1	6.1	—14.4	83	NW	.....	.....	2	.....	2	.....	.....	0	0	.....	
Stockholm	29.73	755.2	29.91	759.7	7.5	—13.6	92	NE	.....	.....	2	.....	4	.....	.....	0	0	.....	
Wisby	29.74	755.3	29.80	756.8	22.6	— 5.2	71	SE	.....	.....	6	.....	7	.....	.....	0.122	3.1	.....	
Sub-Series.																			
Upsala	29.84	757.8	29.92	760.0	0.5	—17.5	95	NW	5.6	2.5	.....	.....	0	.....	.....	0.002	0.06	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.44	722.4	29.95	760.6	29.3	— 1.5	64	SSW	.....	.....	1	.....	3	.....	.....	0.020	0.5	Cloudy	The Observatory.
Zurich	28.21	716.5	29.96	761.0	22.3	— 5.4	82	W	.....	.....	1	.....	6	.....	.....	0.020	0.5	Foggy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —4.6 mm.; Thermometer, —5.5 Cent.; Relative Humidity, —15 per cent
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.48	748.9	62.2	16.8	73	WSW	15	6.5	.....	.....	7	.....	SW	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.71	754.7	52.2	11.2	.....	SW	.....	.....	1	.....	2	.....	.....	0.28	7.	Slightly cld'y	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.87	758.7	29.98	761.5	75.9	24.4	61	E	.....	.....	1	7c	.....	.....	.....	0	0	D. clouds	Prof. C. V. A. van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Rigg.
Chatham, N. B.	30.08	764.0	30.14	765.5	28.1	— 2.2	88	Calm	0	0	.....	.....	10s	.....	.....	0.01	0.3	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	30.03	762.7	30.07	763.8	33.5	0.8	76	W	9	4.0	.....	0	6s	.....	.....	0.14	3.6	Fair	H. J. Cundall, C. E.
Cornwall, Ontario	29.91	759.7	30.12	765.0	28.1	— 2.2	95	E	.....	.....	1	.....	10n	.....	.....	0	0	Overcast	James Smith, M. A.
Dalhousie, N. B.	29.96	761.0	30.14	765.5	15.0	— 9.4	.....	W	.....	.....	3	0	3ks	.....	.....	0.10	2.5	Fine	H. A. Johnson.
Father Point, Quebec	30 17	766.3	30.19	766.8	12.6	—10.8	80	NW	24	10.7	.....	2ck	5s	NW	.....	0.05	1.3	Cloudy	J. McWilliams.
Fredericton, N. B.	30.07	763.8	30.13	765.3	32.5	0.3	85	W	5	2.2	.....	9cs	0	W	.....	0.23	5.8	Cloudy	Prof. Harrison.
Fort Garry, Manitoba	29.53	750.0	30.47	773.9	— 4.4	—20.2	94	NE	7	3.1	.....	Haze	6n	N	.....	0	0	Hazy	James Stewart.
Granton, Ontario	28.86	733.0	30.00	762.0	35	1.7	.....	S	.....	.....	1	.....	10n	.....	.....	0	0	Cloudy	James Grant.
Halifax, N. S.	30.01	762.2	30.15	765.8	36.9	2.7	82	W	.....	.....	5	4ck	0	W	.....	0	0	Fair	A. Allison.
Hamilton, Ontario	29.68	753.9	30.06	763.5	41.5	5.3	96	SW	.....	.....	1	10cs	0	SW	.....	0	0	Cloudy	Geo. Dickson, B. A.
Heart's Content, N. F.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.76	755.9	30.10	764.5	33.2	0.7	90	NE	7	3.1	.....	.....	10ks	.....	.....	0	0	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S.	30.00	762.0	30.04	763.0	33.2	0.7	89	W	4	1.8	.....	8k	0	W	.....	0	0	Cloudy	C. H. Rigby.
Montreal, Quebec	29.95	760.7	30.16	766.1	28.0	— 2.2	92	N	8	3.6	.....	.....	10n	.....	.....	0.46	11.7	Heavy snow	C. H. McLeod, C. E.
Moose Factory, Ontario	30.29	769.4	30.33	770.4	—15.5	—26.4	100	W	.....	.....	1	0	1	.....	.....	0	0	Fine	J. R. Nelson.
Norwood	29.32	744.7	30.04	763.0	34.0	1.1	87	E	.....	.....	2	.....	10s	.....	.....	0	0	Cloudy	Rev. T. F. Fotheringham, M. A.
Parry Sound, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. R. Mosley.
Peterboro, Ontario	29.29	744.0	30.07	763.8	34.1	1.2	75	Calm	.....	.....	0	.....	10s	.....	.....	0	0	Cloudy	J. F. Jeffers, M. A.
Port Dover, Ontario	29.33	745.0	30.04	763.0	39.9	4.4	82	SW	8	3.6	.....	.....	Haze	.....	.....	0	0	Hazy	H. Morgan.
Port Hastings, N. S.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.38	746.2	30.03	762.7	41.6	5.3	78	S	10	4.5	.....	.....	10n	.....	S	0	0	Cloudy	M. Payne.
Quebec, Quebec	29.87	758.7	30.22	767.6	17	— 8.3	67	NE	.....	.....	6	0	2s	.....	.....	0.05	1.3	Fair	Capt. Ashe, R. N.
Rockliffe, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. McIntyre.
St. Andrews, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Gove.
St. John, N. B.	29.97	761.2	30.14	765.5	36	2.2	61	W	6	2.7	.....	.....	10ks	.....	.....	0	0	Overcast	G. Murdock, C. E.
Saugeen, Ontario	29.23	742.4	29.96	761.0	36	2.2	80	SE	17	7.6	.....	.....	10s	.....	.....	.....	.....	Raining	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	29.69	725.7	30.00	762.0	36.3	2.4	90	SW	9	4.0	.....	.....	10s	.....	.....	0	0	Cloudy	C. J. MacGregor, M. A.
Sydney, C. B.	30.02	762.5	30.06	763.5	33.8	1.0	85	S	8	3.6	.....	9k	0	.....	.....	0.02	0.5	Cloudy	T. C. Hill, C. E.
Toronto, Ontario	29.65	753.1	30.05	763.5	36.5	2.5	95	SW	1	0.4	.....	0	8n	.....	.....	0	0	Cloudy	Magnetic Observatory.
Windsor, N. S.	30.00 ?	762.0 ?	30.19	766.8	34.0	1.1	84	SW	7	3.1	.....	8k	0	.....	.....	0	0	Fair	Prof. John E. Oram, M. A.
Woodstock, Ontario	28.91	734.3	30.00	762.0	38.9	3.8	93	S	15	6.7	.....	.....	10s	.....	.....	0.10	2.5	Overcast	Prof. J. Montgomery.
Yarmouth, N. S.	30.10	764.5	30.17	766.3	41.4	5.3	78	W	12	5.4	.....	8cs	2s	W	.....	0	0	Cloudy	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.85	758.2	30.11	764.8	27.0	— 2.8	88	W	.....	.....	.....	5k	5s	.....	.....	0.01	0.3	Fair	John Delany.
St. Pierre, N. F., l'Hopital Maritime.	.....	.....	29.98	761.4	32.0	0	.....	W	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	The Commandant.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of BVT. BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.98	761.5	30.23	767.8	32	0.0	79	S	5	2.2	.....	5ck	Haze	W	.....	0	0	Fair...	.....
Alpena, Michigan	29.28	743.7	29.95	760.7	32	0.0	89	NE	20	8.9	.....	.....	10n	.....	Calm	0.20	5.1	Light snow..	.....
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Atlanta, Georgia	29.11	739.4	30.32	770.1	36	2.2	62	E	7	3.1	.....	8k	Sm'e	SW	Calm	0	0	Cloudy.....	.....
Atlantic City, New Jersey	30.29	769.4	30.31	769.9	42	5.6	83	SW	11	4.9	.....	2c;hz'e	0	Calm	.....	0	0	Clear.	.....
Augusta, Georgia	30.18	766.6	30.40	772.1	40	4.4	65	Calm	0	0	.....	2ck	5s	SE	SE	0	0	Fair..	.....
Baltimore, Maryland	30.24	768.1	30.29	769.4	35	1.7	80	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Clear.	.....
Barnegat, New Jersey	30.26	768.6	30.28	769.1	34	1.1	100	SW	10	4.5	.....	8c	0	NW	.....	0	0	Fair...	.....
Bismarck, Dakota	28.32	719.3	30.18	766.6	1	—17.2	100	E	4	1.8	.....	8cs	0	NW	.....	0.20	5.1	Cloudy.....	.....
Boerne, Texas	28.57	725.7	29.88	758.9	60	15.6	100	S	12	5.4	.....	.....	10s	.....	S	0	0	Cloudy.....	.....
Boise City, Idaho	27.19	690.6	30.15	765.8	41	5.0	91	SE	4	1.8	.....	.....	10s	.....	Calm	0.29	7.4	Cloudy.....	.....
Boston, Massachusetts	30.07	763.8	30.23	767.8	35	1.7	53	W	8	3.6	.....	2c	Haze	W	Calm	0	0	Hazy.....	.....
Brackettville, Texas	28.85	732.8	29.89	759.2	62	16.7	94	SE	6	2.7	.....	.....	10s	.....	SE	0	0	Cloudy.....	.....
Breckenridge, Minnesota	29.06	738.1	30.15	765.8	10	—12.2	100	N	10	4.5	.....	.....	10s	.....	Calm	0.16	4.1	Cloudy.....	.....
Brownsville, Texas	30.02	762.5	30.06	763.5	70	21.1	80	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	.....
Buffalo, New York	29.33	745.0	30.04	763.0	42	5.6	54	S	9	4.0	.....	.....	10s	.....	SW	0	0	Cloudy.....	.....
Burkes, Arizona	.....	.....	.....	.....	40	4.4	48	N	.....	.....	1	0	0	.....	.....	0	0	Clear.	.....
Burlington, Vermont	29.84	757.9	30.14	765.5	38	3.3	63	S	6	2.7	.....	.....	10s	.....	W	0	0	Cloudy.....	.....
Cairo, Illinois	29.75	755.6	30.15	765.8	46	7.8	77	S	12	5.4	.....	2c	0	Calm	.....	0	0	Fair...	.....
Campo, California	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cape Hatteras, N. Carolina	30.32	770.1	30.32	770.1	50	10.0	93	NE	2	0.9	.....	2ks	0	Calm	.....	0	0	Clear.	.....
Cape Henry, Virginia	30.32	770.1	30.34	770.6	41	5.0	74	SW	4	1.8	.....	5cs	Haze	Calm	Calm	0	0	Fair...	.....
Cape Lookout, N. Carolina	30.30	769.6	30.32	770.1	46	7.8	92	NE	11	4.9	.....	0	Haze	.....	Calm	0	0	Light haze..	.....
Cape May, New Jersey	30.27	768.8	30.30	769.6	44	6.7	67	SW	12	5.4	.....	0	5ks	.....	W	0	0	Fair...	.....
Castroville, Texas	29.26	743.2	29.96	761.0	62	16.7	89	S	4	1.8	.....	.....	10s	.....	S	0	0	Cloudy.....	.....
Cedar Keys, Florida	30.23	767.8	30.25	768.3	57	13.9	94	NE	10	4.5	.....	.....	10s	.....	E	0	0	Cloudy.....	.....
Charleston, South Carolina	30.26	768.6	30.32	770.1	50	10.0	72	NE	5	2.2	.....	0	0	.....	.....	0	0	Clear.	.....
Charlotte, North Carolina	29.46	748.3	30.32	770.1	35	1.7	61	N	2	0.9	.....	0	Fog	.....	Calm	0	0	Clear.	.....
Chattanooga, Tennessee	29.46	748.3	30.30	769.6	39	3.9	55	E	7	3.1	.....	2k	0	S	.....	0	0	Fair...	.....
Cheyenne, Wyoming	23.95	608.3	29.89	759.2	32	0.0	59	W	2	0.9	.....	0	0	.....	.....	0	0	Clear.	.....
Chicago, Illinois	29.28	743.7	29.98	761.5	44	6.7	52	SW	10	4.5	.....	.....	10s	.....	SW	0	0	Cloudy.....	.....
Cincinnati, Ohio	29.50	749.3	30.17	766.3	40	4.4	65	SE	7	3.1	.....	4cs	0	W	.....	0	0	F ir...	.....
Cleveland, Ohio	29.31	744.5	30.05	763.3	41	5.0	65	SE	12	5.4	.....	.....	10s	.....	S	0	0	Cloudy.....	.....
Coleman City, Texas	28.19	716.0	29.86	758.4	51	10.6	86	SW	12	5.4	.....	0	5s	.....	SW	0	0	Fair...	.....
Columbus, Ohio	29.25	742.9	30.11	764.8	39	3.9	46	S	8	3.6	.....	8cs	Fog	Calm	Calm	0	0	Cloudy.....	.....
Concho, Texas	28.06	712.7	29.72	754.9	56	13.3	94	SW	.....	.....	2	5cs	0	Calm	.....	0	0	Fair...	.....
Corsicana, Texas	29.56	750.8	30.0	762.5	55	12.8	81	S	8	3.6	.....	0	8ks	.....	Calm	0	0	Cloudy.....	.....
Davenport, Iowa	29.19	741.4	29.83	757.7	41	5.0	65	SW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	.....
Dayton, Washington T'y	.....	.....	.....	.....	45	7.2	84	S	.....	.....	1	2c	0	W	.....	0.31	7.9	Clear.	.....
Deadwood, Dakota	25.24	641.1	.....	.....	29	— 1.7	89	S	4	1.8	.....	0	0	.....	.....	0	0	Clear.	.....
Decatur, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Denison, Texas	29.16	740.7	29.95	760.7	55	12.8	81	S	14	6.3	.....	0	5ks	.....	SW	0	0	Fair...	.....
Denver, Colorado	24.74	628.4	29.96	761.0	37	2.8	63	SW	4	1.8	.....	5ck	0	W	.....	0	0	Fair...	.....
Des Moines, Iowa	29.98	761.5	29.87	758.7	35	1.7	80	N	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy.....	.....
Detroit, Michigan	29.29	744.0	29.97	761.2	40	4.4	65	SW	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy.....	.....
Dodge City, Kansas	27.32	693.9	29.69	754.1	28	— 2.2	66	N	18	8.0	.....	0	8s	.....	Calm	0	0	Fair...	.....
Dubuque, Iowa	29.10	739.1	29.80	756.9	41	5.0	74	S	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy.....	.....
Duluth, Minnesota	29.37	746.0	30.09	764.3	21	— 6.1	93	NE	16	7.2	.....	.....	10n	.....	NE	0.41	10.4	Heavy snow	.....
Eagle Pass, Texas	29.27	743.4	30.00	762.0	61	16.1	82	E	4	1.8	.....	.....	10s	.....	E	0	0	Cloudy	.....
Eastport, Maine	30.07	763.8	30.14	765.5	35	1.7	70	SW	8	3.6	.....	.....	10s	.....	W	0	0	Cloudy.....	.....
Edinburg, Texas	.....	.....	.....	.....	67	19.4	69	Calm	.....	.....	0	0	2s	.....	Calm	0	0	Fair...	.....
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Erie, Pennsylvania	29.34	745.2	30.07	763.8	42	5.6	50	S	11	4.9	.....	.....	10s	.....	SW	0	0	Cloudy.....	.....
Escanaba, Michigan	29.40	746.7	30.09	764.3	24	— 4.4	87	NE	25	11.2	.....	.....	10n	.....	NE	0.48	12.2	Light snow..	.....
Florence, Arizona	28.56	725.4	30.16	766.1	41	5.0	57	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	.....
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fort Buford, Dakota	27.96	710.2	29.95	760.7	8	—13.3	78	SE	6	2.7	.....	10cs	0	NW	.....	0.38	9.7	Cloudy.....	.....
Fort Custer, Montana	26.66	677.2	.....	.....	19	— 7.2	69	W	2	0.9	.....	.....	10s	.....	W	0	0	Cloudy.....	.....
Fort Davis, Texas	25.19	639.8	30.15	765.8	37	2.8	53	Calm	0	0	.....	1c	0	Calm	.....	0	0	Clear.	.....
Fort Gibson, Indian Ter	29.34	745.2	29.87	758.7	52	11.1	66	SE	16	7.2	.....	0	0	.....	.....	0	0	Clear.	.....
Fort Grant, Arizona	25.25	641.3	30.05	763.3	47	8.3	29	N	6	2.7	.....	8ck	0	NW	.....	0	0	Cloudy.....	.....
Fort Griffin, Texas	28.65	727.7	29.90	759.4	57	13.9	81	S	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy.....	.....
Fort Keogh, Montana	27.35	694.7	.....	.....	15	— 9.4	83	NE	6	2.7	.....	.....	10s	.....	NE	0.04	1.0	Cloudy.....	.....
Fort McKavett, Texas	27.72	704.1	29.60	751.8	60	15.6	77	S	12	5.4	.....	.....	9s	.....	S	0	0	Cloudy.....	.....
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fort Sill, Indian Territory	28.62	726.9	29.73	755.1	49	9.4	78	S	6	2.7	.....	5cs	0	Calm	.....	0	0	Fair...	.....
Fort Stevenson, Dakota	28.24	717.3	.....	.....	3.5	—15.8	87	NE	7	3.1	.....	8k	2s	NE	NE	0.37	9.4	Cloudy.....	.....
Fort Verde, Arizona	.....	.....	.....	.....	38	3.3	72	W	.....	.....	1	0	0	.....	.....	0	0	Clear.	.....
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fredericksburg, Texas	28.17	715.5	29.71	754.6	58	14.4	76	S	12	5.4	.....	.....	10ks	.....	S	0	0	Cloudy.....	.....
Galveston, Texas	30.07	763.8	30.12	765.0	63	17.2	89	S	3	1.3	.....	0	2s	.....	Calm	0	0	Clear.	.....
Graham, Texas	28.84	732.5	29.88	758.9	53	11.7	85	S	2	0.9	.....	8cs	0	SW	.....	0	0	Cloudy.....	.....
Grand Haven, Michigan	29.23	742.4	29.88	758.9	46	7.8	77	SW	16	7.2	.....	0	0	.....	.....	0	0	Clear.	.....
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Henrietta, Texas	28.92	734.6	29.84	757.9	54	12.2	87	S	16	7.2	.....	5c	0	W	.....	0	0	Fair...	.....
Indianapolis, Indiana	29.24	742.7	30.04	763.0	42	5.6	66	S	6	2.7	.....	0	5s	.....	S	0	0	Fair...	.....
Indianola, Texas	30.06	763.5	30.09	764.3	63	17.2	94	SE	6	2.7	.....	.....	10s	.....	SE	0	0	Cloudy.....	.....
Jacksboro, Texas	28.77	730.7	29.89	759.2	57	13.9	75	SW	12	5.4	.....	5c	0	SW	.....	0	0	Fair...	.....
Jacksonville, Florida	30.25	768.3	30.28	769.1	57	13.9	87	N	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy.....	.....
Keokuk, Iowa	29.18	741.1	29.79	756.7	45	7.2	61	SW	9	4.0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	.....
Key West, Florida	30.10	764.5	30.14	765.5	69	20.6	85	NE	17	7.6	.....	0	0	.....	.....	0	0	Clear.	.....
Kittyhawk, North Carolina	30.34	770.6	30.36	771.1	44	6.7	92	N	6	2.7	.....	0	Haze	.....	Calm	0	0	Clear.	.....
Knoxville, Tennessee	29.28	743.7	30.35	770.9	30	— 1.1	89	Calm	0	0	.....	8cs	Fog	Calm	Calm	0	0	Foggy.....	.....
La Crosse, Wisconsin	29.05	737.9	29.80	756.9	35	1.7	71	N	1	0.4	.....	8k	0	.....	.....	0	0	Fair...	.....
La Mesilla, New Mexico	26.08	662.4	30.22	767.6	37	2.8	53	Calm	0	0	.....	5c	5s	Calm	Calm	0	0	Cloudy.....	.....
Laredo, Texas	29.62	752.3	29.96	761.0	67	19.4	89	E	4	1.8	.....	.....	10s	.....	E	0	0	Cloudy.....	.....
Leavenworth, Kansas	29.04	737.6	29.90	759.4	35	1.7	80	NW	14	6.3	.....	.....	10s	.....	.....	0	0	Cloudy.....	.....
Lewiston, Idaho	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Little Rock, Arkansas	29.78	756.4	30.15	765.8	43	6.1	83	SE	4	1.8	.....	10ck	0	SW	.....	0	0	Cloudy.....	.....
Los Angeles, California	29.75	755.6	30.09	764.3	51.5	10.8	90	NE	4	1.8	.....	.....	Fog	.....	Calm	0	0	Foggy.....	.....
Louisville, Kentucky	29.58	751.3	30.14	765.5	47	8.3	55	S	8	3.6	.....	10cs	0	.....	.....	0	0	Cloudy.....	.....
Lynchburg, Virginia	29.60	751.8	30.33	770.4	29	— 1.7	88	NW	1	0.4	.....	10ck	0	NW	.....	0	0	Cloudy.....	.....
Madison, Wisconsin	28.78	731.0	29.76	755.9	41	5.0	74	S	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy.....	.....
Marquette, Michigan	29.31	744.5	30.05	763.3	27	— 2.8	88	NE	14	6.3	.....	.....	10n	.....	Calm	0.29	7.4	Light snow..	.....
Mason, Texas	28.37	720.6	30.10	764.5	60	15.6	88	SW	9	4.0	.....	.....	10s	.....	SW	0	0	Cloudy.....	.....
Memphis, Tennessee	29.82	757.4	30.18	766.6	44	6.7	75	SE	6	2.7	.....	5c	0	Calm	.....	0	0	Fair...	.....
Milwaukee, Wisconsin	29.07	738.4	29.80	756.9	39	3.9	82	SW	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy.....	.....

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mobile, Alabama	30.20	767.1	30.24	768.1	47	8.3	92	N	4	1.8	.....	0	5s	.....	Calm	0	0	Fair	
Montgomery, Alabama	30.06	763.5	30.30	769.6	48	8.9	70	E	6	2.7	.....	8k	0	S	.....	0	0	Fair	
Morgantown, West Virginia	29.18	741.1	30.22	767.6	34	1.1	61	Calm	0	0	.....	5cs	0	NW	.....	0	0	Fair	
Mt. Washington, N. H.	23.66	601.0	30.02	762.5	19	— 7.2	100	NW	60	26.8	.....	.....	Fog	.....	NW	0	0	Foggy	
Nashville, Tennessee	29.69	754.1	30.25	768.3	41	5.0	74	Calm	0	0	.....	2cs	Sm'e	Calm	Calm	0	0	Dense smoke	
New Haven, Connecticut	30.12	765.0	30.24	768.1	34	1.1	70	SW	3	1.3	.....	5cs	Sm'e	Calm	Calm	0	0	Fair	
New London, Connecticut	30.20	767.1	30.25	768.3	37	2.8	61	W	4	1.8	.....	0	Haze	.....	Calm	0	0	Clear.	
New Orleans, Louisiana	30.12	765.0	30.18	766.6	56	13.3	87	E	10	4.5	.....	2c	2s;fog	Calm	Calm	0	0	Foggy	
Newport, Rhode Island	30.19	766.8	30.24	768.1	40.5	4.7	69	SW	9	4.0	.....	2ck	Haze	Calm	.....	0	0	Fair	
New River, North Carolina	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
New York, New York	30.08	764.0	30.27	768.8	35	1.7	69	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Norfolk, Virginia	30.28	769.1	30.34	770.6	38	3.3	72	SW	4	1.8	.....	1c	2s	W	Calm	0	0	Fair	
North Platte, Nebraska	27.08	687.8	29.80	756.9	21	— 6.1	86	NW	12	5.4	.....	10k	0	NW	.....	0	0	Cloudy	
Olympia, Washington Ter.	29.86	758.4	29.90	759.4	46.5	8.1	99	S	2	0.9	.....	.....	10s	.....	W	0.67	17.0	Cloudy	
Omaha, Nebraska	28.81	731.7	29.97	761.2	23	— 5.0	73	NW	17	7.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Oswego, New York	29.80	756.9	30.14	765.5	39	3.9	73	S	4	1.8	.....	2c	2s	Calm	Calm	0	0	Fair	
Pembina, Dakota	29.36	745.7	30.29	769.4	0	—17.8	100	N	6	2.7	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Pensacola, Florida	30.24	768.1	30.27	768.8	51	10.6	93	NE	6	2.7	.....	2c	Haze	SE	Calm	0	0	Fair	
Philadelphia, Pennsylvania	30.22	767.6	30.28	769.1	33	0.6	89	SW	5	2.2	.....	0	Fog	.....	Calm	0	0	Clear.	
Phœnix, Arizona	28.88	733.5	30.73	780.5	45	7.2	61	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Pike's Peak, Colorado	17.64	448.0	29.85	758.2	8	—13.3	55	W	8	3.6	.....	0	8s	.....	Calm	0	0	Cloudy	
Pilot Point, Texas	29.11	739.4	29.94	760.5	45	7.2	66	SE	13	5.8	.....	.....	10s	.....	SE	0	0	Cloudy	
Pioche, Nevada	.....	.....	.....	.....	30	— 1.1	89	NW	1	0.4	.....	0	0	.....	.....	0.56	14.2	Clear.	
Pittsburg, Pennsylvania	29.36	745.7	30.20	767.1	35	1.7	80	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Port Huron, Michigan	29.29	744.0	29.96	761.0	40	4.4	82	S	12	5.4	.....	10cs	0	Calm	.....	0	0	Cloudy	
Portland, Maine	30.10	764.5	30.15	765.8	38	3.3	54	W	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Portland, Oregon	29.89	759.2	29.96	761.0	50.5	10.3	90	S	2	0.9	.....	.....	10s	.....	SW	0.24	6.1	Cloudy	
Portsmouth, N. Hampshire	.....	.....	.....	.....	49	9.4	93	N	7	3.1	.....	1k	0	N	.....	0	0	Clear	
Prescott, Arizona	24.82	630.4	30.18	766.6	29	— 1.7	89	S	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Punta Rassa, Florida	30.16	766.1	30.18	766.6	62	16.7	77	NE	8	3.6	.....	0	0	.....	.....	Inap.	Inap.	Clear.	
Red Bluff, California	29.80	756.9	30.16	766.1	51	10.6	97	NW	1	0.4	.....	.....	Fog	.....	Calm	0.18	4.6	Foggy	
Rio Grande City, Texas	29.83	757.7	30.04	763.0	63	17.2	94	SE	8	3.6	.....	5c	0	Calm	.....	0	0	Fair	
Rochester, New York	29.44	747.8	30.07	763.8	40	4.4	65	SW	7	3.1	.....	.....	8s	.....	SW	0	0	Cloudy	
Roseburg, Oregon	29.40	746.7	29.97	761.2	51	10.6	93	E	7	3.1	.....	.....	10n	.....	Calm	0.24	6.1	Light rain	
Sacramento, California	30.08	764.0	30.16	766.1	50	10.0	93	SE	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
St. Louis, Missouri	29.37	746.0	29.95	760.7	46	7.8	62	S	14	6.3	.....	5ck	5s	Calm	Calm	0	0	Cloudy	
St. Paul, Minnesota	29.03	737.3	29.89	759.2	29	— 1.7	78	N	14	6.3	.....	.....	10s	.....	N	0.11	2.8	Cloudy	
Salt Lake City, Utah	25.70	652.8	30.03	762.7	40	4.4	73	Calm	0	0	.....	.....	10s	.....	W	0.27	6.9	Cloudy	
San Antonio, Texas	29.38	746.2	29.96	761.0	61	16.1	88	S	4	1.8	.....	.....	10s	.....	S	0	0	Cloudy	
San Diego, California	30.04	763.0	30.12	765.0	54	12.2	93	N	2	0.9	.....	.....	Fog	.....	Calm	0.02	0.5	Foggy	
Sandusky, Ohio	29.36	745.7	30.04	763.0	43	6.1	59	S	20	8.9	.....	.....	10s	.....	S	0	0	Cloudy	
Sandy Hook, New Jersey	30.23	767.8	30.26	768.6	37	2.8	81	SW	14	6.3	.....	0	0	.....	.....	0	0	Clear.	
San Francisco, California	30.10	764.5	30.17	766.3	54	12.2	93	Calm	0	0	.....	.....	10s	.....	Calm	0.07	1.8	Cloudy	
Santa Fé, New Mexico	23.26	590.8	29.80	756.9	25	— 3.9	38	N	2	0.9	.....	0	8s	.....	S	0	0	Cloudy	
Savannah, Georgia	30.22	767.6	30.32	770.1	45	7.2	76	N	4	1.8	.....	0	1s	.....	S	0	0	Clear.	
Shreveport, Louisiana	29.90	759.4	30.12	765.0	45	7.2	76	S	2	0.9	.....	5cs	0	Calm	.....	0	0	Fair	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.29	769.4	30.33	770.4	42	5.6	91	N	8	3.6	.....	1k	0	Calm	.....	0	0	Clear.	
Socorro, New Mexico	25.40	645.2	29.46	748.3	39	3.9	46	NE	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Springfield, Illinois	29.25	742.9	29.93	760.2	43	6.1	63	S	12	5.4	.....	2cs	5s	W	W	0	0	Fair	
Springfield, Massachusetts	30.09	764.3	30.23	767.8	32	0.0	79	Calm	0	0	.....	5cs	0	SW	.....	0	0	Fair	
Stockton, Texas	27.00	685.8	30.00	762.0	41	5.0	14	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Thatcher's Island, Mass	30.14	765.5	30.20	767.1	41	5.0	41	W	13	5.8	.....	10cs	0	W	.....	0	0	Cloudy	
Toledo, Ohio	29.29	744.0	29.98	761.5	44	6.7	68	S	14	6.3	.....	.....	10s	.....	SW	0	0	Threatening	
Tucson, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon	29.59	751.6	30.08	764.0	46.5	8.1	88	SW	6	2.7	.....	.....	10s	.....	.....	0.27	6.9	Cloudy	
Uvalde, Texas	29.09	738.9	29.90	759.4	64	17.8	83	S	3	1.3	.....	.....	10s	.....	.....	0	0	Cloudy	
Vicksburg, Mississippi	29.94	760.5	30.20	767.1	49	9.4	85	SE	6	2.7	.....	.....	10s	.....	SW	0	0	Cloudy	
Virginia City, Montana	24.10	612.1	29.58	751.3	36	2.2	61	SW	15	6.7	.....	.....	10s	.....	SW	0	0	Cloudy	
Visalia, California	29.76	755.9	30.14	765.5	52	11.1	93	Calm	0	0	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Washington, D. C.	30.16	766.1	30.28	769.1	31	— 0.6	79	SW	1	0.4	.....	5cs	Fog	W	Calm	0	0	Dense fog	
Wickenburg, Arizona	.....	.....	.....	.....	34	1.1	79	N	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Wilmington, North Carolina	30.24	768.1	30.32	770.1	40	4.4	82	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Winnemucca, Nevada	25.70	652.8	30.06	763.5	40	4.4	82	SW	3	1.3	.....	.....	9s	.....	SW	0.01	0.3	Cloudy	
Wood's Holl, Massachusetts	30.20	767.1	30.24	768.1	43	6.1	66	W	14	6.3	.....	0	5s	.....	Calm	0	0	Fair	
Yankton, Dakota	28.79	731.3	30.20	767.1	13	—10.6	62	NW	17	7.6	.....	.....	10s	.....	NW	0	0	Cloudy	
Yuma, Arizona	29.92	760.0	30.08	764.0	54	12.2	74	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	30.02	762.5	30.07	763.8	73	22.8	81	Calm	0	0	.....	0	4ks	.....	NE	0	0	Fair	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.26	767.1	30.21	767.3	73	22.8	82	Calm	0	0	.....	8c	2s	Calm	.....	.....	.....	Fair	James Gall.
Navassa, W. I.	29.91	759.7	29.99	761.7	77	25.0	69	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.96	761.0	29.96	761.0	83	28.3	79	E	.....	.....	3	4k	8ks	F	.....	0.210	5.33	Cloudy	C. J. Hering.
Santiago de Cuba, W. I.	29.99	761.7	30.02	762.5	74	23.3	72	NE	3.6	1.6	.....	4c	0	SW	.....	0	0	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	30.21	767.3	30.27	768.8	—31.0	—35.0	.....	W	8	3.6	.....	2c	0	SW	.....	0	0	Fair	J. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 m.m.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.24‡	768.1‡	.....	.....	56	13.3	87	NE	11	4.9	.....	.....	2	.....	SE	0.25	6.3	.....	.....	Fair.....	
Navy Yard, Portsmouth, N.H.	30.06‡	763.5‡	.....	.....	35	1.7	70	SW	2	0.9	.....	.....	5	.....	.....	0	0	.....	.....	Pleasant.....	
Naval Hospital, Yokohama, Japan.....	29.88‡	758.9‡	.....	.....	51.5	10.8	69	N	.....	.....	3	2ck	.....	SW	.....	0	0	.....	.....	Fair.....	
Adams, Mare I'd., Navy Yard, Cal.	30.15‡	765.8‡	.....	.....	55	12.8	93	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....	Cloudy.....	
Alaska, Iquique, Peru .....*	30.02‡	762.5‡	.....	.....	65	18.3	89	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Blue sky.....	
Alliance, N. 27° 39′, W. 66° 50′.....	30.00‡	762.0‡	.....	.....	73	22.8	72	SE	.....	.....	2	.....	10	.....	SE	.....	.....	Smooth	SE	Overcast.....	
Colorado, New York, . Y.....	30.25‡	768.3‡	.....	.....	34	1.1	79	SW	2	0.9	.....	.....	2	.....	WSW	0	0	.....	.....	Hazy.....	
Constitution, Hampton Roads, Va...	30.39‡	771.9‡	.....	.....	44	6.7	92	WSW	.....	.....	1	.....	2	.....	SW	.....	.....	.....	.....	Hazy.....	
Enterprise, Jaffa, Asiatic Turkey....	30.04‡	763.0‡	.....	.....	78	25.6	78	W	.....	.....	2	.....	4	.....	W	.....	.....	Smooth	.....	Clear.....	
Franklin, Off Navy Yard, Norfolk, Va.	30.38‡	771.6‡	.....	.....	37	2.8	?	WSW	1.2	0.5	.....	.....	2	.....	W	0	0	.....	.....	Fair.....	
Independence, Mare I'd, Navy Yard, Cal.	30.15‡	765.8‡	.....	.....	62	16.7	83	WSW	1.2	0.5	.....	.....	0	.....	.....	0.052	1.32	.....	.....	Foggy.....	
Kearsage, Port Royal, S. C.....	30.31‡	769.9‡	.....	.....	50	10.0	79	NNE	.....	.....	2	.....	2	.....	.....	0	0	Smooth	.....	D. clouds.....	
Lackawana, N. 32° 36′ W. 155° 22′..†	30.20‡	767.1‡	.....	.....	65	18.3	73	SSE	.....	.....	1	.....	2	.....	SSE	.....	.....	Long	W	Fair.....	
Marion. Navy Yard, Brooklyn, N.Y.	30.29‡	769.4‡	.....	.....	39	3.9	83	WSW	.....	.....	2	.....	2	.....	WSW	.....	.....	.....	.....	Clear.....	
Michigan, Erie, Pa.....	30.02‡	762.5‡	.....	.....	44	6.7	54	SSW	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....	Overcast....	
Monocacy, Shanghai, China..	30.20‡	767.1‡	.....	.....	47	8.3	85	SSE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
New Hampshire, Port Royal, S. C.....	30.33‡	770.4‡	.....	.....	48	8.9	85	NE	10	4.5	.....	.....	1	.....	Calm	0	0	.....	.....	Clear.....	
Onward, Callao, Peru ....†	29.97‡	761.2‡	.....	.....	63	17.2	89	SSE	.....	.....	3	.....	10	.....	.....	.....	.....	Mod'at smooth	W	Misty.....	
Palos. Tientsin, China.	29.99‡	761.7‡	.....	.....	39	3.9	25	Calm	.....	.....	0	.....	2	.....	.....	.....	.....	.....	.....	Clear.....	
Passaic, Washington, D. C.....	30.31‡	769.9‡	.....	.....	31	—0.6	89	NE	.....	.....	1	.....	2	.....	.....	.....	.....	.....	.....	Clear.....	
Pensacola, Callao, Peru	29.95‡	760.7‡	.....	.....	64	17.8	94	SSE	.....	.....	2	.....	10	.....	.....	.....	.....	Smooth	.....	Overcast....	
Powhatan, Navy Yard, Brooklyn, N.Y.	30.24‡	768.1‡	.....	.....	38	3.3	81	SW	.....	.....	3	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Quinnebaug, Genoa, Italy	29.70‡	754.4‡	.....	.....	39	3.9	46	N	.....	.....	3	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Ranger, N. 26° 18′, W. 176° 40′.....	29.88‡	758.9‡	.....	.....	56	13.3	75	NE	.....	.....	4–5	.....	10	.....	.....	.....	.....	Mod'at	NNE	Cloudy.....	
Richmond, N. 31° 02′, E. 122° 15′.....	30.18‡	766.6‡	.....	.....	55	12.8	68	S	.....	.....	3	.....	8	.....	S	.....	.....	Smooth	.....	Pleasant....	
Rio Bravo, Brownsville, Texas... †.	30.19‡	766.8‡	.....	.....	67	19.4	100	SE	2	0.9	.....	.....	2	.....	Calm	0	0	.....	.....	Fair.....	
Santee. Annapolis, Md	30.31‡	769.9‡	.....	.....	35	1.7	90	SW	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Shenandoah, Rio de Janeiro, Brazil.	29.80‡	756.9‡	.....	.....	76	24.4	91	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	Smooth	.....	Fair.....	
St. Louis, League Island, Pa.....	30.30‡	769.6‡	.....	.....	28.5	—1.9	.....	Calm	0	0	.....	.....	2	.....	.....	0	0	.....	.....	Clear.....	
Tuscarora, N. 16° 29′, W. 98° 50′.....	29.92‡	760.0‡	.....	.....	73	22.8	95	N	....	.....	2	.....	2	.....	Calm	0	0	Long	.....	Fair.....	
Vandalia. New York Harbor, N. Y.	30.25‡	768.3‡	.....	.....	38	3.3	90	W	.....	.....	1	.....	2	.....	N	.....	.....	.....	.....	Clear.....	
Wabash, Boston, Mass.....	30.16‡	766.1‡	.....	.....	35	1.7	61	W	9	4.0	.....	.....	2	.....	.....	0	0	.....	.....	Fair.....	
Wachusett, S. 11° —′, W. 31° —′.....†	30.38‡	771.6‡	.....	.....	81	27.2	87	ESE	.....	.....	3	.....	2	.....	Calm	.....	.....	Smooth	.....	Clear.....	
Wyoming, Cadiz, Spain.....	29.79‡	756.7‡	.....	.....	57	13.9	69	SE	.....	.....	3	.....	10	.....	SE	.....	.....	Smooth	SE	Cloudy.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the last 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	OBSERVER.
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S. S. Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitebury.
S. S. Costa Rica																			W. House & R. Lawless.
S. S. Dakota, Capt. H. G. Morse																			Capt. Connolly.
S. S. Georgia																			F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin																			Capt. A. Fuller.
S. S. Wilmington																			
S. S. Zealandia, Sydney, New South Wales		29.96‡	761.0‡				NE			3				NE			Overcast		R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The orginals give the barometer as read off; wind-force by the scale 0 to to 12; for the Brittanic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer Hong-Kong, China†		30.05‡	763.3‡	66	18.9	89	SE			3		2		SE		Smooth		D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson																			J. A. Thompson, C. O.
S. S. Oceanic, Capt. J Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents

S. S. Baltimore																			Capt. H. Andreasen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undutsch.
S. S. Leipzig, Capt. F. Pfeiffer. N. 41° 21′, W. 57° 52′		30.30‡	769.6‡	54.0	12.2	71	NW			5		5		SW	0	Long	NW	Fair	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 49° 15′, W. 28° 05′		29.89‡	759.2‡				NE			5		8		NE		3	NE	Cloudy	Capt G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness by the scale 0 to 4, do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa		30.32‡	770.1‡	49	9.4		SW			1		1		SW	0			Clear	Capt. R. W. Sargent
S. S. Ohio																			Wm. Shackford, Chief Officer
S. S. Pennsylvania																			Capt. Harris.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents.																			
S. S. Belgenland, N. 43° 07′, W. 55° 59′		30.07‡	763.8‡	45	7.2		WSW	40	17.9			1?		WSW	3 h'rs	Long	wsw	Cloudy? s...	Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
NOTE.—The originals give the barometer as read off; do not distinguish between upper and lower clouds; sea-swell in general terms, as published. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
ALLAN LINE MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. *The error of the barometer is not known. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
MARINE SERIES—Miscellaneous.																			
Furnished by the co-operation of the Observers named.																			
Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George" of Halifax, N. 19° 50′, W. 68° 00′		29.96‡	761.0‡	82	27.8		E			2		0			Mod'at.	ENE	Fine		
Schooner Harry and Fred																			N. B. Foss.
Haytian																			Capt. George Gardner.
§ Iron Cross																			
Nordenskiold of Sundsvall, Sweden.																			Capt. W. Randall.
Sch'r A. A. Rowe, Capt. Beckwith.																			Capt. P. Sandelin.
																			L. Dunbar.
NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.																			

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 3, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE TOWN, C. G. H. mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. (1—10.)	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			29.82	757.8	66.4	19.1	78	SW			4		8			0.079	2.0	Very cloudy	
Nemours			29.71	754.7	78.4	25.8	49	SSW			1		8			0	0	Very cloudy	Kesxuche.
Algiers			29.74	755.4	68.0	20.0	51	S			2		0			0	0	Clear	Tourillere.
La Calle			29.81	757.1	67.6	19.7	51	S			4		8			0	0	Very cloudy	Foufrede.
Tunis																			Jacques.
Sfax			30.00	762.0															Gau.
Saida																			Herbin.
Tebessa			29.99	761.8	58.1	14.5	50	SSW			8		5			0	0	Cloudy	Watrin.
Geriville					58.6	14.8	52	N			1		5			0	0	Cloudy	Brugniuax.
Laghouat			30.03	762.8	61.9	16.6	22	SW			3		5			0.157	4.0	Cloudy	Bertrand.
Biskra			30.04	763.0	58.6	14.8	65	NW			2		5			0	0	Cloudy	Chanvaux.

NOTE.—The originals give the amount of cloudiness by the scale 0–4; no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. (1—10.)	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.68	753.9	30.29	769.3	13.6	—10.2	90	Calm			0		0			0.184	3.4		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.30	744.3	30.15	765.8	6.8	—14.0	100	W	0.9	0.4			1						Dr. Wierzbicki.
Eperies	29.14	740.2	30.10	764.4	18.0	— 7.8	66	S			4		0			0.110	2.80		Julius Mikolik.
Gratz	28.83	732.2	30.17	766.4	19.6	— 6.9	81	E			2		0			0	0		Andreas Rospini.
Hermannstadt	28.67	728.3	30.23	767.8	17.2	— 8.2	83	W			2		0			0	0		Prof. A. Gottschling.
Kremsmünster	28.59	726.3	30.07	763.6	11.1	—11.6	98	NE			1		0			0	0		Prof. C. Wagner.
Lemberg	28.99	736.4	30.07	763.7	13.8	—10.1	97	SW			1		5			0	0		Dr. T. Stanecki.
Pola	29.98	761.6	30.10	764.5	33.4	0.8	83	E			1		5			0.173	4.4	Snowing	I.R.Hydrographic Office.
Szathmar	29.75	755.7	30.26	768.7	11.5	—11.4	85	E			3		0			0	0		Pet. Pancsics, S. J.
Szegedin	29.92	760.0	30.23	767.8	15.1	— 9.4	87	NE			1		0			0	0		Karl Stancel.
Trieste	30.02	762.4	30.12	765.0	33.8	1.0	81	ENE			1		10			Inap.	Inap.	Snow & rain	P. Busin.
Vienna	29.40	746.7	30.13	765.3	16.0	— 8.9	85	Calm			0		0			0	0		I.R. Central Met. Ob'sy

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. (1—10.)	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C., as Second-Class Matter

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.74	755.4	29.85	758.2	28.7	— 1.8		WSW	14	6.3			4			0.010	0.25	Blue sky	W. Boswell.
Ardrossan	29.90	759.4	29.92	760.0	29	— 1.7		ENE			2		0					Misty	Wm.McNeil &G.Carrick.
Armagh, (Observatory)	29.61	752.1	29.87	758.7	30.0	— 1.1		ENE	10	4.5			6					D. clouds	S. Call.
Bidston (Liverpool Obs)			29.86	758.4	28.5	— 1.9		E	12	5.4			2					Blue sky	John Hartnup.
Bolton (Sharples)	29.29	744.0	29.82	757.4	29.6	— 1.3		E	6	2.7			0					Blue sky	Thomas Mackereth.
Bradford, Yorkshire	29.46	748.3	29.86	758.4	29.0	— 1.7		NW			1		0			0.05	1.3	Blue sky	J McLandsborough.
Bridgetown, Barbadoes	29.90	759.4	29.93	760.2	80	26.7		NE			1		2					D. clouds	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	29.77	756.1	29.87	758.7	33.0	0.6		SE			1		5					D. clouds	H. Todd.
Cardington			29.85	758.2	31.6	— 0.2		SE			0–1		6					D. clouds	John McLaren.
Chatham (School M. E.)	29.79	756.7	29.93	760.2	30.2	— 1.0		Calm			0		2					Blue sky	J. Carmell, Sapper, R.E.
Donaghadee	29.84	757.9	29.88	758.9	35	1.7		SE			4		5					D. clouds	J. Mac Gowan.
Dover	29.78	756.4	29.81	757.2	32	0.0		SSW			2		2					¼ clouded	J. Costello.
Falmouth (Observatory)	29.40	746.7	29.63	752.6	36.3	2.4		E			6		7					Squally	The Staff.
Fort Napier, Natal	27.70	703.6	29.92	760.0	67.4	19.7		NE			1		10					Overcast	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone																			
Galway (Queen's College)			29.69	754.1	33	0.6		ENE			3		10					Snowing	Prof. A. H. Curtis.
Gibraltar, Mediterranean																			Sergt.Wm. Allen, A. H.
Glasgow, (Observatory)	29.70	754.4	29.91	759.7	20.6	— 6.3		NE			0		0					Foggy	D. G. Maclean. [C.
Great Yarmouth	29.87	758.7	29.88	758.9	33	0.6		E			4		4					D. clouds	G. T. Watson.
Greenwich (Royal Obs'y)	29.66	753.4	29.84	757.9	31.0	— 0.6		E			1		0					Blue sky	The Staff, for G.B.Airy.
Guernsey	29.44	747.8	29.68	753.9	28	— 2.2		ENE			5		3					D. clouds	Dr.S.E Hoskins, F.R.S.
Helston	29.77	756.1	29.90	759.4	36	2.2		ESE			7		4k			0	0	Stormy	M. P. Moyle.
Holyhead	29.71	754.6	29.80	756.9	33	0.6		ENE			3		10					Overcast	John Tilston.
Jersey	29.38	746.2	29.68	753.9	27.8	— 2.3		E			4		10					Misty	J. Fisher.
Kew (Observatory)	29.80	756.9	29.84	757.9	29.5	— 1.4		ENE	10	4.5								Misty	The Met'g'l Office.
Leicester (Museum)	29.57	751.1	29.84	757.9	25.2	— 3.8		NE			2		10					Misty	Wm.J.Harrison, F.G.S
Malta, Mediterranean	29.95	760.7	30.02	762.5	62.8	17.1		SE			3		8kn					Overcast	A. King.
Nairn	29.75	755.6	29.85	758.2	30	— 1.1		Calm			0		10					Overcast	W. D. Penny.
Nassau, Bahamas			30.10	764.5	73.2	22.9		NE			2		5					D. clouds	C. S. Duncombe.
Nottingham (Observatory)	29.67	753.6	29.87	758.7	23.7	— 4.6		Calm			0		1c;ck		NW	0	0	Blue sky	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.30	744.2	29.86	758.4	28.0	— 2.2		ENE			2		10					Overcast	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)			29.83	757.7	32	0.0		E			1		0					Blue sky	H. E. Bellamy.
Plymouth	29.58	751.3	29.66	753.4	35.2	1.8		E			4		6					D. clouds	John Merrifield.
Prince Town																			W. H. Tooker.
*Roche's Point	29.56	750.8	29.62	752.3	41	5.0		SSE			5		8					¾ clouded	Wm. Kennedy.
St. Ann's Head	29.55	750.6	29.71	754.6	33	0.6		E			6		2					Blue sky	John C. Walker.
Sandwick Manse, Orkneys			29.77	756.1	33.6	0.9		N	7	3.1			4					D. clouds	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	30.07	763.8	30.14	765.5	43.8	6.6		NE			2		9					Showery	Serg't W. H. Lane.
Sheffield	29.62	752.3	29.91	759.7	28.4	— 2.0		NE			1		1			0	0	Blue sky	W. F. Cooper.
Silloth Rectory	29.86	758.4	29.89	759.2	28.5	— 1.9	77	N			1		0			0	0	Blue sky	Francis Redford, A. M.
Stonyhurst (Observatory)			29.85	758.2	30.0	— 1.1		ENE	8	3.6						Blank	Blank	Misty	Rev. S. J. Perry.
Straffield, Turgiss	29.62	752.3	29.85	758.2	29.6	— 1.3		E			3–4		0					Blue sky	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	29.56	750.8	29.65	753.1	37	2.8		E			6		6					D. clouds	W. Newcombe.
Valencia (Observatory)	29.68	751.3	29.60	751.8	42.1	5.6		ENE	19	8.5			5			Blank	Blank	D. clouds	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)																			The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.46	646.7			93	33.9		W					3						Robert Burnet.
Constable, Cape Colony	26.86	682.2			82	27.8		E					0						Francis Abbott, F.R.A.S.
Hobart Town, Tasmania			29.48	748.8	59.0	15.0	77	NW			3		7kn			0	0		Andrew Gibb.
Leith (Restalrig Park) Sc'd'd			29.93	760.2	25.8	— 3.4		W			1		0			0	0	Clear	C. Meldrum.
Mauritius (Observatory)	29.84	757.9	30.03	762.7	80.6	27.0	59	NE	14.0	6.3		0	3		NE	0	0	Fine	R. L. J. Ellery.
Melbourne (Observatory)	29.78	756.4	29.88	758.9	68.3	14.6	69	WSW	10	4.5			0			0.01	0.3	Fine	J. Youngclause.
Monach Lt-house, Hebrides			29.86	758.4	39	3.9		S			4	5	3	S		0	0		
North Unst, Shetland Is			29.73	755.1				E			6	10	10			Blank	Blank		

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters; Prince Town, 1,400 feet, or 427 meters; Colesberg Bridge and Constable, unknown.

BRITISH MARINE SERIES. VESSELS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. Alert, Alert Harbor, Patagonia			29.68‡	753.9‡	59	15.0		NNE			3		9					Overcast	Capt. J.P. Maclear, R.N.
H. M. Sloop Gannet, S. 18° 28′, W. 70° 21′			29.95‡	760.7‡	67	19.4		SW			1		4					D. clouds	Commander E. Bourke, R. N.
H. M. S. Magpie, Shaweishan I'd., China			29.95‡	760.7‡	60.0	15.6		WSW			2		10					Misty	Capt. R. H. Napier, R.N.
Brig Alliance, N. 44° 45′, W. 40° 10′			29.77‡	756.1‡	57.4	14.1		E			6		8					Showery	Capt. W. Scott.
Barque Belle-Isle, N. 33° 50′, W. 74° 00′			30.08	764.0	78	25.6		NE			6		2			5	N	Blue sky	Capt. A. J. Brown
City of Cashmere, N. 31° 15′, W. 125° 32′			30.21‡	767.3‡	61	16.1		WNW			3		6					Showery	Capt. W. M. Grieve.
Barque Fedalma, N. 9° 10′, W. 57° 50′			29.92	760.0	81	27.2		NE			4		10			3	NNE	Overcast	Capt. H. L. Fox.
S. S. Iron Cross, N. 28° 00′, W. 89° 20′			30.15	765.8	77	25.0		SE			4		4			3	ESE	D. clouds	Capt. W. Randall.
S. S. Strathleven, Melbourne, Australia			29.86‡	758.4‡	61.5	16.4		WSW			3		4					D. clouds	Capt. C. W. Pearson.
S. S. Sunbeam, N. 40° 45′, W. 71° 20′			30.18	766.6	51	10.6		SW			5		6			3	SW	D. clouds	Capt. C. M. Dobson.
Light House Tender Richmond, N. 24° 30′, W. 80° 15′			30.14	765.5	75	23.9		ENE			4		3			5	NE	D. clouds	Capt. W. H. Stewart.
S. S. Gordon Castle																			Capt. Wm. Waring.
German Brig "W. von Freeden"																			Capt. H. V. Freeden.
S. S. Ethiopia																			Capt. Campbell.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected.
‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. L'w'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
San José	26.22	666.0	29.94	760.5	60.4	15.8	92	NE			3	1d		E		0	0		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.76	755.8	29.80	757.0	16.9	—8.4	61	NNE			2		0						
Faröe	29.82	757.5	29.84	758.0	18.3	—7.6	69	NE			2		1						
Godthaab (Greenland)																			
Stykkisholm (Iceland)	30.09	764 2	30.13	765.3	34.3	1.3	83	W			2		8						
Thorshavn (Faröe)	29.83	757.6	29.86	758.5	31.5	—0.3	85	N			2		7						
Vestervig	29.74	755.3	29.85	758.1	15.1	—9.4	100	Calm			0		1						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.17	740.9	29.72	754.9	24.8	—4	95	NE			1		10			0	0	Covered	Cellignon, Director.
Amiens, Normal School	29.68	753.9	29.80	756.9	17.6	—8	71	NE			1		8		Calm	0	0	Very cloudy	Vaillant, Director.
Arras, Engin'r School	29.63	752.5	29.80	759.1	13.6	—10.2	87	S			1					0	0		Klein, Commandant.
Avignon, Normal School	29.70	754.4	29.78	756.4	37.0	2.8	75	NE			1		10			0	0	Covered	Giraud, Director.
Bar-sur-Seine	29.22	742.2	29.81	757.2	22.8	—5.1	80	S			1		0			0	0	Clear	C. Saillard, Director
Beauvais, Normal School	29.58	751.4	29.87	758.7	18.7	—7.4	94	E			1		5		E	0	0	Cloudy	Frère Eugene Marie
Besançon, Normal School	29.11	739.5	30.07	763.8	24.4	—4.2		E			1		2		S	0	0	Slightly cld'y	A. Carré, Director.
Bourg-en-Bresse, N. School	28.97	735.9	29.87	758.6	18.0	—7.8	94	W			1		10n	W	W	0	0	Covered	Marlot, Director.
Bourges, Normal School	29.15	740.3	29.74	755.3	25.5	—3.6	91	E			4		10n		E	0	0	Covered	M. Gence, Director.
Brest, Naval Observatory	29.30	744.1	29.54	750.2	33.1	0.6	60	NE			2		10		NE	0	0		Ch. de Rermaree, Dir.
Caen, Normal School	29.60	751.9	29.68	753.9	37.0	2.8	96	SE			1					0	0		M. Bietrin, Director.
Carcassonne, N. School	29.11	739.3	29.54	750.2	30.1	2.3	89	E			4		10	E	E	0.08	2.	Covered	September, Director.
Châlons-sur-Marne, N. Sch'l	29.56	750.7	29.89	759.2	25.9	—3.4		WNW			1		0					Clear	Jadot, Director.
Chartres, Normal School	29.19	741.3	29.79	756.7	19.4	—7	73	E			1		10			0	0	Covered	Vergier, Director.
Clermont-Fd, Puy de D. Obs	28.27	718.0	29.67	753.7	32.7	0.4	71	SW			1		10					Snowing	Alluard, Director.
Commercy, Normal School	28.95	735.4	29.92	760.0	16.7	—8.5		N			1		2s		N	0	0	Slightly cld'y	Dr. Coullet, Director.
Commune de Gréasque*	28.64	727.6	29.79	756.6	36.0	2.2	75	SE			4		10		SE	0	0		L. Kina, Director.
Grenoble, Normal School	29.01	736.9	29.88	757.6	23.7	—4.6		NW			1		10			0.110	2.8	Covered	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	29.33	744.9	29.55	750.6	32.2	0.1	66	ENE			3		10			0	0	Covered	Mouillot, Director.
Le Mans, Normal School	29.38	746.2	29.71	754.5	24.8	—4	69	E			3		10			0	0	Covered	Poirrier, Director.
Lons-Le-Saulnier, N. School	28.84	732.6	29.84	757.9	3.2	—16	54	N			1		2c	N	N	0	0	Slightly cld'y	A. Baudry, Director
Lorient, Naval Observatory	29.37	746.0	29.48	748.8	29.1	—1.6	72	NE			6		10			0	0	Covered	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.20	741.7	29.87	758.6	17.2	—8.2	100	E			1		10			0.001	0.03	Snowing	Ch. André, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.47	748.4	29.74	755.4	40.5	4.7	59	ESE			3–4		10		ESE	0.008	0.20	Covered	E. Stephan, Director.
Mirecourt, Normal School	28.76	730.5	29.91	759.7	10.8	—11.8	78	W			1				W	0	0		Barbier, Director.
Mont-Louis	24.35	618.4	29.66	753.4	30.6	—0.8	91	SW	11.2	5.0			10		W	0.224	5.7		M. Cave.
Nice	29.90	759.4	29.93	760.3	44.2	6.8	49	NE			3		10	NE	NE	0	0	Covered	M. Boissière, Director.
Nismes, Normal School	29.58	751.2	29.78	756.5	35.2	1.8	89	NE			1		10		NE	0.28	7.	Covered	M. Boyer, Director.
Paris, Montsouris Obs'y	29.53	750.0			21.6	—5.8	75	ENE			1		0			0.016	0.4		Marié Davy, Director.
Perpignan	29.44	747.7	29.55	750.5	49.8	9.6	84	SW	18.6	8.3			6	SW	SE	0.047	1.2		Dr. Fines.
Pic du Midi (Plantade) H. P.	21.82	554.3			20.7	—1.3									W	0.079	2.0		Gen'l de Nansouty.
Pic du Midi (Summit) H. P.																			M. Baylac.
Privas, Normal School	28.69	728.6	29.81	757.1	28.4	—2		N			3		10	N	N	0	0	Covered	M. Tallieu
Puy de Dome (Summit) Obs	24.61	625.2			18.5	—7.5	97	SSE			3					0	0	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	29.44	747.7	29.47	748.5	33.8	1.0	100	NE			2		10	NE	NE	0.51	13.	Raining	Lt E. Decante, Director
Rouen, Normal School	29.72	754.8	29.80	757.0	20.5	—6.4	79	ENE			1		0			0	0	Clear	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.56	750.8	29.60	751.8	27.5	—2.5	68	ESE			4		10	ESE	ESE	0	0	Misty	Lt. Hercouet, Director
Saint Maur (near Paris)	29.64	752.9	29.81	757.1	22.3	—5.4	70	NE			3		0			0	0	Solar halo	E. Renou, Director.
Tarbes, Normal School	28.18	715.8	29.35	745.5	26.6	—3	78	W			3		0			0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	28.71	729.2	29.42	747.2	45.5	7.5	82	SSE			4		10			0	0	Covered	M. Juhor Mercadier.
Tours	29.45	748.0	29.65	753.0	28.2	—2.1		NE			3		10					Snowing	Cousin-Marquet.
Versailles, Observatory	29.27	743.5	29.76	756.0	21.2	—6.0	79	NE			1		0			0	0	Clear	Dr. A. Beriguy, Director
Villefranche-sur-Saone, N.S	29.10	739.2	29.86	758.4	25.7	—3.5	72	E			1		10			0	0	Covered	Nico:, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.93	760.3	29.96	761.0	78.8	26										0.08	2.		L'Abbé Marchési
Zi-Ka-Wei (near Shanghai	29.93	760.1	29.95	760.8	53.1	11.7	92	SSW	1.6	0.7			2			0	0	Clear	Marc Dechevrens.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.07 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.05	737.8	29.89	759.1	16.9 — 8.4		88	SE			6		5s			0	0	Foggy	Prof. Dr. Hoh.
Berlin	29.63	752.7	29.82	757.4	18.5 — 7.5		79	SE			2		4			0	0		Prof. Dr. Arndt.
Breslau	29.46	748.2	29.99	761.7	15.8 — 9.0		74	SSE			2		10			0	0		Royal University Obs'y.
Carlsruhe	29.47	748.4	29.92	760.0	19.8 — 6.8		78	SW			0		0			0	0		Albert Senz.
Cassel	29.22	742.3	29.83	757.7	19.0 — 7.2		77	SSE			5		0			0	0		Dr. H. Möhl.
Emden			29.84	757.8	19.9 — 6.7		88	NE			2		0			0.276	7.0		Prof. Dr. Prestel.
Frankfort on the Main	29.54	750.2	29.91	759.8	20.3 — 6.5		74	S			0		3			Inap.	Inap.		Physical Society.
Friedrichshafen	28.50	723.8	30.05	763.3	12.9 — 10.6		70	NE			5		0			0	0		Chief Telegrapher Wilhelm.
Hamburg	29.67	753.7	29.75	755.6	17.6 — 8.0		97	E			1		10			0.327	8.3	Snow-fog	Capt. P. F. A. Hegerman.
Kiel	29.77	756.1	29.78	756.5	20.7 — 6.3		91	NE			2		7			0.032	0.81	Snowing	Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.64	752.8	29.73	755.1	16.2 — 8.8		78	W			5		0			0	0		Prof. E. Luther.
Köslin			29.80	756.9	18.9 — 7.3			SW			2		6			0	0		H. Müller.
Leipsic Observatory	29.43	747.6	29.88	759.0	20.8 — 6.2		82	SSW			3		8			0.012	0.3		Prof. Dr. Bruhns, Privy Counselor
Magdeburg	29.58	751.2	29.80	756.9	22.1 — 5.5		61	S			3		9ks	S		0.008	0.2		Dr. Assmann.
Memel	29.48	748.7	29.52	749.9	26.1 — 3.3		100	SW			6–7		10n					Snow-drift	Reinbrecht & Issermann.
Munich (München)	28.06	712.6	29.91	759.7	16.0 — 8.9		76	SW			2		3			0.004	0.1		Dr. C. Lang.
Neufahrwasser	29.74	755.3	29.75	755.7	17.6 — 8.0		77	SW			4		5			0.016	0.4		A. Lothes.
Neustadt (Palatinate)	29.39	746.6	29.91	759.7	17.6 — 8			NW			2		1	NW		0	0		Reallehrer Dicknether.
Posen	29.62	752.3	29.93	760.2	18.9 — 7.3		81	SW			2		1			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	29.36	745.7	29.95	760.8	18.7 — 7.4		86	Calm			0		2			0	0		Imp. University Observatory.
Stuttgart	28.93	734.9	29.94	760.4	19.4 — 7.0		84	E			1		3	N		0.024	0.6		Prof. Dr. Schoder.
Weissenburg (Bavaria)	28.41	721.5	29.96	761.0	17.4 — 8.1		80	Calm			0		0			0	0		Reallehrer J. Hopfner
Wustrow	29.79	756.6	29.81	757.2	19.0 — 7.2		95	SE			1		10s			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.74	755.3	30.13	765.2	59.7	15.4		SW			1.0		Haze					Hazy	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.98	761.5	30.03	762.8	73.9	23.3	51	SW	18.0	8.0			4	S		0	0	D. clouds.
Deesa	29.52	749.9	30.00	762.1	75.7	24.3	32	ESE	10.0	4.5			0			0	0	Blue sky.
Bombay	29.89	759.2	29.93	760.2	75.3	24.1	77	WNW	8.0	3.6			0			0	0	Blue sky.
Poona (Yerrowda)	28.06	712.8	29.93	760.2	77.0	25.0	17	ENE	11.0	4.9			0			0	0	Blue sky.
Belgaum	27.38	695.3	29.93	760.2	73.2	22.9	43	ESE	1.0	0.4			8	W		0	0	D. clouds.
Lahore	29.28	743.7	30.07	763.7	56.6	13.7	41	Calm	0.4	0.2			0			0	0	Blue sky.
Roorkee	29.11	739.3	30.05	763.3	58.8	14.9	48	SW	1.8	0.8			0			0	0	Blue sky.
Agra	29.47	748.6	30.07	763.7	61.8	16.6	46	S	1.4	0.6			0			0	0	
Nagpur	28.93	734.9	30.00	761.9	73.2	22.9	32	Calm	2.1	0.9			0			0	0	Blue sky.
Jubbulpore	28.64	727.4	30.04	762.9	71.8	22.1	28	NE	1.5	0.7			0			0	0	Blue sky.
Lucknow	29.67	753.6	30.06	763.6	60.3	15.7	39	Calm	0.2	0.1			0			0	0	Blue sky.
Allahabad	29.73	755.0	30.06	763.4	60.5	15.8	67	Calm	0.5	0.2			0			0	0	Blue sky.
Patna	29.84	757.9	30.03	762.6	70.3	21.3	40	Calm	0.2	0.1			0			0	0	Blue sky.
Hazaribagh	27.95	709.9	30.04	763.0	61.0	16.1	47	NW	3.6	1.6			0			0	0	Blue sky.
Cuttack	29.92	760.0	30.01	762.2	68.9	20.5	65	ENE	1.0	0.4			0			0	0	Blue sky.
Calcutta (Alipore)	29.98	761.6	30.01	762.2	66.5	19.2	74	NNW	3.0	1.3			0			0	0	Blue sky.
Goalpara	29.58	751.4	29.98	761.5	70.8	21.6	62	ENE	3.8	1.7			0			0	0	Blue sky.
Chittagong	29.88	758.8	29.97	761.2	71.1	21.7	73	WNW	2.1	0.9			0			0	0	
Sibsagar	29.66	753.4	30.01	762.2	67.0	19.4	73	ENE	0.7	0.3			0			0	0	Blue sky.

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.71	754.5	30.14	765.5	29.7	— 1.3	51	NE	0.7	0.3	.....	.....	10	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.58	751.4	30.13	765.2	28.0	— 2.2	51	ENE	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	30.02	762.4	30.13	765.3	27.1	— 2.7	56	N	6.3	2.8	.....	.....	10	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.18	741.2	30.14	765.5	30.2	— 1.0	92	NNW	2.5	1.1	.....	.....	10	.....	.....	0.209	5.3	.....	Prof. P. F. Denza.
Genoa	29.83	757.6	30.03	762.8	31.3	— 0.4	74	NE	10.5	4.7	.....	.....	10	S	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.08	713.3	30.09	764.3	24.6	— 4.1	54	NW	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.04	762.9	30.09	764.2	30.2	— 1.0	80	SW	3.8	1.7	.....	.....	10	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.80	757.0	30.07	763.8	32.0	0.0	85	E	.....	.....	2	.....	10	.....	.....	0.024	0.6	.....	Cav. F. Meucci.
Leghorn	29.88	759.0	29.97	761.3	31.8	— 0.1	98	NE	11.9	5.3	.....	.....	10	.....	.....	0.079	2.0	.....	Prof. P. Monte.
Rome	29.86	758.4	30.04	763.0	42.6	5.9	41	E	13.0	5.8	.....	.....	10	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.90	759.5	30.16	766.1	50.2	10.1	55	ENE	9.4	4.2	.....	.....	7	NW	.....	0.244	6.2	.....	Prof. C. De Giorgi.
Cosenza	29.25	742.9	30.15	765.9	45.0	7.2	74	NE	0	0	.....	.....	10	.....	.....	0.362	9.2	.....	Prof. D. Conti.
Cagliari	29.60	751.9	29.80	756.9	57.0	13.9	71	SE	.....	.....	2	.....	10	W	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.73	755.1	29.98	761.6	59.0	15.0	58	ENE	3.1	1.4	.....	.....	10	.....	.....	0.047	1.2	.....	Prof. G. Ciacciatore.
Syracuse	30.00	762.1	30.08	763.9	63.1	17.3	59	SW	4.9	2.2	.....	.....	10	SW	.....	0.012	0.3	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.52	749.9	30.07	763.7	44.6	7.0	51	ESE	1.3	0.6	.....	.....	9	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.03	762.7	30.05	763.3	41.6	5.3	89	NNE	4.8	2.1	.....	0	0	.....	.....	0	0	Clear.	K. Sasaki.
Nagasaki, I. M. Obs'y	29.83	757.7	30.04	763.0	44.5	6.9	91	WSW	0.2	0.1	.....	.....	0	.....	.....	0.060	1.52	Very clear.	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.99	761.7	30.06	763.5	53.2	11.8	72	SSE	3.0	1.3	.....	7ck	.....	.....	SW	0	0	Fair.	The Staff.
Wakayama	30.00	762.0	30.05	763.3	44.8	7.1	84	ENE	6.4	2.9	.....	ck	2ks	.....	.....	0.014	0.36	Fair.	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	25.06	636.5	30.18	766.5	48.6	9.2	59	Calm	.....	.....	0	.....	9	.....	W	0	0	Very cloudy	Prof. L. Perez.
Leon	24.47	621.4	30.26	768.7	51.1	10.6	76	N	.....	.....	2	10ck	0	.....	.....	0	0	Cloudy	Prof. M. Leal.
Mazatlan	29.72	754.9	29.98	761.5	66.7	19.3	82	NE	.....	.....	1	3c	0	.....	.....	0	0	Foggy	I. Guerrero, C. E.
Mexico, Central Observatory	23.07	586.0	30.24	768.0	44.6	7.0	76	Calm	0	0	.....	10cs	0	.....	.....	0	0	Covered	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	46.4	8.0	76	Calm	.....	.....	0	9c	0	.....	.....	0	0	Cloudy	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.39	594.2	30.32	770.1	42.8	6.0	56	E	0.4	0.2	.....	1s	0	E	.....	0	0	Clear.	Prof. P. Spina.
San Luis Potosi	24.19	614.3	30.32	770.2	45.3	7.4	76	E	.....	.....	1	.....	10	.....	E	0	0	Covered	G. Barroeta, M. D.
Tlacotalpam	30.02	762.4	30.03	762.7	68.2	20.1	93	SE	.....	.....	1	0	0	.....	.....	0	0	Clear.	Prof. M. M. Chazaro.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell
Zacatecas	22.56	572.9	30.21	767.4	53.6	12.0	45	Calm	0	0	.....	6cs	0	.....	.....	0	0	Almost covered.	J. C. Castrillon

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column; the instrumental correction —0.88 mm., or —0.035 inch, has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Groningen	29.91	759.8	29.91	759.8	20.1	— 6.6	.....	SSW	.....	.....	4	.....	.....	.....	.....	0.008	0.2	.....	.....
Helder	29.75	755.6	29.80	757.0	23.5	— 4.7	.....	NE	.....	.....	1	.....	.....	.....	.....	0.008	0.2	.....	.....
Hellevoetsluis	29.87	758.8	29.87	758.8	29.8	—1.2	.....	NNE	.....	.....	4	.....	.....	.....	.....	0.016	0.4	.....	.....
Utrecht	29.89	759.2	29.89	759.2	25.3	— 3.7	100	S	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....
.....	29.87	758.6	29.91	759.8	28.2	— 2.1	75	WNW	.....	.....	2	.....	5	.....	.....	0.098	2.5	Cloudy	H. v. d. Brink

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.95	760.6	30.00	762.0	19.4	— 7.0	83	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	
Brönö	29.67	753.5	29.71	754.5	23.0	— 5.0	52	S	4	2	.....	.....	10	.....	.....	0.098	2.5	.....	
Christiana	29.74	755.3	29.90	759.4	4.5	—15.3	90	ENE	0	0	.....	.....	0	.....	.....	0	0	.....	
Tromsö	29.60	751.7	29.64	752.8	15.3	— 9.3	84	E	7	3	.....	.....	1	.....	.....	0	0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	29.32	744.6	29.51	749.5	56.1	13.4	82	NNW	7.4	3.3	.....	.....	3	.....	.....	0.118	3.0	.....	Dr. J. A. Sampaio.
Campo Major	28.29	718.5	29.26	743.2	59.7	15.4	91	SSW	26.6	11.9	.....	.....	10	.....	.....	0.358	9.1	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	29.51	749.5	29.60	751.7	69.6	20.9	73	W	16.1	7.2	.....	.....	6	.....	.....	0.268	6.8	.....	Capt. D. A. de Cunha.
Lisbon Observatory	28.85	732.8	29.20	741.6	63.5	17.5	72	SW	39.8	17.8	.....	.....	8	.....	.....	0.689	17.5	.....	The Staff.
Ponta Delgada (Azores)	29.42	747.3	29.49	749.1	60.8	16.0	52	NNW	11.9	5.3	.....	.....	4	.....	.....	0.142	3.6	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.	Sea or swell: Height scale 0-9	Sea or swell: Direction from—	Weather	Observer
Bartholomew Dias	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	A. M. de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.	.....	.....	.....	J. C. M. Cabrate, 1st Lt
Mindello	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Matto	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Rio Lima. Capt. S. C. da Silva Costa, Fogo, Cape Verd Islands.	2	.....	Blue sky.	A. D. de Fonseca Sarurento
Sá da Bandeira	.....	.....	.....	F. Teixeira da Silva, Comd't.
Sado, Capt. J. A. de Brito Capello, St. Paul de Loando	4	SW	D. clouds.	Luiz Aprá, Q. M.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	3	NW	Blue sky.	J. G. Felgo, 2nd Lieut

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sá da Bandeirá gives the barometer reduced tofreezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	29.64	752.9	29.66	753.4	— 7.2	—21.8	74	NE	13	6	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow
Astrakhan	29.88	758.9	29.80	756.8	63.8	12.1	83	WSW	9	4	.....	.....	9s	.....	.....	.....	.....	Light clouds	Capt. Wisganow.
Barnaul	29.70	754.3	30.26	768.6	— 2.7	—19.3	94	NW	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	29.43	747.5	29.70	754.3	5.4	—14.8	87	WSW	7	3	.....	.....	2k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	28.83	732.2	29.90	759.4	— 3.8	—19.9	82	SSE	27	12	.....	.....	10	.....	.....	.....	.....	Snowing.	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	28.87	733.3	29..4	740.2	37.0	2.8	84	SW	18	8	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Kerich	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.21	741.9	29.91	759.6	6.1	—14.4	100	WNW	9	4	.....	.....	7cks	.....	.....	.....	.....	.....	Physical Cabinet.
Krotkowo*	28.85	732.8	29.33	744.9	37.0	2.8	77	SW	9	4	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	29.47	748.4	29.68	753.8	33.3	0.7	73	W	22	10	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs
Moscow	28.81	731.7	29.41	747.0	0.3	—17.6	73	SW	10.1	4.5	.....	.....	10s	.....	.....	.....	.....	Light snow.	Meteorological Obs.
Nertchinsk	27.63	701.7	30.23	767.9	—12.3	—24.6	53	Calm	0	0	.....	.....	1	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Nikolaiev	29.95	760.6	30.02	762.4	19.9	— 6.7	65	W	31	14	.....	.....	5k	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	29.84	757.9	30.07	763.8	54.3	12.4	55	ESE	4	2	.....	.....	3ks	.....	.....	.....	.....	.....	
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	29.93	760.3	30.08	763.9	35.4	— 1.9	27	NW	16	7	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	29.50	749.4	29.52	749.8	3.0	—16.1	90	NNW	7	3	.....	.....	10n	.....	.....	.....	.....	Light snow.	Central Physical Obs.
Tashkend	28.61	726.8	30.20	767.1	10.8	—11.8	48	.....	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.57	725.6	29.97	761.3	58.6	14.8	64	NW	9	4	.....	.....	7cs	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	29.50	749.3	29.97	761.1	53.2	11.8	82	SW	16	7	.....	.....	1ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.88	746.2	29.84	757.9	6.8	—14.0	78	S	4	2	.....	.....	3	.....	.....	.....	.....	.....	Astronomical Obs.
Yenisiesk	29.97	761.3	30.30	769.7	—14.9	—26.0	82	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Marks.
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	29.52	749.8	29.63	752.5	48.9	9.4	85	NE	2.2	1.00	.....	.....	10	.....	.....	0.231	5.87	Covered.	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.17	741.0	29.23	742.5	50.4	10.2	74	SE	6.7	3.00	.....	.....	10	W	.....	0.004	0.1	Covered.	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.34	669.0	.....	.....	41.5	5.3	87	SE	8.2	3.66	.....	.....	10	.....	.....	0.256	6.5	Covered.	Domingo Martin y Perez.
Madrid, Royal Observatory	27.16	689.8	29.39	746.4	46.9	8.3	97	SE	17.9	8.00	.....	0	10	.....	.....	0.437	11.1	Rainy	The Staff.
Murcia, Met. Obs'y	29.46	748.3	29.61	752.2	59.7	15.4	71	SSW	2.7	1.19	.....	3	3	NE	.....	0.010	0.26	Misty.	Olayo Diaz, Director.
Santiago, Met. Obs'y	27.95	710.0	28.81	731.8	56.3	13.5	91	SSW	38.5	17.2	.....	.....	10	.....	.....	1.228	31.2	Stormy	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.04	763.1	30.11	764.8	68.9	20 5	90	ESE	2.2	1.0	.....	0	2k	.....	E	0.358	9.1	Fair	Benito Vines S. J.
Manilla, Phillippine Islands	29.85	758.1	29.90	759.4	86.4	26.9	76	ENE	3.4	1.5	.....	.....	1s	.....	.....	0	0	Clear.	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.47	748.4	29.56	750.9	66.9	19.4	80	SSW	12.2	5.5	.....	0	8	.....	SW	1.020	25.9	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.93	760.2	30.02	762.5	70.5	21.4	85	W	0	0	.....	3ck	0	W	.....	0	0	Clear.	Enrique Gadea, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8 19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rydberg, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	OBSERVEh.
Haparanda	29.80	756.8	29.84	757.8	—13.4	—25.2	.....	N	.....	.....	2	.....	9	.....	.....	0	0	.....	
Umea	29.79	756.6	29.84	757.9	—11.2	—24.0	65	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	
Hernosand	29.78	756.4	29.83	757.7	- 3.3	—19.6	87	Calm	.....	.....	0	.....	2	.....	.....	0	0	.....	
Stockholm	29.62	752.3	29.80	756.8	9.3	—12.6	92	NNE	.....	.....	2	.....	9	.....	.....	0	0	.....	
Wisby	29.61	752.2	29.67	753.7	22.3	- 5.4	80	ESE	.....	.....	4	.....	7	.....	.....	0.035	0.9	.....	
Sub-Series.																			
Upsala	29.74	755.2	29.82	757.4	— 1.3	—18.5	91	NW	3.8	1.7	.....	.....	0	.....	.....	0.002	0.05	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.42	721.8	29.94	760.3	23.0	— 5.0	88	S	.....	.....	1	.....	10	.....	.....	.....	.....	Snowing	The Observatory.
Zurich	28.24	717.2	30.01	762.2	17.6	— 8.0	83	NW	.....	.....	1	.....	3	.....	.....	0.236	6.0	Clear.	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —5.2 mm.; Thermometer, —8.9 Cent.; Relative Humidity, +9 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.15	765.8	43.7	6.5	73	NNE	16	7.0	.....	.....	10	.....	NNE	0.197	5.0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.13	765.4	49.3	9.6	.....	W	.....	.....	1	.....	2	.....	.....	0	0	Slightly cld'y	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.90	759.4	30.02	762.5	74.8	23.8	62	S	.....	.....	2	.....	10cs	.....	.....	0	0	Overcast	Prof. C. V. A. van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B.	30.26	768.6	30.32	770.1	23.2	— 4.9	93	N	4	1.8	.....	.....	10s	.....	.....	0.14	6.3	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	30.19	766.8	30.23	767.8	34.8	1.6	94	Calm	0	0	.....	.....	10n	.....	.....	0.07	1.8	Threatening	H. J. Cundall, C. E.
Cornwall, Ontario	29.99	761.7	30.20	767.1	17.3	— 8.2	98	E	.....	.....	2	.....	10n	.....	.....	0.25	6.3	Overcast	James Smith, M. A.
Dalhousie, N. B.	30.17	766.3	30.35	770.9	16.9	— 8.8	.....	NW	.....	.....	1	.....	10s	.....	.....	0	0	Gloomy	H. A. Johnson.
Father Point, Quebec	30.38	771.6	30.40	772.1	15.8	— 9.0	83	SE	8	3.6	.....	.....	10n	.....	.....	0.05	1.3	Light snow.	J. McWilliams.
Fredericton, N. B.	30.23	767.8	30.29	769.4	21.0	— 6.1	88	NE	4	1.8	.....	.....	10n	.....	.....	0.09	2.3	Light snow.	Prof. Harrison.
Fort Garry, Manitoba	29.34	745.2	30.27	768.8	— 1.8	—18.8	94	NE	5	2.2	.....	0	0	.....	.....	0.15	3.8	Clear.	James Stewart.
Granton, Ontario	28.87	733.3	30.01	762.2	35	1.7	.....	E	.....	.....	1	.....	10n	.....	.....	0.60	15.2	Light rain	James Grant.
Halifax, N. S.	30.10	764.5	30.23	767.8	39.7	3.9	99	SE	2	0.9	.....	.....	Fog	.....	.....	0	0	Foggy	A. Allison.
Hamilton, Ontario	29.70	754.4	30.03	764.0	35.9	2.2	92	NE	.....	.....	1	10cs	0	NE	.....	0.31	7.9	Raining	Geo. Dickson, B. A.
Heart's Content, N. F.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.80	756.9	30.16	766.1	20.3	— 6.5	95	NE	17	7.6	.....	.....	10n	.....	.....	0.11	2.8	Light snow.	S. Woods, M. A.
Little Glace Bay, N. S.	30.26	769.1	30.32	770.1	35.2	1.2	88	S	6	2.7	.....	.....	10n	.....	.....	0	0	Overcast	C. H. Rigby.
Montreal, Quebec	30.03	762.7	30.25	768.3	16.6	— 8.6	87	N	23	10.3	.....	.....	10n	.....	.....	0.20	5.1	Heavy snow	C. H. McLeod, C. E.
Moose Factory, Ontario	30.18	774.2	30.52	775.2	—26.3	—32.4	90	W	.....	.....	1	0	2	.....	.....	0	0	Fine	J. R. Nelson.
Norwood	29.79	746.5	30.14	765.5	19.5	— 6.9	98	NE	.....	.....	3	.....	10s	.....	.....	Inap.	Inap.	Light snow.	Rev. T. F. Fotheringham, M. A.
Parry Sound, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. R. Mosley.
Peterboro, Ontario	29.35	745.5	30.15	765.8	20.4	— 6.4	70	E	.....	.....	1	.....	10n	.....	.....	.....	.....	Snowing	J. F. Jeffers, M. A.
Port Dover, Ontario	29.32	744.7	30.03	762.7	38.9	3.8	100	NE	4	1.8	.....	.....	10n	.....	NE	0.27	6.9	Light rain	H. Morgan.
Port Hastings, N. S.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.25	745.5	30.01	762.2	40.1	4.5	91	E	6	2.7	.....	.....	Fog	.....	.....	0.22	5.6	Light rain	M. Payne.
Quebec, Quebec	29.96	761.0	30.31	769.9	17	— 8.3	83	E	.....	.....	6	.....	10n	.....	.....	0.50	12.7	Light snow	Capt. Ashe, R. N.
Rockliffe, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. McIntyre.
St. Andrews, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Gove.
St. John, N. B.	30.04	763.0	30.21	767.3	32	0.0	59	NE	10	4.5	.....	.....	10s	.....	.....	0.04	1.0	Overcast	G. Murdock, C. E.
Saugeen, Ontario	29.32	744.7	30.07	763.8	29	— 1.7	95	NE	18	8.0	.....	.....	10s	.....	.....	0.11	2.8	Snowing	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.70	729.0	30.04	763.0	33.6	0.9	97	SE	5	2.2	.....	.....	Fog	.....	.....	0.55	14.0	Light rain	C. J. MacGregor, M. A.
Sydney, C. B.	30.29	769.4	30.33	770.4	35.0	1.7	94	SE	5	2.2	.....	.....	10n	.....	.....	0	0	Overcast	T. C. Hill, C. E.
Toronto, Ontario	29.69	754.1	30.10	764.5	22.6	— 1.9	97	NE	16	7.2	.....	.....	10n	.....	.....	0.55	14.0	Light snow.	Magnetic Observatory.
Windsor, N. S.	30.09	764.3	30.18	766.6	35.5	1.9	95	S	1	0.4	.....	.....	10n	.....	.....	.....	.....	Raining	Prof. John E. Oram, M. A.
Woodstock, Ontario	28.93	734.8	30.02	762.5	36.9	2.7	96	NE	9	4.0	.....	.....	10n	.....	.....	0.92	23.4	Raining	Prof. J. Montgomery.
Yarmouth, N. S.	30.09	764.3	30.16	766.1	44.1	6.7	88	S	3	1.3	.....	0	7s	.....	.....	0	0	Cloudy	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	30.12	765.0	30.39	771.9	29.0	— 1.7	89	NW	.....	.....	.....	0	Haze	.....	.....	0	0	Fair	John Delany.
St. Pierre, N. F., l'Hopital Maritime	.....	.....	30.28	769.0	32.0	0	.....	NE	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	The Commandant.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters: Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of BVT. BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Albany, New York	29.90	759.4	30.14	765.5	40	4.4	65	S	5	2.2	.....	.....	10s	.....	SW	0	0	Cloudy	
Alpena, Michigan	29.43	747 5	30.12	765.0	24	— 4.4	87	NE	10	4.5	.....	.....	10n	.....	Calm	0.60	15.2	Light snow.	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	29.00	736.6	30.16	766.1	50	10.0	93	SE	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy	
Atlantic City, New Jersey	30.18	766.6	30.19	766.8	48	8.9	93	SW	8	3.6	.....	8c	Fog	Calm	Calm	0.02	0.5	Fair	
Augusta, Georgia	30.08	764.0	30.29	769.4	53	11.7	73	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Dense fog	
Baltimore, Maryland	30.12	765.0	30.18	766.6	40	4.4	73	SW	1	0.4	.....	.....	Fog	.....	Calm	0	0	Foggy	
Barnegat, New Jersey	30.16	766.1	30.18	766.6	41	5.0	100	SW	4	1.8	.....	10c	Haze	W	Calm	0	0	Cloudy	
Bismarck, Dakota	28.15	715.0	30.01	762.2	11	—11.7	100	E	8	3.6	.....	10cs	0	Calm	.....	0.13	3.3	Cloudy	
Boerne, Texas	28.57	725.7	29.86	758.4	62	16.7	100	NW	3	1.3	.....	.....	10s	.....	NW	0	0	Cloudy	
Boise City, Idaho	26.96	684.8	29.92	760.0	42.5	5.8	87	SE	8	3.6	.....	.....	10n	.....	Calm	0.62	15.7	Light rain	
Boston, Massachusetts	30.01	762.2	30.17	766.3	44	6.7	68	SW	2	0.9	.....	2c	2s	W	Calm	0	0	Fair	
Brackettville, Texas	28.85	732.8	29.91	759.7	52	11.1	93	NE	1	0.4	.....	2c	2s	Calm	Calm	0	0	Fair	
Breckenridge, Minnesota	29.03	737.3	30.10	764.5	17	— 8.3	100	Calm	0	0	.....	.....	10s	.....	Calm	0.06	1.5	Cloudy	
Brownsville, Texas	29.95	760.7	29.99	761.7	72	22.2	95	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Buffalo, New York	29.20	741.7	29.91	759.7	40	4.4	91	NE	6	2.7	.....	.....	10n;fog	.....	Calm	0.22	5.6	Light rain	
Burkes, Arizona	.....	.....	.....	.....	39	3.9	55	W	.....	.....	1	2	8s	Calm	Calm	0	0	Cloudy	
Burlington, Vermont	29.91	759.7	30.22	767.6	23	— 5.0	86	N	5	2.2	.....	.....	10n	.....	N	0.03	0.8	Light snow	
Cairo, Illinois	29.60	751.8	29.99	761.7	56	13.3	87	SW	2	0.9	.....	.....	10n	.....	SW	0.36	9.1	Light rain	
Campo, California	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Cape Hatteras, N. Carolina	30.29	769.4	30.30	769.6	52	11.1	93	SE	1	0.4	.....	0	2ks	.....	Calm	0	0	Clear.	
Cape Henry, Virginia	30.23	767 8	30.24	768.1	53	11.7	80	S	9	4.0	.....	0	2ks;hz	.....	Calm	0	0	Clear.	
Cape Lookout, N. Carolina	30.26	768.6	30.28	769.1	58	14.4	88	S	2	0.9	.....	5c	Fog	W	Calm	0	0	Light fog	
Cape May, New Jersey	30.16	766.1	30.18	766.6	51	10.6	79	S	20	8.9	.....	2cs	2ks	Calm	Calm	0	0	Fair	
Castroville, Texas	29.22	742.2	29.91	759.7	66	18.9	95	Calm	0	0	.....	.....	10s	.....	S	0	0	Threatening	
Cedar Keys, Florida	29.20	741.7	30.22	767.6	59	15.0	88	E	5	2.2	.....	0	0	.....	.....	0	0	Clear.	
Charleston, South Carolina	30.20	767.1	30.26	768.6	57	13.9	75	Calm	0	0	.....	0	5s	.....	SE	0	0	Fair	
Charlotte, North Carolina	29.37	746.0	30.21	767.3	43	6.1	92	S	5	2.2	.....	10ck	Sm'e	SW	Calm	0	0	Cloudy	
Chattanooga, Tennessee	29.33	745.0	30.14	765.5	50	10.0	93	E	5	2.2	.....	.....	10n	.....	S	0.03	0.8	Light rain	
Cheyenne, Wyoming	23.88	606.5	29.82	757.4	30	— 1.1	47	W	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Chicago, Illinois	29.25	742.9	29.95	760.7	37	2.8	90	NE	10	4.5	.....	.....	10s	.....	NE	0.45	11.4	Cloudy	
Cincinnati, Ohio	29.36	745.7	30.01	762.2	53	11.7	76	S	6	2.7	.....	.....	10n	.....	SW	Inap.	Inap.	Light rain	
Cleveland, Ohio	29.26	743.2	29.98	761.5	48	8.9	85	S	8	3.6	.....	.....	10n	.....	Calm	0.06	1.5	Light rain	
Coleman City, Texas	28.28	718.3	30.01	762.2	38	3.3	54	N	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Columbus, Ohio	29.15	740.4	29.99	761.7	50	10.0	79	S	6	2.7	.....	.....	10n	.....	S	Inap	Inap.	Light rain	
Concho, Texas	28.16	715.3	29.90	759.4	34	1.1	61	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.57	751.1	30.05	763.3	45	7.2	61	N	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Davenport, Iowa	29.39	746.5	30.05	763.3	34	1.1	90	N	6	2.7	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Dayton, Washington T'y	.....	.....	.....	.....	41	5.0	73	S	.....	.....	2	2c	0	W	.....	0.21	5.3	Fair	
Deadwood, Dakota	25.15	638.8	.....	.....	28	— 2.2	77	Calm	0	0	.....	.....	10s	.....	W	0.05	1.3	Cloudy	
Decatur, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Denison, Texas	29.24	742.7	30.06	763.5	38	3.3	81	NW	7	3.1	.....	.....	10s	.....	W	0	0	Cloudy	
Denver, Colorado	24.64	625.8	29.86	758.4	32	0.0	40	S	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Des Moines, Iowa	29.15	740.4	30.07	763.8	31	— 0.6	79	N	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Detroit, Michigan	29.27	743.4	29.95	760.7	43	6.1	92	E	3	1.3	.....	.....	10n;fog	.....	Calm	0.34	8.6	Light rain	
Dodge City, Kansas	27.40	696.0	29.81	757.2	24	— 4.4	74	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Dubuque, Iowa	29.32	744.7	30.05	763.3	31	— 0.6	79	N	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Duluth, Minnesota	29.42	747.3	30.13	765.3	26	— 3.3	94	SE	12	5.4	.....	.....	10n	.....	S	0.19	4.8	Light snow	
Eagle Pass, Texas	29.24	742.7	29.97	761.2	54	12.2	93	W	2	0.9	.....	10c	0	Calm	.....	0	0	Cloudy	
Eastport, Maine	30.08	764.0	30.15	765.8	38	3.3	91	NE	12	5.4	.....	.....	10s;fog	.....	NE	0	0	Cloudy	
Edinburg, Texas	.....	.....	.....	.....	70	21.1	90	Calm	.....	.....	0	5c	5s	Calm	S	0	0	Fair	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.29	744.0	30.00	762.0	48	8.9	85	S	6	2.7	.....	.....	10s	.....	Calm	0.08	2.0	Cloudy	
Escanaba, Michigan	29.46	748.3	30.16	766.1	19	— 7.2	69	N	11	4.9	.....	.....	10s	.....	N	0.04	1.0	Cloudy	
Florence, Arizona	28.50	723.9	30.10	764.5	45	7.2	68	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.88	708.1	29.86	758.4	9	—12.8	78	E	5	2.2	.....	.....	10s	.....	Calm	0.11	2.8	Cloudy	
Fort Custer, Montana	26.54	674.1	.....	.....	17	— 8.3	83	W	5	2.2	.....	.....	10s	.....	W	0	0	Cloudy	
Fort Davis, Texas	25.24	641.1	30.20	767.1	36	2.2	45	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Fort Gibson, Indian Ter	29.51	749.5	30.06	763.5	38	3.3	72	NW	12	5.4	.....	.....	10s	.....	N	0	0	Cloudy	
Fort Grant, Arizona	25.26	641.6	30.06	763.5	42	5.6	36	E	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Fort Griffin, Texas	28.82	732.0	30.15	765.8	36	2.2	61	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Fort Keogh, Montana	27.25	692.1	.....	.....	9	—12.8	61	NE	10	4.5	.....	5cs	0	NE	.....	0	0	Fair	
Fort McKavett, Texas	27.78	705.6	29.75	755.6	40	4.4	73	N	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.84	732.5	30.00	762.0	32	0.0	79	N	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Fort Stevenson, Dakota	28.14	714 7	.....	.....	8	—13.3	87	E	8	3.6	.....	.....	10s	.....	E	0.21	5.3	Cloudy	
Fort Verde, Arizona	.....	.....	.....	.....	32	0.0	79	NW	.....	.....	1	.....	10s	.....	Calm	0	0	Cloudy	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.16	715 3	29.70	754.4	56	13.3	63	N	2	0.9	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Galveston, Texas	30.00	762.0	30.04	763.0	67	19.4	95	S	6	2.7	.....	.....	10ks	.....	SW	0	0	Cloudy	
Graham, Texas	28.99	736.3	30.10	764.5	32	0.0	59	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.29	744.0	29.95	760.7	37	2.8	90	E	8	3.6	.....	.....	10s	.....	Calm	0.28	7.1	Cloudy	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.13	739.9	30.05	763.3	32	0.0	79	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Indianapolis, Indiana	29.12	739.6	29.90	759.4	51	10.6	85	S	5	2.2	.....	.....	10n	.....	S	0.05	1.3	Light rain	
Indianola, Texas	30.01	762.2	30.04	763.0	66	18.9	95	Calm	0	0	.....	8cs	2s	W	SW	0.02	0.5	Cloudy	
Jacksboro, Texas	28.94	735.1	30.12	765.0	37	2.8	63	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Jacksonville, Florida	30.22	767.6	30.24	768.1	55	12.8	93	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Keokuk, Iowa	29.37	746.0	30.00	762.0	36	2.2	90	N	8	3.6	.....	.....	10s	.....	Calm	0.02	0.5	Threatening	
Key West, Florida	30.11	764.8	30.14	765.5	69	20.6	80	NE	10	4.5	.....	0	0	.....	.....	0	0	Clear.	
Kittyhawk, North Carolina	30.27	768.8	30.30	769.6	51	10.6	93	SW	6	2.7	.....	2cs	0	SW	.....	0	0	Fair	
Knoxville, Tennessee	29.14	740.1	30.17	766.3	41	5.0	84	NE	4	1.8	.....	.....	10ks	.....	W	0	0	Cloudy	
La Crosse, Wisconsin	29.30	744.2	30.07	763.8	29	— 1.7	78	E	1	0.4	.....	.....	10s	.....	NW	0.01	0.3	Cloudy	
La Mesilla, New Mexico	26.14	663.9	30.29	769.4	32	0.0	50	Calm	0	0	.....	1c	0	Calm	.....	0	0	Clear.	
Laredo, Texas	29.60	751.8	29.94	760.5	64	17.8	89	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Leavenworth, Kansas	29.19	741.4	30.08	764.0	29	— 1.7	78	N	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Lewiston, Idaho	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Little Rock, Arkansas	29.60	751.8	29.96	761.0	61	16.1	88	S	3	1.3	.....	.....	10n	.....	Calm	0.05	1.3	Light rain	
Los Angeles, California	29.72	754.9	30.06	763 5	53.0	11.7	90	SE	2	0.9	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy	
Louisville, Kentucky	29.43	747.5	29.99	761.7	55	12.8	81	S	7	3.1	.....	.....	10n	.....	Calm	Inap.	Inap.	Light rain	
Lynchburg, Virginia	29.53	750.0	30.24	768.1	39	3.9	91	NW	1	0.4	.....	2cs	0	W	.....	0	0	Clear.	
Madison, Wisconsin	28.99	736.3	30.02	762.5	27	— 2.8	88	N	15	6.7	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Marquette, Michigan	29.41	747.0	30.15	765.8	28	— 2.2	66	NE	8	3.6	.....	.....	10s	.....	NE	0.30	7.6	Cloudy	
Mason, Texas	28.40	721.3	30.18	766.6	48	8.9	78	NW	4	1.8	.....	5cs	0	W	.....	0	0	Fair	
Memphis, Tennessee	29.64	752.8	29.97	761.2	58	14.4	87	SE	8	3.6	.....	.....	10s	.....	SE	0	0	Cloudy	
Milwaukee, Wisconsin	29.24	742.7	30.00	762.0	30	— 1.1	89	NW	16	7.2	.....	.....	10n	.....	Calm	Inap.	Inap.	Light rain	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mobile, Alabama	30.08	764.0	30.13	765.3	63	17.2	100	S	4	1.8	.....	.....	10n	.....	S	0.26	6.6	Light rain...	
Montgomery, Alabama	29.93	760.2	30.16	766.1	60	15.6	84	SE	6	2.7	.....	.....	10s	.....	S	0	0	Cloudy.....	
Morgantown, West Virginia	29.09	738.9	30.07	763.8	54	12.2	67	SW	7	3.1	.....	5cs	0	SW	.....	0	0	Fair	
Mt. Washington, N. H.	23.76	603.5	30.12	765.0	29	— 1.7	100	NW	45	20.1	.....	.....	10n	.....	NW	0.06	1.5	Light snow.	
Nashville, Tennessee	29.51	749.5	30.04	763.0	58	14.4	88	SE	10	4.5	.....	.....	10s	.....	S	0.04	1.0	Threatening	
New Haven, Connecticut	30.05	763.3	30.17	766.3	41	5.0	82	Calm	0	0	.....	5cs	Fog	Calm	Calm	0	0	Fair.....	
New London, Connecticut	30.13	765.3	30.18	766.6	43	6.1	82	Calm	0	0	.....	5cs	Fog	Calm	Calm	0	0	Fair.....	
New Orleans, Louisiana	30.06	763.5	30.12	765.0	58	14.4	87	NW	2	0.9	.....	.....	Fog	.....	Calm	0	0	Dense fog....	
Newport, Rhode Island	30.13	765.3	30.18	766.6	46	7.8	92	SW	3	1.3	.....	5c	Sm'e	W	.....	0	0	Fair.....	
New River, North Carolina	.....	.....	.....	.....	56	13.3	87	E	.....	.....	1	8k	0	S	.....	0	0	Fair ...	
New York, New York	29.99	761 7	30.17	766.3	44	6.7	67	SW	2	0.9	.....	Haze	Haze	.....	.....	0	0	Dense haze..	
Norfolk, Virginia	30.19	766.8	30.25	768.3	50	10.0	72	S	4	1.8	.....	2c	0	Calm	.....	0	0	Fair.....	
North Platte, Nebraska	27.01	686.0	29.74	755.4	18	— 7.8	84	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter.	29.69	754.1	29.73	755.1	44.0	6.7	92	S	6	2.7	.....	.....	10n	.....	SW	0.93	23.6	Light rain..	
Omaha, Nebraska	28.88	733.5	30.04	763.0	22	— 5.6	72	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Oswego, New York	29.77	756.1	30.10	764.5	36	2.2	90	NE	8	3.6	.....	.....	10s	.....	Calm	0.04	1.0	Threatening	
Pembina, Dakota	29.24	742.7	30.17	766.3	2	—16.7	100	N	4	1.8	.....	0	0	.....	.....	0.12	3.0	Clear	
Pensacola, Florida	30.14	765.5	30.17	766.3	66	18.9	95	SE	6	2.7	.....	.....	10n	.....	SE	0.11	2.8	Light rain...	
Philadelphia, Pennsylvania	30.11	764.8	30.16	766.1	42	5.6	91	SW	4	1.8	.....	5c	5s;fg	W	Calm	0	0	Cloudy.....	
Phœnix, Arizona	28.86	733.0	30.72	780.3	42	5.6	66	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.58	446.5	29.79	756.7	10	—12.2	58	W	44	19.7	.....	2cs	0	W	.....	0	0	Clear.	
Pilot Point, Texas	29.13	739.9	29.94	760.5	55	12.8	55	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Pioche, Nevada	.....	.....	.....	.....	39	3.9	64	S	11	4.9	.....	.....	10n	.....	W	Inap.	Inap.	Light rain..	
Pittsburg, Pennsylvania	29.24	742.7	30.05	763.3	50	10.0	72	SW	6	2.7	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Port Huron, Michigan	29.29	744.0	29.96	761.0	39	3.9	91	E	2	0.9	.....	.....	10n	.....	Calm	0.58	14.7	Light rain...	
Portland, Maine	30.10	764.5	30.16	766.1	40	4.4	73	N	4	1.8	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy.....	
Portland, Oregon	29.80	756.9	29.87	758.7	46.0	7.8	84	...	12	5.4	.....	0	9ks	.....	SW	0.77	19.6	Cloudy.....	
Portsmouth, N. Hampshire	.....	.....	.....	.....	55	12.8	93	Calm	0	0	.....	5cs	0	Calm	.....	0	0	Fair	
Prescott, Arizona	24.74	628.4	30.10	764.5	31	— 0.6	79	SW	.....	.....	1	0	8s	.....	SW	0	0	Cloudy.....	
Punta Rassa, Florida	30.15	765.8	30.17	766.3	63	17.2	89	NE	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Red Bluff, California	29.68	753.9	30.04	763.0	47	8.3	70	NW	2	0.9	.....	0	0	.....	.....	0.70	17.8	Clear	
Rio Grande City, Texas	29.80	756.9	30.01	762.2	61	16.1	94	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Light fog....	
Rochester, New York	29.42	747.3	30.05	763.3	36	2.2	90	E	10	4.5	.....	.....	Fog	.....	.....	0.10	2.5	Dense fog....	
Roseburg, Oregon	29.42	747.3	29.99	761.7	41.5	5.3	87	S	2	0.9	.....	1c	0	Calm	.....	1.39	35.3	Clear	
Sacramento, California	29.96	761.0	30.03	762.7	47	8.3	92	SE	4	1.8	.....	0	5s	.....	Calm	0.78	19.8	Fair	
St. Louis, Missouri	29.43	747.5	30.02	762.5	37	2.8	90	NW	8	3.6	.....	.....	10s	.....	Calm	0.05	1.3	Cloudy.....	
St. Paul, Minnesota	29.19	741.4	30.06	763.5	26	— 3.3	88	E	4	1.8	.....	.....	10n	.....	Calm	0.03	0.8	Light snow.	
Salt Lake City, Utah	25.45	646.4	29.78	756.4	44	6.7	60	SE	4	1.8	.....	.....	10n	.....	Calm	Inap.	Inap.	Light rain...	
San Antonio, Texas	29.32	744.7	29.89	759.2	70	21.1	80	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
San Diego, California	30.04	763.0	30.11	764.8	52	11.1	93	NE	1	0.4	.....	.....	Fog	.....	Calm	0	0	Foggy	
Sandusky, Ohio	29.29	744.0	29.96	761.0	51	10.6	79	S	7	3.1	.....	.....	10s	.....	S	0.01	0.3	Threatening	
Sandy Hook, New Jersey	30.14	765.5	30.17	766.3	45	7.2	84	SW	7	3.1	.....	5c	0	Calm	.....	0	0	Fair.....	
San Francisco, California	30.01	762.2	30.08	764.0	52	11.1	86	SW	10	4.5	.....	5c	0	NW	.....	0.60	15.2	Fair	
Santa Fé, New Mexico	23.27	591.0	29.81	757.2	25	— 3.9	38	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Savannah, Georgia	30.17	766.3	30.26	768.6	53	11.7	86	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Shreveport, Louisiana	29.78	756.4	29.99	761.7	63	17.2	100	S	6	2.7	.....	.....	10n	.....	Calm	0.10	2.5	Heavy rain..	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.24	768.1	30.28	769.1	55	12.8	93	NE	7	3.1	.....	8k	0	SW	.....	0	0	Cloudy.....	
Socorro, New Mexico	25.47	646.9	29.53	750.0	29	— 1.7	67	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Springfield, Illinois	29.34	745.2	30.03	762.7	37.5	3.1	76	NW	9	4.0	.....	.....	10s	.....	NW	0.01	0.3	Cloudy.....	
Springfield, Massachusetts	30.04	763.0	30.18	766.6	36	2.2	80	Calm	0	0	.....	0	Fog	.....	.....	0	0	Light fog..	
Stockton, Texas	27.03	686.6	30.03	762.7	37	2.8	81	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	30.12	765.0	30.18	766.6	53	11.7	80	SW	4	1.8	.....	0	5s	.....	SW	0	0	Fair.....	
Toledo, Ohio	29.27	743.4	29.96	761.0	46	7.8	100	Calm	0	0	.....	.....	10n;fog	.....	.....	0.06	1.5	Light rain...	
Tucson, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon	29.48	748.8	29.98	761.5	39.5	4.2	86	Calm	0	0	.....	0	5s	.....	.....	0	0	Fair	
Uvalde, Texas	29.10	739.1	29.91	759.7	60	15.6	94	NE	3	1.3	.....	.....	Fog	.....	NE	0	0	Dense fog. ..	
Vicksburg, Mississippi	29.82	757.4	30.07	763.8	60	15.6	94	S	7	3.1	.....	0	8s	.....	SW	0	0	Cloudy.....	
Virginia City, Montana	23.90	607.0	29.38	746.2	54	1.1	79	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Visalia, California	29.60	751.8	29.97	761.2	55	12.8	93	SW	8	3.6	.....	.....	10n	.....	Calm	0.17	4.3	Light rain...	
Washington, D. C.	30.06	763.5	30.18	766.6	42	5.6	83	S	2	0.9	.....	2c	2s;fog	NW	Calm	0	0	Fair	
Wickenburg, Arizona	.....	.....	.....	.....	35	1.7	90	N	.....	.....	1	10cs	0	SW	.....	0	0	Cloudy.....	
Wilmington, North Carolina	30.18	766.6	30.26	768.6	58	14.4	88	E	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Winnemucca, Nevada	25.46	646.7	29.82	757.4	39	3.9	82	SW	18	8.0	.....	.....	8n	.....	SW	0.24	6.1	Light rain...	
Wood's Holl, Massachusetts	30.14	765.5	30.18	766.6	47	8.3	92	SW	8	3.6	.....	.....	8s	.....	SW	0	0	Cloudy.....	
Yankton, Dakota	28.74	730.0	30.13	765.3	18	— 7.8	68	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Yuma, Arizona	29.81	757.2	29.98	761.5	43	6.1	75	N	3	1.3	.....	5cs	0	.....	.....	0	0	Fair	
Sub-Series.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	30.03	762.7	30.08	764.0	72	22.2	81	Calm	0	0	.....	0	0	.....	.....	0.38	9.7	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.20	767.1	30.21	767.3	74	23.3	82	Calm	0	0	.....	2c	2s	Calm	.....	.....	.....	Fair.	James Gall.
Navassa, W. I.	29.93	760.2	30.01	762.2	77	25.0	73	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.98	761.5	29.98	761.5	83	28.3	79	E	.....	.....	3	3ck	5k	E	.....	0.220	5.59	Cloudy.....	C. J. Hering.
Santiago de Cuba, W. I.	30.02	762.5	30.05	763.3	74	23.3	76	NNE	4.8	2.1	.....	0	2s	.....	NE	0	0	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	30.10	764.5	30.15	765.8	—27.0	—32.8	.....	SW	16	7.2	.....	3ck	5s	SW	SW	0	0	Cloudy.....	J. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 m m.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105 4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.14‡	765.5‡	.....	.....	60	15.6	94	SE	12	5.4	.....	.....	10	.....	SE	0.07	1.8	.....	.....	Threatening	
Navy Yard, Portsmouth, N.H	29.86‡	758.4‡	.....	.....	35	1.7	90	W	3	1.3	.....	.....	5	.....	.....	0	0	.....	.....	Pleasant	
Naval Hospital, Yokohama, Japan	30.01‡	762.2‡	.....	.....	53	11.7	83	Calm	.....	.....	0	.....	2k	.....	SW	0	0	.....	.....	Fair	
Adams, Mare I'd., Navy Yard, Cal.	30.03‡	762.7‡	.....	.....	55	12.8	87	SW	.....	.....	2	.....	5	.....	SW	.....	.....	.....	.....	Fair	
Alaska, Iquique, Peru *.	30.00‡	762.0‡	.....	.....	64	17.8	83	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....	Hazy	
Alliance, N. 29° 35′, W. 67° 41′	30.01‡	762.2‡	.....	.....	67	19.4	84	ENE	.....	.....	.....	.....	10	.....	S	.....	.....	Long heavy	E	Raining	
Colorado, New York, N. Y.	30.12‡	765.0‡	.....	.....	43	6.1	75	SE	2	0.9	.....	.....	8	.....	SW	0	0	.....	.....	Foggy	
Constitution, Hampton Roads, Va.	30.25‡	768.3‡	.....	.....	50	10.0	93	SSW	.....	.....	2	.....	2	.....	N	.....	.....	.....	.....	Hazy	
Enterprise, Jaffa, Asiatic Turkey	30.05‡	763.3‡	.....	.....	74	23.3	68	W	.....	.....	2	.....	4	.....	W	.....	.....	Smooth	.....	Clear	
Franklin, Off Navy Yard, Norfolk, Va.	30.27‡	768.8‡	.....	.....	52	11.1	86	S	7	3.1	.....	.....	2	.....	W	0	0	.....	.....	Fair	
Independence, Mare I'd, Navy Yard, Cal.	30.07‡	763.8‡	.....	.....	59	15.0	88	W	4	1.8	.....	.....	4	.....	W	0.027	0.69	.....	.....	Clear	
Kearsage, Port Royal, S. C.	30.25‡	768.3‡	.....	.....	62	16.7	88	W	.....	.....	0-1	.....	2	.....	.....	0	0	Smooth	.....	D. clouds	
Lackawana, N. 31° 43′ W. 154° 21′.	†. 30.16‡	766.1‡	.....	.....	69	20.6	90	SE	.....	.....	3–4	.....	10	.....	SE	.....	.....	Smooth	W	Cloudy	
Marion, Navy Yard, Brooklyn, N.Y.	30.19‡	766.8‡	.....	.....	45	7.2	84	Var.	.....	.....	1	.....	2	.....	Calm	.....	.....	.....	.....	Hazy	
Michigan, Erie, Pa.	29.95‡	760.7‡	.....	.....	46	7.8	100	S	.....	.....	4	.....	10	.....	.....	.....	.....	.....	.....	Drizzling	
Monocacy, Shanghai, China.	29.94‡	760.5‡	.....	.....	57	13.9	87	SW	.....	.....	1	.....	2	.....	W	.....	.....	.....	.....	Clear	
New Hampshire, Port Royal, S. C.	30.25‡	768.3‡	.....	.....	57	13.9	100	Calm	0	0	.....	.....	2	.....	SE	0	0	.....	.....	Fair	
Nipsic, Norfolk, Va.	30.43‡	772.9‡	.....	.....	54	12.2	87	Calm	.....	.....	0	.....	2	.....	.....	.....	.....	.....	.....	Misty	
Onward, Callao, Peru †.	29.95‡	760.7‡	.....	.....	63	17.2	89	SSW	.....	.....	2	.....	10	.....	.....	.....	.....	Mod'ate smooth	W	Misty	
Palos, Tientsin, China.	29.96‡	761.0‡	.....	.....	30	-1.1	??	NNW	.....	.....	5–6	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Passaic, Washington, D. C.	30.17‡	766.3‡	.....	.....	45	7.2	84	W	.....	.....	1	.....	5	.....	E	.....	.....	.....	.....	Fair	
Pensacola, Callao, Peru	29.93‡	760.2‡	.....	.....	65	18.3	84	SSW	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Hazy	
Powhatan, Navy Yard, Brooklyn, N.Y.	30.18‡	766.6‡	.....	.....	45	7.2	84	Calm	.....	.....	0	.....	.....	.....	.....	0	0	.....	.....	Foggy	
Quinnebaug, Genoa, Italy	30.02‡	762.5‡	.....	.....	37	2.8	53	N	.....	.....	4	.....	10	.....	NE	.....	.....	.....	.....	Cloudy	
Ranger, N. 24° 55′, W. 174° 36′	30.02‡	762.5‡	.....	.....	58	14.4	76	NNE	.....	.....	4	.....	10	.....	.....	.....	.....	Mod'ate	NNE	Cloudy	
Richmond, N. 28° 50′, E. 129° 23′	30.01‡	762.2‡	.....	.....	65	18.3	78	S	.....	.....	3	.....	5	.....	SSW	.....	.....	Smooth	.....	Pleasant	
Rio Bravo, Brownsville, Texas	†. 30.12‡	765.0‡	.....	.....	69	20.6	100	SE	1	0.4	.....	.....	5	.....	Calm	0	0	.....	.....	Fair	
Santee. Annapolis, Md	30.20‡	769.4‡	.....	.....	45	7.2	92	SW	.....	.....	1	.....	2	.....	SW	0	0	.....	.....	Clear	
Shenandoah, Rio de Janeiro, Brazil	29.78‡	756.4‡	.....	.....	77	25.0	86	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	Smooth	.....	Fair	
St. Louis, League Island, Pa.	30.20‡	767.1‡	.....	.....	35	1.7	100	NW	1	0.4	.....	.....	10	.....	N	0	0	.....	.....	Foggy	
Tuscarora, N. 16° 40′, W. 99° 30′	29.87‡	758.7‡	.....	.....	75	23.9	95	N	.....	.....	1	.....	8	.....	Calm	0	0	Smooth	.....	Cloudy	
Vandalia. New York Harbor, N. Y.	30.16‡	766.1‡	.....	.....	45	7.2	92	SW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Wabash, Boston, Mass.	30.09‡	764.3‡	.....	.....	43	6.1	75	W	5	2.2	.....	.....	2	.....	.....	0	0	.....	.....	Fair	
Wachusett, S. 13° —′, W. 35° —′	30.38‡	771.6‡	.....	.....	82	27.8	87	ENE	.....	.....	4	.....	4	.....	Calm	.....	.....	Smooth	.....	Fair	
Wyoming, Cadiz, Spain	29.5 ‡	749.3‡	.....	.....	67	19.4	79	SSW	.....	.....	3–4	.....	5	.....	SW	.....	.....	Smooth	SW	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.			CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.	Force.	Amount.		Direction.						
										Up'er	Lo'er	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	From—	From—		Character.	Direction from—		
S. S. Samaria																		Capt. T. Roberts.

NOTE—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																		Capt. Cobb.
S. S. City of New York																		Capt. Seabury.
S. S. City of Panama																		Capt. Berry.
S. S. City of Peking																		Capt. Dearborn.
S. S. City of Sydney																		L. B. Walls.
S. S. City of Tokio, Capt. Maury																		Capt. R. Searle.
S. S. Colima																		Capt. Whitebury.
S. S. Costa Rica																		W. House & R. Lawless
S. S. Dakota, Capt. H. G. Morse																		Capt. Connolly.
S. S. Georgia																		F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin																		Capt. A. Fuller.
S. S. Wilmington																		R. C. Ghest, 1st Officer.
S. S. Zealandia, Sydney, New South Wales.		29.73‡	755.0‡				NE		3				N			Cloudy		

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																		Capt. J. W. Kennedy.
S. S. Baltic																		Capt. H. Perry.
S. S. Britannic																		Capt. B. Gleadell.
S. S. Celtic																		Capt. C. W. Kennedy.
S. S. Germanic																		

NOTE.—The orginals give the barometer as read off; wind-force by the scale 0 to 12; for the Brittanic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer N. 22° 17′, E. 115° 02′		30.00‡	762.0‡	68	20.0	84	NE		3		5		NE		Smooth		D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson																		J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																		J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents

S. S. Baltimore																		Capt. H. Andressen.
S. S. Berlin																		Capt. T. H. Lamke.
S. S. Braunschweig																		Capt. C. Undutsch.
S. S. Leipzig, Capt. F. Pfeiffer, N. 42° 26′, W. 52° 40′		30.31‡	769.9‡	45.0	7.2	80	NE		6		8		N	0	Mod'ate	NNE	Cloudy	S. Risius, 3rd Officer.
S. S. Nurnberg																		Capt. A. Jaeger.
S. S. Ohio, N. 48° 24′, W. 34° 40′		29.93‡	760.2‡				ENE		6		8		NE		4	E	Cloudy	Capt G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness by the scale 0 to 4, do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD.	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0–10.	0–10.	0–10.	From—	From—		Character.	Direction from—		

AMERICAN S. S. CO. MARINE SERIES.

Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.

S. S. Indiana, Philadelphia, Pa.		30.26‡	768.6‡	37	2.8		SW			1		2		SW	0			Hazy	Capt. R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer
S. S. Pennsylvania																			Capt. Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from, sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents.

S. S. Belgenland, N. 42° 10′, W. 61° 43′		30.24‡	768.1‡	49	9.4		SW	16	7.2			10		SW	0	Smooth	SSW	Overcast	Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson
S. S. Vaderland																			Capt. Nichols.

NOTE.—The originals give the barometer as read off; do not distinguish between upper and lower clouds; sea-swell in general terms, as published. ‡Corrections for temperature, instrumental error and elevation applied at this office.

ALLAN LINE MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. *The error of the barometer is not known. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES—Miscellaneous.

Furnished by the co-operation of the Observers named.

Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George" of Halifax, N. 20° 00′, W. 68° 05′ ...†		29.96‡	761.0‡	80	26.7		Calm			0		2				Mod'at	ENE	Fine	N. B. Foss.
Schooner Harry and Fred																			Capt. George Gardner.
Haytian																			
§ Iron Cross																			Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

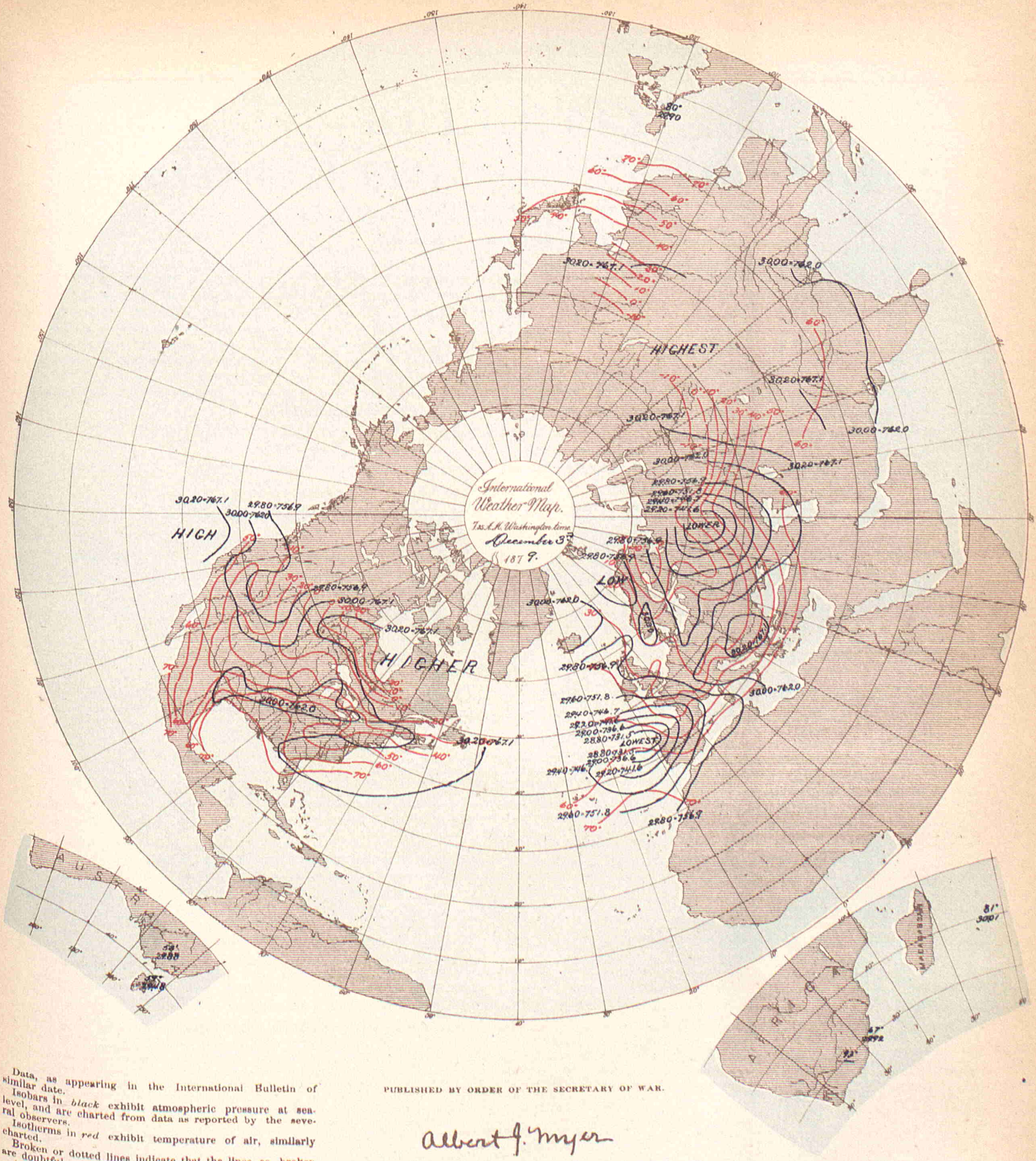
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

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BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 4, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time
1:57 P. M. CAPE TOWN, C. G. H. mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.01	762.3	67.5	19.7	88	SW			4		8			0.098	2.5	Very cloudy	
Nemours			30.24	768.2	81.3	27.4	44	WNW			4		8			0	0	Very cloudy	Kesxuche.
Algiers			29.82	757.3	75.9	24.4	37	WSW			1		0			0	0	Clear.	Touriliere.
La Calle			29.83	757.7	74.8	23.8	54	WSW			4		8			0	0	Very cloudy	Foufrede.
Tunis																			Jacques.
Sfax			30.00	762.0															Gau.
Saida																			Herbin.
Tebessa			30.00	762.0	67.5	19.7	54	SW			7		8			0		Very cloudy	Watrin.
Geriville					57.7	14.3	58	NW			4		5			0	0	Cloudy	Brugniuax.
Laghouat			30.05	763.3	62.2	16.8	14	SW			1		5			0	0	Cloudy	Bertrand.
Biskra			30.01	762.2	65.8	18.8	75	SSE			1		0			0	0	Clear.	Chanvaux.

NOTE.—The originals give the amount of cloudiness by the scale 0–4; no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.00	736.7	29.58	751.3	26.2	—3.2	94	SE			2		10			0.827	21.0	Rain & snow	Prof. Ivan Stozir.
Cracow, I. R. Observatory	28.97	735.9	29.79	756.6	18.7	—7.4	95	SSW	0.2	0.1			10			0.012	0.3		Dr. Wierzbicki.
Eperies	28.80	731.4	29.74	755.4	15.8	—9.0	88	S			1		10			1.205	3.06		Julius Mikolik.
Gratz	28.26	717.9	29.58	751.4	23.4	—4.8	91	SW			2		10			0	0		Andreas Rospini.
Hermannstadt	28.26	717.9	29.78	756.3	23.0	—5.0	78	W			3		10			0.268	6.80		Prof. A. Gottschling.
Kremsmünster	28.13	714.6	29.57	751.0	15.8	—9.0	97	ENE			4		10			0	0		Prof. C. Wagner.
Lemberg	28.61	726.8	29.65	753.1	22.8	—5.1	98	S			2		10			0.299	7.6		Dr. T. Stanecki.
Pola	29.45	747.9	29.56	750.8	39.2	4.0	97	NNE			1		10			1.024	26.0	Rain & fog	I.R.Hydrographic Office.
Szathmar	29.22	742.3	29.72	754.8	23.7	—4.6	98	E			5		10			0.965	24.5	Snowing	Pet. Panesics, S. J.
Szegedin	29.27	743.4	29.56	750.7	33.6	0.9	85	S			6		10			0.549	13.95		Karl Stancel.
Trieste	29.47	748.5	29.57	751.1	37.8	3.2	97	Calm			0		10			1.795	45.6	Raining	P. Busin.
Vienna	28.89	733.9	29.61	752.0	17.4	—8.1	94	Calm			0		10			0.031	0.8		I.R.Central Met. Ob'sy

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C., as Second-Class Matter

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	OBSERVER.
Aberdeen	29.58	751.3	29.69	754.1	27.0	— 2.8	.....	WSW	12	5.4	.....	.....	2	.....	.....	0.020	0.51	Misty	W. Boswell.
Ardrossan	29.74	755.4	29.76	755.9	27	— 2.8	.....	Calm	.....	.....	0	.....	1	.....	.....	.....	.....	Foggy	Wm. McNeil & G. Carrick.
Armagh, (Observatory)	29.54	750.3	29.79	756.7	26.3	— 3.2	.....	E	1	0.4	.....	.....	0	.....	.....	.....	.....	Blue sky	S. Call.
Bidston (Liverpool Obs)	.....	.....	29.72	754.9	28.0	— 2.2	.....	NNE	16	7.2	.....	.....	1	.....	.....	.....	.....	Blue sky	John Hartnup.
Bolton (Sharples)	29.15	740.4	29.68	753.9	28.8	— 1.8	.....	NE	6	2.7	.....	.....	8	.....	.....	.....	.....	D. clouds	Thomas Mackereth.
Bradford, Yorkshire	29.31	744.5	29.71	754.6	27.9	— 2.3	.....	N	.....	.....	4	.....	8	.....	.....	Blank	Blank	D. clouds	J. McLandsborough.
Bridgetown, Barbadoes	29.95	760.7	29.98	761.5	80	26.7	.....	NE	.....	.....	1	.....	2	.....	.....	.....	.....	D. clouds	Pvt. G. Surgener, A. H. C.
Cambridge (Observatory)	29.53	750.0	29.63	752.6	29.0	— 1.7	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	H. Todd.
Cardington	.....	.....	29.58	751.3	30.0	— 1.1	.....	E	.....	.....	1	.....	10	.....	.....	.....	.....	Snowing	John McLaren.
Chatham (School M. E.)	29.43	747.5	29.56	750.8	31.2	— 0.4	.....	E	.....	.....	6	.....	4	.....	.....	.....	.....	D. clouds	J. Carmell, Sapper, R. E.
Donaghadee	29.73	755.1	29.78	756.4	34	1.1	.....	W	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds	J. Mac Gowan.
Dover	29.44	747.8	29.47	748.5	31	— 0.6	.....	ENE	.....	.....	6	.....	7	.....	.....	.....	.....	¾ clouded	J. Costello.
Falmouth (Observatory)	29.21	741.9	29.45	748.0	33.1	0.6	.....	NNE	.....	.....	6	.....	10	.....	.....	.....	.....	Squally	The Staff.
Fort Napier, Natal	27.36	694.9	29.58	751.3	92.6	33.7	.....	SW	.....	.....	4	.....	0	.....	.....	.....	.....	Blue sky	Pvt. G. Salmon, A. H. C.
Free Town, Sierra Leone	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Galway (Queen's College)	.....	.....	29.73	755.1	28	— 2.2	.....	N	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky	Prof. A. H. Curtis.
Gibraltar, Mediterranean	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Sergt. Wm. Allen, A. H.
Glasgow, (Observatory)	29.54	750.3	29.75	755.6	18.1	— 7.7	.....	NE	.....	.....	0	.....	0	.....	.....	.....	.....	Foggy	D. G. Maclean. [C.
Great Yarmouth	29.64	752.8	29.65	753.1	29	— 1.7	.....	E	.....	.....	6	.....	5	.....	.....	.....	.....	D. clouds	G. T. Watson.
Greenwich (Royal Obs'y)	29.36	745.7	29.54	750.3	30.8	— 0.7	.....	ENE	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds	The Staff, for G. B. Airy.
Guernsey	29.00	736.6	29.23	742.4	38	3.3	.....	NE	.....	.....	7	.....	10	.....	.....	.....	.....	Overcast	Dr. S. E Hoskins, F.R.S.
Helston	29.61	752.1	29.73	755.1	33	0.6	.....	NE	.....	.....	6	.....	6k	.....	.....	0	0	Fair	M. P. Moyle.
Holyhead	29.63	752.6	29.71	754.6	35	1.7	.....	NE	.....	.....	4	.....	0	.....	.....	.....	.....	Blue sky	John Tilston.
Jersey	28.88	733.5	29.18	741.1	35.0	1.7	.....	ENE	.....	.....	9	.....	10	.....	.....	.....	.....	Overcast	J. Fisher.
Kew (Observatory)	29.51	749.5	29.55	750.6	31.3	— 0.4	.....	ENE	30	13.4	.....	.....	7	.....	.....	.....	.....	Misty	The Met'g'l Office.
Leicester (Museum)	29.37	746.0	29.64	752.8	27.0	— 2.8	.....	NE	.....	.....	2	.....	10	.....	.....	Blank	Blank	Overcast	Wm. J. Harrison, F.G.S
Malta, Mediterranean	29.85	758.2	29.93	760.2	68	20.0	.....	SW	.....	.....	3	6c	.....	.....	.....	.....	.....	D. clouds	A. King.
Nairn	29.55	750.6	29.65	753.1	32	0.0	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Overcast	W. D. Penny.
Nassau, Bahamas	.....	.....	30.11	764.8	73.0	22.8	.....	NE	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham (Observatory)	29.48	748.8	29.68	753.9	28.3	— 2.1	.....	SE	.....	.....	3	5c	.....	SSW	.....	0	0	D. clouds	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.08	738.6	29.62	752.3	28.2	— 2.1	.....	NNE	.....	.....	6	.....	9	.....	.....	.....	.....	D. clouds	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)	.....	.....	29.58	751.3	30	— 1.1	.....	NE	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds	H. E. Bellamy.
Plymouth	29.36	745.7	29.44	747.8	32.7	0.4	.....	NE	.....	.....	6	.....	10	.....	.....	.....	.....	Overcast	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	29.62	752.3	29.67	753.6	35	1.7	.....	NE	.....	.....	4	.....	2	.....	.....	.....	.....	¾ clouded	Wm. Kennedy.
St. Ann's Head	29.45	748.0	29.62	752.3	30	— 1.1	.....	NE	.....	.....	5	.....	2	.....	.....	.....	.....	Blue sky	John C. Walker.
Sandwick Manse, Orkneys	.....	.....	29.52	749.8	35	1.7	.....	NNW	35	15.6	.....	.....	10	.....	.....	.....	.....	Overcast	Rev. C. Clouston, L.L.D.
Scutari Cemetery, Turkey	30.00	762.0	30.06	763.5	49.2	9.6	.....	S	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds	Serg't W. H. L. ne.
Sheffield	29.41	747.0	29.72	754.9	27.0	— 2.8	.....	NE	.....	.....	1	.....	10	.....	.....	0	0	Overcast	W. F. Cooper.
Silloth Rectory	29.72	754.9	29 75	755.6	23.0	— 5.0	65	Calm	.....	.....	0	.....	0	.....	.....	0	0	Blue sky	Francis Redford, A. M.
Stonyhurst (Observatory)	.....	.....	29.69	754.1	27.1	— 2.7	.....	NE	5	2.2	.....	.....	3	.....	.....	.....	.....	Misty	Rev. S. J. Perry.
Straffield, Turgiss	29.32	744.7	29.55	750.6	31.8	— 0.1	.....	E	. . .	.....	4-5	.....	9	.....	.....	.....	.....	D. clouds	Rev. C. H. Griffith, F.M.S.
Truro (Royal Institution)	29.42	747.3	29.51	749.5	32	0.0	.....	NE	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds	W. Newcombe.
Valencia Observatory)	29.71	754.6	29.74	755.4	35.3	1.8	.....	NE	12	5.4	.....	.....	0	.....	.....	.....	.....	Misty	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.26	641.6	.....	.....	93	33.9	.....	WNW	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	Robert Burnet.
Constable, Cape Colony	26.78	680.2	.....	.....	78	25.6	.....	W	.....	.....	.....	.....	5	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Hobart Town, Tasmania	.....	.....	29.74	755.4	59.0	15.0	88	NE	.....	.....	1	.....	10m	.....	.....	0.10	2.5	.....	Andrew Gibb.
Leith (Restalrig Park) Sc'tl'd	.....	.....	29.73	755.1	18.0	— 7.8	.....	W	.....	.....	1	.....	0	.....	.....	0.08	2.0	.....	C. Meldrum.
Mauritius (Observatory)	29.83	757.7	30.02	762.4	80.0	26.7	78	NE	10.5	4.7	.....	2	4	W	ENE	0	0	Cloudy	R. L. J. Ellery.
Melbourne (Observatory)	29.76	755.9	29.85	758.2	54.0	12.2	81	SE	3	1.3	.....	.....	1	.....	.....	0	0	Very fine	J. Youngclause.
Monach Lt-house, Hebrides	.....	.....	29.78	756.4	40	4.4	.....	W	.....	.....	3	5	5	NW	.....	0.4	10.	.....	
North Unst, Shetland Is	.....	.....	29.54	750.3	.....	.....	.....	N	.....	.....	2	10	8	NE	.....	0	0	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters; Prince Town, 1,400 feet, or 427 meters; Colesberg Bridge and Constable, unknown.

BRITISH MARINE SERIES. VESSELS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	OBSERVER.
H. M. S. Alert, Alert Harbor, Patagonia	.....	.....	29.101‡	739.1‡	53.8	12.1	.....	NNW	.....	.....	2	.....	10	.....	.....	.....	.....	Showery	Capt. J. P. Maclear, R.N.
H. M. Sloop Gannet, S. 18° 28′, W. 70° 21′	.....	.....	29.90‡	759.4‡	68	20.0	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Overcast	Commander E. Bourke, R. N.
H. M. S. Magpie, Shaweishan I'd., China	.....	.....	30.17‡	766.3‡	55.5	13.1	.....	NE	.....	.....	4	.....	1	.....	.....	.....	.....	Misty	Capt. R. H. Napier, R.N.
Brig Alliance, N. 44° 25′, W. 40° 00′	.....	.....	30.20‡	767.1‡	56.5	13.6	.....	ENE	.....	.....	4	.....	6	.....	.....	.....	.....	Showery	Capt. W. Scott.
Barque Belle-Isle, N. 23° 55′, W. 73° 25′	.....	.....	30.01	762.2	76	24.4	.....	N	.....	.....	5	.....	3	.....	.....	5	NE	D. clouds	Capt. A. J. Brown
City of Cashmere, N. 28° 27′, W. 125° 18′	.....	.....	30.27‡	768.8‡	61	16.1	.....	ENE	.....	.....	5	.....	4	.....	.....	.....	.....	D. clouds	Capt. W. M. Grieve.
Barque Fedalma, N. 10° 10′, W. 59° 10′	.....	.....	29.92	760.0	81	27.2	.....	NE	.....	.....	2	.....	10	.....	.....	2	NNE	Overcast	Capt. H. L. Fox.
S. S. Iron Cross, N. 28° 10′, W. 86° 00′	.....	.....	30.18	766.6	74	23.3	.....	SE	.....	.....	3	.....	3	.....	.....	1	ESE	D. clouds	Capt. W. Randall.
S. S. Strathleven, Melbourne, Australia	.....	.....	29.86‡	758.4‡	63.5	17.5	.....	WSW	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds	Capt. C. W. Pearson.
Light House Tender Richmond, N. 24° 50′, W. 79° 20′	.....	.....	30.16	766.1	73	22.8	.....	NE	.....	.....	4	.....	2	.....	.....	2	NE	Blue sky	Capt. W. H. Stewart.
S. S. Gordon Castle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Wm. Waring.
German Brig "W. von Freeden"	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. V. Freeden.
S. S Ethiopia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Campbell.
S. S. Sunbeam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. M. Dobson.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.22	666.0	29.94	760.5	59.4	15.2	92	SE	.....	.....	1	1ks;d	.....	E	.....	0	0	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.77	756.1	29.82	757.3	18.5	—7.5	78	N	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....
Fanöe	29.83	757.7	29.85	758.2	17.1	—8.3	73	E	.....	.....	2	.....	1	.....	.....	.....	.....	.....	.....
Godthaab (Greenland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stykkisholm (Iceland)	29.63	752.7	29.68	753.8	38.5	3.6	85	SW	.....	.....	2	.....	8	.....	.....	.....	.....	Raining	.....
Thorshavn (Faröe)	29.58	751.4	29.62	752.3	31.1	—0.5	66	N	.....	.....	2	.....	3	.....	.....	.....	.....	.....	.....
Vestervig	29.70	754.3	29.81	757.1	17.8	—7.9	94	S	.....	.....	2	.....	1	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	28.63	727.1	29.18	741.1	24.8	—4	95	NNE	.....	.....	4	.....	10	.....	.....	0.063	1.6	Snowing	Collignon, Director.
Amiens, Normal School	29.13	739.9	29.25	742.9	25.2	—3.8	81	NE	.....	.....	2	.....	10	.....	Calm	0	0	Covered	Vaillant, Director.
Arras, Engin'r School	29.17	740.8	29.43	747.4	19.8	—6.8	78	E	.....	.....	4	.....	.....	.....	.....	0	0	.....	Klein, Commandant.
Avignon, Normal School	29.27	743.5	29.35	745.5	58.1	14.5	67	SE	.....	.....	4	.....	2	.....	SSW	0.209	5.3	Partly cl'd'y	Giraud, Director.
Bar-sur-Seine	28.63	727.2	29.19	741.5	33.3	0.7	86	S	.....	.....	1	.....	10	.....	.....	0.287	7.3	Covered	C. Saillard, Director
Beauvais, Normal School	29.04	737.6	29.32	744.7	22.3	—5.4	100	E	.....	.....	4	.....	10	.....	.....	0	0	Covered	Frère Eugene Marie
Besançon, Normal School	28.44	722.4	29.36	745.7	30.4	—0.9	.....	NE	.....	.....	1	.....	8	.....	S	0.106	2.7	Very cloudy	A. Carré, Director.
Bourg-en-Bresse, N. School.	28.49	723.6	29.37	746.0	46.0	7.8	89	S	.....	.....	6	.....	0	.....	.....	0.638	16.2	Clear	Marlot, Diretor.
Bourges, Normal School	28.54	724.9	29.09	738.9	39.4	4.1	96	SSE	.....	.....	1	.....	10n	.....	SSE	0.528	13.4	Covered	M. Gence, Director.
Brest, Naval Observatory	28.89	733.8	29.13	740.0	31.3	—0.4	89	NE	.....	.....	6	.....	10	.....	NE	.....	.....	Snowing	Ch. de Rermaree, Dir.
Caen, Normal School	29.17	740.8	29.24	742.8	38.5	3.6	95	NE	.....	.....	4	.....	.....	.....	.....	0	0	.....	M. Bietrin, Director.
Carcassonne, N. School	28.86	733.1	29.27	743.4	56.3	13.5	76	E	.....	.....	2	.....	0	.....	.....	0	0	Clear	September, Director.
Châlons-sur-Marne, N. Sch'l	28.99	736.3	29.32	744.6	29.1	—1.6	.....	NE	.....	.....	2	.....	10	.....	.....	.....	.....	Covered	Jadot, Director.
Chartres, Normal School	28.55	725.2	29.13	740.0	28.7	—4.6	90	NW	.....	.....	2	.....	10	.....	.....	.....	.....	Snowing	Vergier, Director.
Clermont-Fd, Puy de D. Obs	27.83	706.8	29.13	740.0	58.1	14.5	30	SW	.....	.....	8	.....	2	.....	SW	0.220	5.6	.....	Alluard, Director.
Commercy, Normal School	28.44	722.3	29.33	745.0	22.3	—5.4	90	E	.....	.....	4	.....	10	.....	E	.....	.....	Snowing	Dr. Coullet, Direct
Commune de Gréasque*	28.26	717.8	29.40	746.8	45.0	7.2	94	NE	.....	.....	2	.....	10	.....	SE	0.04	1.	.....	L. Kina, Director.
Grenoble, Normal School	28.61	726.8	29.41	747.0	34.9	1.6	71	NE	.....	.....	1	.....	km	.....	NE	.....	.....	.....	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	28.78	731.0	28.99	736.4	49.3	9.6	97	NE	.....	.....	1	.....	10	.....	.....	1.197	30.4	Covered	Mouillot, Director.
Le Mans, Normal School	28.83	732.3	29.15	740.4	25.5	—3.6	87	NE	.....	.....	4	.....	10	.....	.....	0.043	1.1	Covered	Poirrier, Director.
Lons-Le-Saulnier, N. School	28.37	720.5	29.29	744.0	45.5	7.5	85	S	.....	.....	1	.....	2k	.....	SE	0.331	8.40	Slightly cl'd'y	A. Baudry, Director
Lorient, Naval Observatory	28.89	733.9	29.00	736.7	27.7	—2.4	74	NE	.....	.....	8	.....	10	.....	.....	1.30	33.	Covered	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	28.66	727.9	29.27	743.4	53.6	12.0	74	S	.....	.....	1	.....	1	.....	SSW	0.165	4.2	Clear	Ch. André, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	29.11	739.3	29.37	746.1	58.6	14.8	87	S	.....	.....	3–4	.....	9	.....	SW	0	0	.....	E. Stephan, Director.
Mirecourt, Normal School	28.22	716.8	29.31	744.4	23.7	—4.6	86	NNE	.....	.....	1	.....	n	.....	NNE	0	0	.....	Barbier, Director.
Mont-Louis	24.28	616.7	29.60	751.7	42.8	6.0	78	WSW	26.2	11.7	.....	.....	6	.....	SW	0.178	4.4	.....	M. Cave.
Nice	29.52	749.9	29.56	750.7	45.3	7.4	91	NE	.....	.....	2	.....	10	NE	NE	0.925	23.5	Light rain	M. Boissière, Director.
Nismes, Normal School	29.11	739.3	29.32	744.8	58.3	14.6	76	N	.....	.....	3	.....	0	.....	.....	0.423	10.75	Clear	M. Boyer, Director.
Paris, Montsouris Obs'y	28.95	735.2	.....	.....	23.5	—4.7	100	ENE	.....	.....	3	.....	10	.....	.....	0.197	5.0	Snowing	Marié Davy, Director.
Perpignan	29.14	740.2	29.25	743.0	68.0	20.0	40	SW	26.2	11.7	.....	.....	1	.....	W	0	0	.....	Dr. Fines.
Pic du Midi (Plantade) H. P.	21.88	555.8	.....	.....	30.6	—0.8	.....	.....	.....	.....	.....	.....	.....	.....	W	0	0	.....	Gen'l de Nansouty.
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Privas, Normal School	28.28	718.3	29.36	745.7	46.0	7.8	97	S	.....	.....	1	.....	10	S	S	0	0	Covered	M. Tallieu
Puy de Dome (Summit) Obs	24.38	619.2	.....	.....	37.9	3.3	63	SE	.....	.....	6	.....	5	.....	.....	0.165	4.2	½ covered	Alluard, Director.
Rochefort, Naval Obs'y	29.03	737.3	29.06	738.1	53.6	12.0	80	S	.....	.....	3	.....	10	S	S	0	0	Covered	Lt E. Decante, Director
Rouen, Normal School	29.21	742.0	29.30	744.2	23.5	—4.7	90	NE	.....	.....	7	.....	10	.....	.....	0	0	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.13	740.0	29.17	740.8	28.0	—2.2	89	ENE	.....	.....	6	.....	10	ENE	ENE	0	0	Covered	Lt. Hercouet, Director
Saint Maur (near Paris)	29.06	738.0	29.22	742.2	24.6	—4.1	100	ENE	.....	.....	4	.....	10	.....	.....	0.303	7.7	Snowing	L. Renou, Director.
Tarbes, Normal School	27.89	708.4	29.06	738.0	26.6	—3	100	W	.....	.....	4	.....	0	.....	.....	0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	28.58	726.0	29.29	743.9	56.8	13.8	95	SSE	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. Julier Mercadier.
Tours	28.88	733.6	29.08	738.6	33.8	1.0	92	E	.....	.....	2	.....	10	Calm	SW	0.701	17.8	Stormy	Cousin-Marquet.
Versailles, Observatory	28.72	729.4	29.21	741.9	23.0	—5.0	90	NE	.....	.....	6	.....	10	.....	.....	.....	.....	Light snow	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	28.54	724.8	.....	.....	49.1	9.5	80	SE	.....	.....	3	.....	2	.....	SE	0.24	6.	Slightlycld'y	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.93	760.3	29.96	761.0	78.8	26	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	L'Abbé Marchési
Zi-Ka-Wei (near Shanghai	30.17	766.2	30.19	766.8	48.7	9.3	85	NE	6.3	2.8	.....	.....	0	.....	.....	0	0	Clear	Marc Dechevrens.
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NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fal as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in gene al terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4.813 ft.; Tarbes 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.70	729.0	29.53	750.1	18.9	— 7.3	75	SE			4		6ks	E		0	0	Light fog	Prof. Dr. Hoh.
Berlin	29.58	751.3	29.76	756.0	15.6	— 9.1	93	N			1		0			0	0		Prof. Dr. Arndt.
Breslau	29.24	742.8	29.77	756.2	13.5	—10.3	79	NW			2		2			0	0		Royal University Obs'y.
Carlsruhe	29.04	737.6	29.48	748.9	21.2	— 6.0	90	NE			4		10			0.492	12.5	Snow-storm	Albert Senz.
Cassel	29.08	738.7	29.69	754.0	16.5	— 8.6	70	E			5		10	NE		0	0		Dr. H. Möhl.
Emden			29.77	756.2	13.6	—10.2	84	NE			0		0			0	0		Prof. Dr. Prestel.
Frankfort on the Main	29.30	744.1	29.67	753.6	21.6	— 5.8	72	ENE			4		10			0	0		Physical Society.
Friedrichshafen	27.98	710.8	29.49	749.0	21.9	— 5.6	85	NE			4		10	NE		0.150	3.8		Chief Telegrapher Wilhelm.
Hamburg	29.74	755.5	29.82	757.4	14.0	—10.0	87	NNE			3		5			0.012	0.3		Capt. P. F. A. Hegerman.
Kiel	29.80	757.0	29.82	757.4	16.7	— 8.5	71	NW			2		10			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29 70	754.4	29.79	756.7	7.5	—13.6	84	SE			3					0.193	4.9	Snowing	Prof. E. Luther.
Köslin			29.79	756.7	9.3	—12.6		S			2		1			0	0		H. Müller.
Leipsic Observatory	29.31	744.5	29.76	756.0	11.7	—11.3	97	NE			1		8	NW		0	0		Prof. Dr. Bruhns, Privy Counselor
Magdeburg	29.57	751.0	29.79	756.7	15.3	— 9.3	78	N			3		9ks	WSW		0	0		Dr. Assmann.
Memel	29.74	755.5	29.79	756.7	8.1	—13.3	100	ENE			1–2		1						Reinbrecht & Issermann.
Munich (München)	27.63	701.8	29.46	748.2	20.3	— 6.5	87	E			5		10			0.110	2.8	Snowing	Dr. C. Lang.
Neufahrwasser	29.76	755.9	29.78	756.3	16.9	— 8.4	79	SW			1		6			0.028	0.7		A. Lothes.
Neustadt (Palatinate)	28.96	735.5	29.47	748.6	19.6	— 6.9		Calm			0					Inap.	Inap.	Snowing	Reallehrer Dicknether.
Posen	29.47	748.5	29.78	756.4	17.2	— 8.2	72	W			1		2			0.244	6.2	Snowing	Prof. Dr. Magener.
Strassburg (in Alsace)	28.87	733.4	29.46	748.2	21.6	— 5.8	95	NE			3		10			0.153	3.88		Imp. University Observatory.
Stuttgart	28.51	724.1	29.50	749.2	22.1	— 5.5	87	E			1		10			0.169	4.3		Prof. Dr. Schoder.
Weissenburg (Bavaria)	27.99	711.0	29.52	749.9	18.7	— 7.4	81	ENE			4		10			0.047	1.2	Light snow	Reallehrer J. Hopfner
Wustrow	29.79	756.6	29.81	757.2	21.9	— 5.6	96	NE			2		10ks			0	0		E. Schütz, Director.
German Naval Series.																			

NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.74	755.4	30.13	765.3	61.0	16.1		S			1.0		5					½ Clear	Dr. J. F. J. Schmidt.

NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.95	760.8	30.00	762.1	73.9	23.3	62	SW	9	4.0			0			0	0	Blue sky	
Deesa	29.50	749.4	29.99	761.7	75.2	24.0	26	WSW	6.4	2.9			0			0	0	Blue sky	
Bombay	29.88	758.9	29.92	759.8	75.3	24.1	72	WNW	9	4.0			1	WNW		0	0	D. clouds	
Poona (Yerrowda)	28.04	712.3	29.90	759.4	79.8	26.6	18	ESE	7	3.1			5		WSW	0	0	D. clouds	
Belgaum	27.36	695.1	29.91	759.6	75.4	24.1	45	ESE	4	1.8			7	SW		0	0	D. clouds	
Lahore	29.28	743.6	30.06	763.6	56.0	13.3	40	Calm	0.2	0.1			0			0	0	Blue sky	
Roorkee	29.10	739.2	30.06	763.4	56.2	13.4	54	SW	7	3.1			0			0	0	Gloomy	
Agra	29.45	748.0	30.04	763.0	63.3	17.4	45	E	0.7	0.3			0			0	0		
Nagpur	28.92	734.4	29.98	761.4	71.9	22.2	31	Calm	1.9	0.8			0			0	0	Blue sky	
Jubbulpore	28.61	726.6	30.00	761.9	73.0	22.8	26	Calm	0.9	0.4			0			0	0	Blue sky	
Lucknow	29.65	753.0	30.04	763.0	61.5	16.4	43	Calm	0.4	0.2			0			0	0	Blue sky	
Allahabad	29.71	754.6	30.04	763.0	60.4	15.8	57	Calm	0.4	0.2			0			0	0	Blue sky	
Patna	29.82	757.5	30.01	762.2	69.1	20.6	46	W	0.4	0.2			2	W	W	0	0		
Hazaribagh	27.94	709.6	30.02	762.6	62.0	16.7	55	WNW	3.6	1.6			0			0	0	Blue sky	
Cuttack	29.92	759.8	30.00	762.0	67.4	19.7	69	Calm	0.5	0.2			0			0	0	Blue sky	
Calcutta (Alipore)	29.96	760.9	29.98	761.5	65.6	18.7	76	Calm					0			0	0	Foggy	
Goalpara	29.56	750.9	29.96	761.1	69.8	21.0	63	ESE	4.7	2.1			0			0	0	Blue sky	
Chittagong	29.86	758.5	29.95	760.8	73.2	22.9	77	NW	2.3	1.0			1			0	0		
Sibsagar	29.66	753.4	30.01	762.2	66.4	19.1	75	ENE	1.0	0.4			2			0	0	Blue sky	

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. T. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	29.17	740.8	29.60	751.8	34.0	1.1	96	Calm	0	0	.....	.....	10	.....	.....	0.780	19.8	.....	Prof. Giovanni Clodig.
Milan	29.10	739.1	29.63	752.7	28.0	— 2.2	88	W	.....	.....	2	.....	10	SE	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.48	748.9	29.60	751.8	28.9	— 1.7	98	NW	8.7	3.9	.....	.....	10	.....	.....	0.232	5.9	.....	Prof. Dott. Lorenzoni.
Moncalieri	28.71	729.2	29.67	753.5	31.6	— 0.2	91	NNW	1.8	0.8	.....	.....	6	N	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.33	744.9	29.53	750.0	34.3	1.3	69	N	8.7	3.9	.....	.....	10	S	.....	2.539	64.5	.....	Prof. G. M. Garibaldi.
Mondovi	27.64	702.0	29.64	752.9	25.0	— 3.9	81	E	.....	.....	2	.....	7	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.54	750.4	29.60	751.7	32.4	0.2	89	SW	3.1	1.4	.....	.....	10	W	.....	0.075	1.9	.....	Prof. Luigi Guidi.
Florence	29.29	743.9	29.56	750.8	41.0	5.0	92	E	.....	.....	2	.....	10	SW	.....	0.291	7.4	.....	Cav. F. Meucci.
Leghorn	29.42	747.3	29.51	749.5	43.9	6.6	82	NW	1.8	0.8	.....	.....	10	.....	.....	0.197	5.0	.....	Prof. P. Monte.
Rome	29.51	749.5	29.69	754.1	59.7	15.4	81	S	18.6	8.3	.....	.....	10	.....	.....	0.264	6.7	.....	Prof. P. S. Ferrari.
Lecce	29.62	752.4	29.88	759.0	60.3	15.7	86	S	33.6	15.0	.....	.....	10	S	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	28.99	736.4	29.90	759.4	61.9	16.6	80	S	8.1	3.6	.....	.....	8	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.50	749.3	29.70	754.3	67.3	19.6	60	SE	.....	.....	2	.....	9	W	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.54	750.3	29.80	756.8	71.2	21.8	26	WSW	25.5	11.4	.....	.....	10	WSW	.....	0	0	.....	Prof. G. Ciacciatore.
Syracuse	29.88	759.0	29.96	760.9	64.4	18.0	89	SE	8.7	3.9	.....	.....	9	SW	.....	0.610	15.5	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.28	743.8	29.80	756.9	59.0	15.0	75	WSW	4.9	2.2	.....	.....	10	.....	.....	0.051	1.3	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.97	761.2	29.99	761.7	49.6	9.8	92	NNE	6.8	3.0	.....	0	0	.....	.....	0	0	Clear.	K. Sasaki.
Nagasaki, I. M. Obs'y	29.86	758.4	30.06	763.5	52.1	11.2	71	N	0.4	0.2	.....	.....	0	.....	.....	0.080	2.03	Clear.	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.85	758.2	29.92	759.9	47.7	8.7	80	W	3.0	1.3	.....	0	0	.....	.....	0	0	Clear.	The Staff.
Wakayama	29.90	759.4	29.95	760.7	52.3	11.3	96	E	3.5	1.6	.....	.....	0	.....	.....	0.313	7.95	.....	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima																			
Guadalajara	25.09	637.2	30.24	768.2	45.5	7.5	59	SW	.....	.....	1	.....	8	.....	W	0	0	Cloudy	Prof. L. Perez.
Leon	24.45	621.1	30.26	768.6	50.2	10.1	82	N	.....	.....	1	4c	0	NW	.....	0	0	Clear	Prof. M. Leal.
Mazatlan	29.74	755.3	30.00	761.9	69.1	20.6	92	E	.....	.....	2	3cs	4k	SW	SW	0	0	Cloudy	I. Guerrero, C. E.
Mexico, Central Observatory	23.08	586.1	30.22	767.5	46.0	7.8	68	Calm	0	0	.....	7ck	0	NW	.....	0	0	Cloudy	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	44.8	7.1	76	Calm	.....	.....	0	2cs	0	SW	.....	0	0	Clear.	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.41	594.5	30.27	768.9	46.4	8.0	46	Calm	0	0	.....	1c	0	NE	.....	0	0	Clear	Prof. P. Spina.
San Luis Potosi	24.21	614.8	30.37	771.5	43.5	6.4	65	E	.....	.....	1	8	0	W	.....	0	0	Cloudy	G. Barroeta, M. D.
Tlacotalpam	30.01	762.2	30.02	762.5	70.9	21.6	84	W	.....	.....	1	0	0	.....	.....	0	0	Foggy	Prof. M. M. Chazaro.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell
Zacatecas	22.55	572.8	30.22	767.6	50.0	10.0	60	Calm	0	0	.....	1c	1s	SW	.....	0	0	Clear	J. C. Castrillon

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column; the instrumental correction —0.88 mm., or —0.035 inch, has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing																			
Groningen	29.58	751.2	29.58	751.2	20.1	— 6.6	.....	ENE	.....	.....	5	.....	.....	.....	.....	0	0	.....	
Helder	29.74	755.3	29.79	756.7	14.0	—10.0	.....	E	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	29.72	755.0	29.72	755.0	19.4	— 7.0	.....	ENE	.....	.....	5	.....	.....	.....	.....	0	0	.....	
Utrecht	29.63	752.5	29.63	752.5	18.5	— 7.5	73	ENE	.....	.....	4	.....	.....	.....	.....	.....	.....	.....	
.....	29.62	752.4	29.67	753.6	17.4	— 8.1	76	ENE	.....	.....	4	.....	5	.....	.....	0	0	Cloudy	H. v. d. Brink

NOTE.—The originals give the wind-pressure in Filograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.71	754.6	29.76	756.0	27.7	— 2.4	71	SSE	23.3	10.4	.....	.....	10	.....	.....	0	0	.....	
Brönö	29.34	745.1	29.37	746.1	23.0	— 5.0	69	NE	4	2	.....	.....	3	.....	.....	0.126	3.2	.....	
Christiana	29.52	749.8	29.68	753.9	6.6	—14.1	100	NNE	0	0	.....	.....	10	.....	.....	0	0	Foggy	
Tromsö	29.51	749.6	29.56	750.7	10.4	—12.0	63	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra (Azores)	29.52	749.8	29.72	754.8	53.1	11.7	86	NW	9.8	4.4	.....	.....	5	.....	.....	0.118	3.0	.....	Dr. J. A. Sampaio.
Campo Major	28.62	726.9	29.60	751.9	58.6	14.8	66	WSW	11.2	5.0	.....	.....	9	.....	.....	0.429	10.9	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	29.73	755.2	29.82	757.4	66.7	19.3	74	W	11.9	5.3	.....	.....	4	.....	.....	0.217	5.5	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.28	743.8	29.64	752.9	59.2	15.1	75	SW	18.6	8.3	.....	.....	10	.....	.....	0.185	4.7	Raining	The Staff.
Ponta Delgada (Azores)	29.67	753.7	29.74	755.5	62.2	16.8	59	NW	7.4	3.3	.....	.....	4	.....	.....	0.031	0.8	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.	Sea or swell: Height scale 0-9	Sea or swell: Direction from—	Weather.	Observer.
Bartholomew Dias	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	A. M. de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.	.....	.....	.....	J. C. M. Cabrate, 1st Lt
Mindello	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa, Fogo, Cape Verd Islands	.....	.....	.....	A. D. de Fonseca Sarurento
Sá da Bandeira	.....	.....	.....	F. Teixeira da Silva, Comd't.
Sado, Capt. J. A de Brito Capello, St. Paul de Loando	.....	.....	Gloomy, 5 minutes rain-fall.	Luiz Aprá, Q. M.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	.....	.....	D. clouds	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sá da Bandeirá gives the barometer reduced tofreezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Archangel	29.12	739.7	29.14	740.2	—13.4	—25.2	72	NE	4	2	.....	.....	10	.....	.....	.....	.....	Snowing	Capt. Sseliwerstow
Astrakhan	30.53	775.5	30.45	773.4	26.2	— 3.2	57	NNW	9	4	.....	.....	3cs	.....	.....	.....	.....	Light clouds	Capt. Wisganow.
Barnaul	29.56	750.7	30.10	764.4	16.2	— 8.8	87	SW	0	0	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	29.43	747.6	29.70	754.4	10.2	—12.1	89	WSW	9	4	.....	.....	10n	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	28.36	720.2	29.35	745.6	21.2	— 6.0	69	WSW	31	14	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	29.44	747.7	29.73	755.2	4.1	—15.5	71	SSW	13	6	.....	.....	1	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.17	741.0	29.86	758.5	13.1	—10.5	97	SSW	7	3	.....	.....	10n	.....	.....	.....	.....	.....	Physical Cabinet.
Krotkowo*	29.45	747.9	29.97	761.1	6.4	—14.2	59	SSW	9	4	.....	.....	1s	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	30.03	762.7	30.24	768.2	25.2	— 3.8	56	S	13	6	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs
Moscow	29.21	742.0	29.82	757.4	1.6	—16.9	75	SW	7.8	3.5	.....	.....	7s	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	27.74	704.6	30.38	771.7	—17.0	—27.2	64	Calm	0	0	.....	.....	1	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Nikolaiev	29.97	761.1	30.04	762.9	36.3	2.4	75	S	18	8	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	29.77	756.1	30.00	762.1	52.3	11.3	65	NNW	4	2	.....	.....	7ks	.....	.....	.....	.....	.....	.....
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	29.97	761.1	30.11	764.7	30.2	— 1.0	52	SE	4	2	.....	.....	6ks	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	29.54	750.2	29.55	750.6	7.2	—13.8	87	WNW	11	5	.....	.....	9m	.....	.....	.....	.....	.....	Central Physical Obs.
Tashkend	28.53	724.7	30.14	765.5	46.4	8.0	73	.....	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.85	732.8	30.30	769.5	49.6	9.8	71	N	4	2	.....	.....	10	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	29.30	744.1	29.75	755.7	12.7	—10.7	90	W	7	3	.....	.....	2ks	.....	.....	.....	.....	Light clouds	Astronomical Obs.
Wilna	29.32	744.8	29.78	756.4	10.6	—11.9	77	Calm	0	0	.....	.....	7	.....	.....	.....	.....	.....	Astronomical Obs.
Yenisiesk	30.35	771.0	30.70	779.7	—25.1	—31.7	79	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Barcelona, Met. Obs'y	29.36	745.7	29.47	748.4	62.1	16.7	65	SW	5.5	2.44	.....	.....	1	.....	.....	0	0	Clear.	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.19	741.3	29.24	742.8	60.6	15.9	54	W	9.9	4.43	.....	2	6	E	.....	0.059	1.5	Cloudy	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.44	671.5	.....	.....	46.4	8.0	68	SW	26.6	11.86	.....	0	8	.....	.....	0	0	Cloudy	Domingo Martin y Perez.
Madrid, Royal Observatory	27.32	693.8	29.52	749.9	52.9	11.6	71	SW	38.8	17.33	.....	0	3	.....	.....	0.547	13.9	Cloudy	The Staff.
Murcia, Met. Obs'y	29.46	748.2	29.60	751.9	73.4	23.0	52	SW	6.1	2.72	.....	2	4	ESE	.....	0	0	Cloudy	Olayo Diaz, Director.
Santiago, Met. Obs'y	28.47	723.1	29.36	745.8	47.7	8.7	87	WSW	16.8	7.5	.....	.....	9	.....	.....	0.846	21.5	Almost cov'd	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.08	763.9	30.14	765.6	65.4	18.6	88	ENE	1.3	0.6	.....	10cs	0	ENE	.....	0	0	Cloudy	Benito Vines S. J.
Manilla, Phillippine Islands	29.85	758.3	29.91	759.6	80.6	27.0	85	NE	0.4	0.2	.....	.....	9kn	.....	E	0	0	Covered	Federico Fauca, S. J.
San Fernando, Naval Obs'y	29.67	753.7	29.77	756.2	63.7	17.6	87	WSW	14.5	6.5	.....	0	9	.....	W	0.267	6.8	Raining	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.91	759.8	30.00	762.1	72.0	22.2	85	W	0	0	.....	4ks	2k	W	W	0.020	0.50	Clear.	Enrique Gades, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8 19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.64	752.9	29.68	753.9	—11.6	—24.2	.....	NW	.....	.....	2	.....	2	.....	.....	0	0	.....	
Umea	29.60	751.8	29.65	753.1	— 1.5	—18.6	77	N	.....	.....	2	.....	10	.....	.....	0	0	.....	
Hernosand	29.48	748.9	29.54	750.2	11.1	—11.6	100	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	
Stockholm	29.42	747.3	29.60	751.8	14.0	—10.0	94	WSW	.....	.....	2	.....	4	.....	.....	0	0	.....	
Wisby	29.65	753.2	29.71	754.7	22.6	— 5.2	61	NW	.....	.....	6	.....	0	.....	.....	0.126	3.2	.....	
Sub-Series.																			
Upsala	29.48	748.7	29.56	750.9	11.1	—11.6	84	SSE	8.7	3.9	.....	.....	10	.....	.....	0.047	0.12	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	27.99	710.8	29.49	749.0	29.8	— 1.2	96	ESE	.....	.....	2.	.....	7	.....	.....	1.146	29.1	Cloudy.....	The Observatory.
Zurich	27.79	705.8	29.54	750.4	21.6	— 5.8	90	NW	.....	.....	1	.....	10	.....	.....	0.260	6.6	Covered.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, —16.2 mm.; Thermometer, —4.9 Cent.; Relative Humidity, +17 per cent.
NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.11	764.7	48.2	9.0	78	S	4	2.0	.....	.....	6	.....	N	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.92	759.9	65.7	18.7	.....	S	.....	.....	1	.....	2	.....	.....	0	0	Slightly cld'y	A. Bertrand.
Sub-series.																			
Beirut, (Syria) Lee Obs'y	29.93	760.2	30.04	763.1	68.7	20.4	69	SW	.....	.....	2	ck	ss	W	S	0	0	D. clouds.....	Prof. C. V. A. van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	29.96	761.0	30.03	762.7	31.9	— 0.1	95	Calm	0	0	.....	.....	Fog	.....	.....	0.11	2.8	Foggy.....	G. A. Blair.
Charlottetown, P. E. Island	30.02	762.5	30.06	763.5	37.2	2.9	100	SE	6	2.7	.....	.....	10n	.....	.....	0.43	10.9	Light rain...	H. J. Cundall, C. E.
Cornwall, Ontario	30.00	762.0	30.21	767.3	21.9	— 5.6	97	W	.....	.....	2	.....	10s	.....	.....	0.20	5.1	Overcast....	James Smith, M. A.
Dalhousie, N. B	29.91	759.7	30.08	764.0	25	— 3.9	.....	NW	.....	.....	1	.....	10n	.....	.....	0.25	6.3	Snowing.....	H. A. Johnson.
Father Point, Quebec	30.04	763.0	30.06	763.5	23.7	— 4.6	93	NE	30	13.4	.....	.....	10n	.....	.....	0.23	5.8	Light snow.	J. McWilliams.
Fredericton, N. B	29.96	761.0	30.02	762.5	30.2	— 1.0	98	E	1	0.4	.....	.....	10n	.....	.....	0.35	8.9	Light snow.	Prof. Harrison.
Fort Garry, Manitoba	29.18	741.1	30.08	764.0	11.6	—11.3	94	NE	4	1.8	.....	.....	10n	.....	.....	0.02	0.5	Light snow.	James Stewart.
Granton, Ontario	29.12	739.6	30.28	769.1	31	— 0.6	.....	NE	.....	.....	1	.....	10n	.....	.....	0.34	8.6	Cloudy.....	James Grant.
Halifax, N. S	29.98	761.5	30.12	765.0	44.6	7.0	98	SW	4	1.8	.....	.....	Fog	.....	.....	0.07	1.8	Foggy	A. Allison.
Hamilton, Ontario	29.90	759.4	30.29	769.4	33.7	0.9	91	NE	.....	.....	1	10cs	0	NE	.....	0.37	9.4	Cloudy.....	Geo. Dickson, B. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.91	759.7	30.27	768.8	21.5	— 5.8	96	NE	3	1.3	.....	.....	10s	.....	.....	0.29	7.4	Cloudy.....	S. Woods, M. A.
Little Glace Bay, N. S	30.12	765.0	30.15	765.8	40.2	4.6	98	S	6	2.7	.....	.....	10n	.....	.....	0.39	9.9	Raining.....	C. H. Rigby.
Montreal, Quebec	29.95	760.7	30.16	766.1	24.0	— 4.4	87	W	11	4.9	.....	.....	10s	.....	.....	0.09	2.3	Overcast....	C. H. McLeod, C. E.
Moose Factory, Ontario	30.48	774.2	30.52	775.2	—13.5	—25.3	95	NW	.....	.....	3	0	1	.....	.....	0.03	0.8	Fine.....	J. R. Nelson.
Norwood	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	.....	0.04	1.0	.....	Rev. T. F. Fotheringham, M. A.
Parry Sound, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. R. Mosley.
Peterboro, Ontario	29.48	748.8	30.26	768.6	28.9	— 4.5	79	NE	.....	.....	2	.....	10n	.....	.....	0.45	11.4	Overcast....	J. F. Jeffers, M. A.
Port Dover, Ontario	29.56	750.8	30.29	769.4	34.0	1.1	89	NE	6	2.7	.....	.....	10n	.....	.....	0.33	8.4	Cloudy.....	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.60	751.8	30.28	769.4	34.2	1.2	88	N	4	1.8	.....	.....	10ks	.....	.....	0.38	9.7	Cloudy.....	M. Payne.
Quebec, Quebec	29.71	754.6	30.05	763.3	24.5	— 4.2	94	NE	.....	.....	3	.....	10n	.....	.....	0.62	15.7	Light snow.	Capt. Ashe, R. N.
Rockliffe, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. McIntyre.
St. Andrews, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Gove.
St. John, N. B	29.80	756.9	29.97	761.2	35	1.7	84	NE	5	2.2	.....	.....	10n	.....	.....	0.53	13.5	Heavy rain..	G. Murdock, C. E.
Saugeen, Ontario	29.58	751.3	30.34	770.6	27.5	— 2.5	85	NW	9	4.0	.....	.....	10ks	.....	.....	0.17	4.3	Overcast....	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.96	735.6	30.30	769.6	30.3	— 0.9	96	NW	8	3.6	.....	.....	10s	.....	.....	0.32	8.1	Cloudy.....	C. J. MacGregor, M. A.
Sydney, C. B	30.17	766.3	30.21	767.3	40.3	4.6	99	SE	6	2.7	.....	.....	10n	.....	.....	0.17	4.3	Raining	T. C. Hill, C. E.
Toronto, Ontario	29.89	759.2	30.30	769.6	29.3	— 1.5	91	NW	2	0.9	.....	.....	10n	.....	NW	0.37	9.4	Cloudy.....	Magnetic Observatory.
Windsor, N. S	29.94	760.5	30.04	763.0	43.0	6.1	100	S	10	4.5	.....	0	0	.....	.....	0.11	2.8	Clear.	Prof. John E. Oram, M. A.
Woodstock, Ontario	29.18	741.1	30.30	769.6	32.3	0.2	90	.....	4	1.8	.....	10k	0	N	.....	0.19	4.8	Overcast....	Prof. J. Montgomery.
Yarmouth, N. S	30.00	762.0	30.07	763.8	47.1	8.4	96	S	17	7.6	.....	.....	10n	.....	.....	0.45	11.4	Raining	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	30.34	770.6	30.60	777.2	30.0	— 1.1	100	NW	.....	.....	.....	.....	10	.....	.....	Inap.	Inap.	Overcast....	John Delany.
St. Pierre, N. F., l'Hopital Maritime	.....	.....	30.33	770.4	34.9	1.6	.....	SE	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	The Commandant.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Byt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.95	760.7	30.19	766.8	40	4.4	82	NW	10	4.5	.....	.....	10s	.....	W	0.04	1.0	Cloudy.....	
Alpena, Michigan	29.68	753.9	30.48	771.6	24	— 4.4	87	NW	4	1.8	.....	.....	10s	.....	NW	0.10	2.5	Cloudy.....	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	29.01	736.8	30.17	766.3	50	10.0	96	S	5	2.2	.....	.....	Fog	.....	Calm	0.92	23.4	Dense fog....	
Atlantic City, New Jersey	30.17	766.3	30.18	766.6	52	11.1	100	SW	8	3.6	.....	.....	10s	.....	SW	0.21	5.3	Threatening	
Augusta, Georgia	29.98	761.5	30.19	766.8	60	15.6	88	NW	4	1.8	.....	.....	10s	.....	W	1.20	30.5	Cloudy.....	
Baltimore, Maryland	30.14	765.5	30.19	766.8	53	11.7	80	S	2	0.9	.....	.....	Fog	.....	Calm	Inap.	Inap.	Foggy.....	
Barnegat, New Jersey	30.15	765.8	30.18	766.6	50	10.0	100	SW	9	4.0	.....	5k	5s	W	W	0.19	4.8	Cloudy.....	
Bismarck, Dakota	27.90	708.6	29.76	755.9	22	— 5.6	100	E	10	4.5	.....	.....	10n	.....	Calm	0.33	8.4	Light snow..	
Boerne, Texas	28.46	722.9	29.74	755.4	62	16.7	100	SW	12	5.4	.....	.....	10s	.....	SE	0	0	Cloudy.....	
Boise City, Idaho	27.18	690.4	30.14	765.5	34	1.1	79	SE	4	1.8	.....	.....	10s	.....	W	0.08	2.0	Cloudy.....	
Boston, Massachusetts	29.94	760.5	30.09	764.3	39	3.9	91	W	4	1.8	.....	0	5s	.....	W	0.08	2.0	Fair.....	
Brackettville, Texas	28.70	729.0	29.74	755.4	60	15.6	94	E	9	4.0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Breckenridge, Minnesota	28.79	731.3	29.82	757.4	30	— 1.1	100	SE	32	14.3	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Brownsville, Texas	29.91	759.7	29.96	761.0	72	22.2	85	S	4	1.8	.....	2k	0	S	.....	0	0	Clear.....	
Buffalo, New York	29.55	750.6	30.28	769.1	33	0.6	89	N	5	2.2	.....	.....	10s;fog	.....	Calm	0.56	14.2	Cloudy.....	
Burkes, Arizona	.....	.....	.....	.....	40	4.4	56	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear.....	
Burlington, Vermont	29.87	758.7	30.18	766.6	26	— 3.3	88	NE	15	6.7	.....	.....	10s	.....	NW	0.54	13.7	Cloudy.....	
Cairo, Illinois	29.81	757.2	30.21	767.3	44	6.7	84	E	9	4.0	.....	.....	Fog	.....	.....	0.37	9.4	Foggy.....	
Campo, California	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Cape Hatteras, N. Carolina	30.25	768.3	30.25	768.3	61	16.1	88	SE	4	1.8	.....	5cs	5ks	Calm	SW	0.08	2.0	Cloudy.....	
Cape Henry, Virginia	30.20	767.1	30.22	767.6	60	15.6	77	SW	12	5.4	.....	5cs	5ks;hz	SW	Calm	0	0	Cloudy.....	
Cape Lookout, N. Carolina	30.23	767.8	30.24	768.1	61	16.1	88	S	8	3.6	.....	10cs	Fog	Calm	S	0	0	Cloudy.....	
Cape May, New Jersey	30.16	766.1	30.18	766.6	54	12.2	87	S	22	9.8	.....	.....	10s	.....	S	0.20	5.1	Cloudy.....	
Castroville, Texas	29.15	740.4	29.84	757.9	63	17.2	100	S	2	0.9	.....	.....	Fog	.....	.....	0	0	Light fog.....	
Cedar Keys, Florida	30.16	766.1	30.19	766.8	63	17.2	89	E	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Charleston, South Carolina	30.13	765.3	30.18	766.6	61	16.1	82	SW	4	1.8	.....	0	5ks	.....	SW	0	0	Fair.....	
Charlotte, North Carolina	29.29	744.0	30.10	764.5	57	13.9	94	S	1	0.4	.....	.....	10s	.....	SW	0.01	0.3	Cloudy.....	
Chattanooga, Tennessee	29.42	747.3	30.23	767.8	48	8.9	93	Calm	0	0	.....	8ck	Fog	W	Calm	0.17	4.3	Dense fog....	
Cheyenne, Wyoming	23.70	602.0	29.64	752.8	28	— 2.2	77	NW	20	8.9	.....	.....	10s	.....	NW	0	0	Cloudy.....	
Chicago, Illinois	29.54	750.3	30.25	768.3	41	5.0	65	NE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Cincinnati, Ohio	29.60	751.8	30.27	768.8	47	8.3	73	N	3	1.3	.....	.....	10ks	.....	NW	0.26	6.6	Cloudy.....	
Cleveland, Ohio	29.51	749.5	30.26	768.6	40	4.4	91	N	7	3.1	.....	.....	10n	.....	Calm	0.61	15.5	Light rain...	
Coleman City, Texas	28.05	712.5	29.67	753.6	61	16.1	82	S	10	4.5	.....	.....	10s	.....	S	0	0	Cloudy.....	
Columbus, Ohio	29.37	746.0	30.23	767.8	44	6.7	84	N	6	2.7	.....	.....	Fog	.....	Calm	0	0	Foggy.....	
Concho, Texas	27.91	708.9	29.55	750.6	60	15.6	71	S	.....	.....	4	0	5s	.....	S	0	0	Fair.....	
Corsicana, Texas	29.46	748.3	29.92	760.0	55	12.8	87	E	4	1.8	.....	.....	10ks	.....	Calm	0	0	Cloudy.....	
Davenport, Iowa	29.55	750.6	30.21	767.3	35	1.7	80	SE	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Dayton, Washington T'y	.....	.....	.....	.....	34	1.1	79	Calm	.....	.....	0	10c	0	W	.....	0.08	2.0	Cloudy.....	
Deadwood, Dakota	24.98	634.5	.....	.....	28	— 2.2	54	W	4	1.8	.....	.....	10s	.....	SW	0.14	3.6	Cloudy.....	
Decatur, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Denison, Texas	29.12	739.6	29.92	760.0	49	9.4	78	SE	6	2.7	.....	.....	10s	.....	S	0	0	Cloudy.....	
Denver, Colorado	24.43	620.5	29.65	753.1	32	0.0	59	N	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Des Moines, Iowa	29.09	738.9	30.00	762.0	35	1.7	90	SE	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Detroit, Michigan	29.60	751.8	30.30	769.6	35	1.7	90	N	8	3.6	.....	.....	10s	.....	N	0.25	6.3	Cloudy.....	
Dodge City, Kansas	27.05	687.1	29.31	744.5	40	4.4	56	S	16	7.2	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Dubuque, Iowa	29.49	749.0	30.22	767.6	32	0.0	79	N	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Duluth, Minnesota	29.44	747.8	30.15	765.8	32	0.0	89	E	16	7.2	.....	.....	10s	.....	E	0.02	0.5	Cloudy.....	
Eagle Pass, Texas	28.89	733.8	29.60	751.8	60	15.6	94	E	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Eastport, Maine	29.86	758.4	29.93	760.2	43	6.1	100	S	8	3.6	.....	.....	10n;fog	.....	S	0.26	6.6	Light rain...	
Edinburg, Texas	.....	.....	.....	.....	68	20.0	90	SE	.....	.....	1	.....	10s	.....	Calm	0	0	Cloudy.....	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.54	750.3	30.29	769.4	39	3.9	91	N	7	3.1	.....	.....	10s	.....	Calm	0.66	16.8	Cloudy.....	
Escanaba, Michigan	29.66	753.4	30.36	771.1	26	— 3.3	75	NE	4	1.8	.....	.....	10s	.....	NE	0.01	0.3	Cloudy.....	
Florence, Arizona	28.41	721.6	30.01	762.2	42	5.6	66	Calm	0	0	.....	8c	0	Calm	.....	0	0	Fair.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.78	705.6	29.73	755.1	14	—10.0	82	Calm	0	0	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy.....	
Fort Custer, Montana	26.65	676.9	.....	.....	33	0.6	69	NW	4	1.8	.....	8k	0	NW	.....	0.11	2.8	Fair.....	
Fort Davis, Texas	25.05	636.3	30.01	762.2	46	7.8	40	SW	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	
Fort Gibson, Indian Ter	29.39	746.5	29.93	760.2	49	9.4	93	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Fort Grant, Arizona	25.16	639.0	29.96	761.0	41	5.0	25	N	10	4.5	.....	0	0	.....	.....	0	0	Clear.....	
Fort Griffin, Texas	28.52	724.4	29.78	756.4	49	9.4	71	SE	8	3.6	.....	0	5s	.....	Calm	0	0	Fair.....	
Fort Keogh, Montana	27.26	692.4	.....	.....	11	—11.7	61	S	2	0.9	.....	2c	.....	Calm	.....	0	0	Fair.....	
Fort McKavett, Texas	27.57	700.3	29.43	747.5	60	15.6	88	S	16	7.2	.....	.....	10ks	.....	S	0	0	Cloudy.....	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.61	726.7	29.70	754.4	51	10.6	59	SE	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Fort Stevenson, Dakota	27.94	709.7	.....	.....	12	—11.1	80	E	8	3.6	.....	.....	10s	.....	E	0	0	Cloudy.....	
Fort Verde, Arizona	.....	.....	.....	.....	34	1.1	79	NW	.....	.....	1	2cs	2s	W	NW	0	0	Fair.....	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.05	712.5	29.55	750.6	65	18.3	84	S	12	5.4	.....	0	8ks	.....	S	0	0	Fair.....	
Galveston, Texas	29.98	761.5	30.02	762.5	67	19.4	95	S	7	3.1	.....	.....	10s	.....	SW	0.28	7.1	Cloudy.....	
Graham, Texas	28.72	729.5	29.75	755.6	55	12.8	56	SE	4	1.8	.....	.....	10s	.....	S	0	0	Cloudy.....	
Grand Haven, Michigan	29.59	751.6	30.27	768.8	34	1.1	79	E	6	2.7	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy.....	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	28.86	733.0	29.79	756.7	48	8.9	70	SE	4	1.8	.....	.....	10s	.....	S	0.04	1.0	Cloudy.....	
Indianapolis, Indiana	29.44	747.8	30.24	768.1	41	5.0	82	NE	4	1.8	.....	.....	10s	.....	NE	0.12	3.0	Cloudy.....	
Indianola, Texas	29.98	761.5	30.01	762.2	66	18.9	95	S	9	4.0	.....	8c	2s	SW	S	0	0	Cloudy.....	
Jacksboro, Texas	28.67	728.2	29.75	755.6	66	18.9	45	SE	12	5.4	.....	.....	10s	.....	S	0	0	Cloudy.....	
Jacksonville, Florida	30.19	766.8	30.21	767.3	59	15.0	82	Calm	0	0	.....	2cs	0	Calm	.....	Inap.	Inap.	Fair.....	
Keokuk, Iowa	29.46	748.3	30.09	764.3	37	2.8	81	SE	17	7.6	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Key West, Florida	30.11	764.8	30.14	765.5	69	20.6	80	E	8	3.6	.....	2k	0	E	.....	0	0	F ir.....	
Kittyhawk, North Carolina	30.23	767.8	30.26	768.6	54	12.2	93	SW	1	0.4	.....	10cs	0	SW	.....	0	0	Cloudy.....	
Knoxville, Tennessee	29.22	742.2	30.25	768.3	46	7.8	100	W	1	0.4	.....	.....	1 og	.....	Calm	0.10	2.5	Dense fog....	
La Crosse, Wisconsin	29.37	746.0	30.14	765.5	36	2.2	71	SE	8	3.6	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy.....	
La Mesilla, New Mexico	25.93	658.6	30.08	764.0	36	2.2	53	Calm	0	0	.....	2c	0	Calm	.....	0	0	Fair.....	
Laredo, Texas	29.52	749.8	29.85	758.2	63	17.2	83	S	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	
Leavenworth, Kansas	29.07	738.4	29.94	760.5	34	1.1	90	SE	18	8.0	.....	.....	10s;fg	.....	.....	0	0	Cloudy.....	
Lewiston, Idaho	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Little Rock, Arkansas	29.76	755.9	30.12	765.0	54	12.2	100	E	6	2.7	.....	.....	Fog	.....	Calm	0.44	11.2	Foggy.....	
Los Angeles, California	29.72	754.9	30.07	763.8	43.0	6.1	83	NW	3	1.3	.....	2c	0	Calm	.....	0	0	Clear.....	
Louisville, Kentucky	29.68	753.9	30.25	768.3	46	7.8	84	NW	1	0.4	.....	.....	10s	.....	Calm	0.18	4.6	Cloudy.....	
Lynchburg, Virginia	29.51	749.5	30.19	766.8	53	11.7	93	Calm	0	0	.....	.....	10s	.....	Calm	0.05	1.3	Light rain...	
Madison, Wisconsin	29.18	741.1	30.22	767.6	31	— 0.6	89	E	15	6.7	.....	.....	Fog	.....	.....	0	0	Light fog.....	
Marquette, Michigan	29.48	748.8	30.22	767.6	29	— 1.7	78	NE	4	1.8	.....	.....	10s	.....	N	0.15	3.8	Cloudy.....	
Mason, Texas	28.25	717.5	29.97	761.2	62	16.7	88	SW	8	3.6	.....	0	8s	.....	SW	0	0	Cloudy.....	
Memphis, Tennessee	29.81	757.2	30.15	765.8	52	11.1	93	NE	2	0.9	.....	.....	10s;fg	.....	Calm	1.63	41.4	Foggy.....	
Milwaukee, Wisconsin	29.51	749.5	30.28	769.1	32	0.0	79	W	3	1.3	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy.....	

UNITED STATES SERIES—CONTINUED.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Mobile, Alabama	30.12	765.0	30.17	766.3	50.5	10.3	100	S	5	2.2	.....	.....	Fog	.....	.....	0.62	15.7	Foggy	
Montgomery, Alabama	29.95	760.7	30.19	766.8	61	16.1	94	W	1	0.4	.....	.....	10s; fog	.....	Calm	0.93	23.6	Cloudy	
Morgantown, West Virginia	29.21	741.9	30.21	767.3	54	12.2	80	Calm	0	0	.....	.....	10ks	.....	Calm	0.35	8.9	Cloudy	
Mt. Washington, N. H.	23.60	599.4	29.96	761.0	31	— 0.6	100	NW	60	26.8	.....	.....	Fog	.....	NW	0.17	4.3	Foggy	
Nashville, Tennessee	29.65	753.1	30.19	766.8	54	12.2	87	E	1	0.4	.....	.....	10s	.....	Calm	0.67	17.0	Cloudy	
New Haven, Connecticut	30.02	762.5	30.14	765.5	55	12.8	87	SW	2	0.9	.....	.....	10s; fg	.....	Calm	Inap.	Inap.	Cloudy	
New London, Connecticut	30.08	764.0	30.13	765.3	54	12.2	87	SW	6	2.7	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
New Orleans, Louisiana	30.06	763.5	30.12	765.0	59	15.0	94	SE	3	1.3	.....	.....	Fog	.....	[illegible]	0	0	Dense fog	
Newport, Rhode Island	30.08	764.0	30.13	765.3	52	11.1	93	SW	12	5.4	.....	.....	10s	.....	SW	0.04	1.0	Cloudy	
New River, North Carolina	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
New York, New York	29.99	761.7	30.17	766.3	55	12.8	68	NW	8	3.6	.....	.....	10ks	.....	Calm	0.02	0.5	Cloudy	
Norfolk, Virginia	30.17	766.3	30.23	767.8	58	14.4	82	S	9	4.0	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
North Platte, Nebraska	26.66	677.2	29.22	742.2	33	0.6	70	W	10	4.5	.....	5c	5s	W	Calm	0	0	Cloudy	
Olympia, Washington Ter	29.72	754.9	29.76	755.9	41.5	5.3	96	S	5	2.2	.....	.....	10n	.....	Calm	0.58	13.5	Light rain	
Omaha, Nebraska	28.65	727.7	29.76	755.9	34	1.1	79	SE	16	7.2	.....	.....	10s	.....	SE	0	0	Cloudy	
Oswego, New York	29.95	760.7	30.28	769.1	32	0.0	79	NW	6	2.7	.....	.....	10s	.....	Calm	0.61	15.5	Cloudy	
Pembina, Dakota	29.04	737.6	29.92	760.0	20	— 6.7	100	E	12	5.4	.....	.....	10n	.....	Calm	0.09	2.3	Light snow	
Pensacola, Florida	30.15	765.8	30.18	766.6	61	16.1	94	NE	6	2.7	.....	2cs	Haze	NW	Calm	0.02	0.5	Fair	
Philadelphia, Pennsylvania	30.12	765.0	30.17	766.3	54	12.2	93	SW	5	2.2	.....	.....	10ks; fg	.....	N; Calm	Inap.	Inap.	Cloudy	
Phœnix, Arizona	28.80	731.5	30.65	778.5	45	7.2	68	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.34	440.4	29.95	760.7	4	—15.6	74	NW	9	4.0	.....	10s	0	Calm	.....	0	0	Cloudy	
Pilot Point, Texas	29.10	739.1	29.92	760.0	55	12.8	80	S	13	5.8	.....	.....	10s	.....	S	0	0	Cloudy	
Pioche, Nevada	.....	.....	.....	.....	29	— 1.7	56	NW	8	3.6	.....	0	0	.....	.....	0	0	Cloudy	
Pittsburg, Pennsylvania	29.39	746.5	30.21	767.3	50	10.0	79	NW	2	0.9	.....	.....	10s	.....	NW	0.28	7.1	Clear	
Port Huron, Michigan	29.61	752.1	30.30	769.6	34	1.1	79	NW	7	3.1	.....	.....	10s	.....	NW	0.17	4.3	Cloudy	
Portland, Maine	29.98	761.5	30.04	763.0	37	2.8	71	NW	4	1.8	.....	5k	0	W	.....	0.24	6.1	Cloudy	
Portland, Oregon	29.78	756.4	29.86	758.4	43.5	6.4	92	SE	6	2.7	.....	.....	10n	.....	Calm	0.04	1.0	Fair	
Portsmouth, N. Hampshire	.....	.....	.....	.....	60	15.6	88	S	10	4.5	.....	10cs	0	Calm	.....	0.58	14.7	Light rain	
Prescott, Arizona	24.69	627.1	30.05	763.3	30	— 1.1	78	Calm	.....	.....	0	5c	0	W	.....	0	0	Cloudy	
Punta Rassa, Florida	30.16	766.1	30.17	766.3	64	17.8	83	NE	7	3.1	.....	1cs	0	Calm	.....	0	0	Fair	
Red Bluff, California	29.80	756.9	30.16	766.1	45	7.2	92	Calm	0	0	.....	.....	10s	.....	.....	0.03	0.8	Clear	
Rio Grande City, Texas	29.74	755.4	29.95	760.7	67	19.4	95	SE	8	3.6	.....	2cs	5s	SW	Calm	0	0	Cloudy	
Rochester, New York	29.60	751.8	30.24	768.1	34	1.1	90	W	7	3.1	.....	.....	10n; fg	.....	.....	0	0	Fair	
Roseburg, Oregon	29.34	745.2	29.91	759.7	42.5	5.8	87	S	1	0.4	.....	.....	10n	.....	Calm	0.62	15.7	Light rain	
Sacramento, California	30.10	764.5	30.18	766.6	45	7.2	92	SE	4	1.8	.....	.....	10s	.....	Calm	0.72	18.3	Light rain	
St. Louis, Missouri	29.60	751.8	30.20	767.1	38	3.3	91	E	8	3.6	.....	.....	10n	.....	.....	0	0	Cloudy	
St. Paul, Minnesota	29.17	740.9	30.03	762.7	32	0.0	79	SE	20	8.9	.....	.....	10ks	.....	SE	Inap.	Inap.	Light rain	
Salt Lake City, Utah	25.60	650.2	29.93	760.2	33	0.6	79	Calm	0	0	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
San Antonio, Texas	29.25	742.9	29.83	757.7	62	16.7	88	S	4	1.8	.....	.....	10s	.....	Calm	0.50	12.7	Cloudy	
San Diego, California	30.00	762.0	30.08	764.0	50	10.0	93	E	2	0.9	.....	5ck	5s	N	W	0	0	Cloudy	
Sandusky, Ohio	29.59	751.6	30.29	769.4	41	5.0	91	NW	6	2.7	.....	.....	Fog	.....	Calm	0.28	7.1	Light rain	
Sandy Hook, New Jersey	30.13	765.3	30.16	766.1	54	12.2	87	SW	16	7.2	.....	.....	10s	.....	W	0	0	Cloudy	
San Francisco, California	30.13	765.3	30.20	767.1	51	10.6	93	Calm	0	0	.....	8ck	0	NW	.....	0	0	Fair	
Santa Fé, New Mexico	23.10	586.7	29.64	752.8	26	— 3.3	40	NW	10	4.5	.....	0	8s	.....	NW	0	0	Cloudy	
Savannah, Georgia	30.12	765.0	30.22	767.6	59	15.0	94	W	4	1.8	.....	8k	2s	W	W	0.01	0.3	Cloudy	
Shreveport, Louisiana	29.79	756.7	30.01	762.2	54	12.2	80	SE	1	0.4	.....	0	8s	.....	Calm	0.05	1.3	Fair	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.18	766.6	30.22	767.6	60	15.6	88	NE	4	1.8	.....	8k	2s	SW	Calm	0.01	0.3	Cloudy	
Socorro, New Mexico	25.18	639.6	29.24	742.7	48	8.9	49	W	9	4.0	.....	.....	10s	.....	W	0	0	Cloudy	
Springfield, Illinois	29.53	750.0	30.22	767.6	39.5	4.2	77	E	12	5.4	.....	.....	10s	.....	SE	Inap.	Inap.	Cloudy	
Springfield, Massachusetts	29.99	761.7	30.12	765.0	48	8.9	93	Calm	0	0	.....	0	Fog	.....	.....	0.15	3.8	Light fog	
Stockton, Texas	26.88	682.7	29.88	758.9	60	15.6	20	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	30.10	764.5	30.15	765.8	50	10.0	86	W	6	2.7	.....	.....	10n; fg	.....	NE	0.11	2.8	Light rain	
Toledo, Ohio	29.59	751.6	30.30	769.6	38	3.3	81	N	4	1.8	.....	.....	10s	.....	N	0.19	4.8	Cloudy	
Tucson, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon	29.59	751.6	30.10	764.5	35.0	1.7	90	Calm	0	0	.....	.....	10s	.....	.....	0.08	2.0	Cloudy	
Uvalde, Texas	28.97	735.8	29.78	756.4	63	17.2	94	E	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Vicksburg, Mississippi	29.85	758.2	30.11	764.8	59	15.0	100	SE	7	3.1	.....	.....	10s	.....	SE	0.18	4.6	Cloudy	
Virginia City, Montana	24.10	612.1	29.58	751.3	12	—11.1	61	Calm	0	0	.....	0	0	.....	.....	0.68	17.3	Clear	
Visalia, California	29.78	756.4	30.16	766.1	42	5.6	100	S	2	0.4	.....	.....	Fog	.....	.....	0.14	3.6	Dense fog	
Washington, D. C.	30.08	764.0	30.19	766.8	54	12.2	87	S	3	1.3	.....	.....	10s	.....	W	0.01	0.3	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	34	1.1	79	N	.....	.....	1	2c	0	SW	.....	0	0	Fair	
Wilmington, North Carolina	30.12	765.0	30.20	767.1	61	16.1	88	SE	8	3.6	.....	.....	10n	.....	Calm	0.02	0.5	Light rain	
Winnemucca, Nevada	25.66	651.8	30.02	762.5	31	— 0.6	79	SW	4	1.8	.....	0	4s	.....	SW	0.02	0.5	Fair	
Wood's Holl, Massachusetts	30.08	764.0	30.12	765.0	54	12.2	86	SW	26	11.6	.....	.....	10ks	.....	SW	0.01	0.3	Threatening	
Yankton, Dakota	28.42	721.9	29.73	755.1	33	0.6	69	SE	23	10.3	.....	5k	0	S	.....	0	0	Fair	
Yuma, Arizona	29.81	757.2	29.98	761.5	54	12.2	43	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.04	763.0	30.09	764.3	70	21.1	79	Calm	0	0	.....	8cs	0	Calm	.....	0	0	Cloudy	James Gall.
Navassa, W. I.	30.20	767.1	30.21	767.3	74	23.3	82	Calm	0	0	.....	5k	Haze	Calm	.....	.....	.....	Fair	F. M. Everett.
Paramaribo, D. Guiana, S. A	29 92	760.0	30.00	762.0	78	25.6	73	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. Hering.
Santiago de Cuba, W. I.	29.97	761.2	29.97	761.2	79	26.1	91	E	.....	.....	2	5k	6ks	E	.....	0.100	2.54	Cloudy	Robert Mason.
St. Thomas, W. I.	30.02	762.5	30.05	763.3	72	22.2	81	NNE	2.4	1.1	.....	0	0	.....	.....	0	0	.....	G. O. Gellich.
York Factory, B. A.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.
	29.88	758.9	29.93	760.2	—21.0	—29.4	.....	SW	8	3.6	.....	5c	6s	SW	SW	0.01	0.3	Cloudy	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.3 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 m.m.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.69 in., or 68.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.14‡	765.5‡	.....	.....	62	16.7	100	NNE	5	2.2	.....	.....	2	.....	SW	0.74	18.8	.....	.....	Fair	
Navy Yard, Portsmouth, N.H	29.94‡	760.5‡	.....	.....	39	3.9	82	NE	1	0.4	.....	.....	10	.....	.....	0	0	.....	.....	Overcast	
Naval Hospital, Yokohama, Japan	29.93‡	760.2‡	.....	.....	60	15.6	85	SW	.....	.....	2	1ck	.....	SW	.....	Slight	Slight	.....	.....	Fair	
Adams, Mare I'd., Navy Yard, Cal.	30.18‡	766.6‡	.....	.....	52	11.1	100	SW	.....	.....	1	.....	2	.....	SW	.....	.....	.....	.....	Clear	
Alaska, Iquique, Peru	29.95‡	760.7‡	.....	.....	64	17.8	78	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....	Overcast	
Alliance, N. 31° 36′, W. 69° 16′	30.19‡	766.8‡	.....	.....	67	19.4	95	ENE	.....	.....	5	.....	9	.....	E	.....	.....	Long heavy	E	Raining	
Colorado, New York, N.Y.	30.11‡	764.8‡	.....	.....	54	12.2	80	SW	1	0.4	.....	.....	10	.....	SW	0	0	.....	.....	Hazy	
Constitution, Hampton Roads, Va.	30.21‡	767.3‡	.....	.....	55	12.8	100	SSW	.....	.....	2	.....	10	.....	SW	.....	.....	.....	.....	Overcast	
Enterprise, Jaffa, Asiatic Turkey	30.11‡	764.8‡	.....	.....	71	21.7	85	NW	.....	....	2	.....	2	.....	W	.....	.....	Smooth	.....	Clear	
Franklin, Off Navy Yard, Norfolk, Va.	30.23‡	767.8‡	.....	.....	58	14.4	88	SW	3	1.3	.....	.....	10	.....	W	0	0	.....	.....	Cloudy	
Independence, Mare I'd, Navy Yard, Cal.	30.17‡	766.3‡	.....	.....	60	15.6	82	Calm	0	0	.....	.....	3	.....	WNW	0	0	.....	.....	Misty	
Kearsage, Port Royal, S. C.	30.20‡	767.1‡	.....	.....	62	16.7	88	W	.....	.....	0–1	.....	2	.....	W	0	0	Smooth	.....	D. clouds	
Lackawana, N. 31° 09′ W. 152° 40′	†. 30.11‡	764.8‡	.....	.....	69	20.6	90	SSE	.....	.....	3	.....	2	.....	SE	.....	.....	Smooth	SE	Clear	
Marion, Navy Yard, Brooklyn, N.Y.	30.16‡	766.1‡	.....	.....	54	12.2	93	W	.....	.....	2	.....	10	.....	W	.....	.....	.....	.....	Cloudy	
Michigan, Erie, Pa.	30.22‡	767.6‡	.....	.....	40	4.4	83	N	.....	.....	3	.....	10	.....	.....	.....	.....	.....	.....	Drizzling	
Monocacy, Shanghai, China	30.16‡	766.1‡	.....	.....	52	11.1	86	ENE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
New Hampshire, Port Royal, S. C.	30.24‡	768.1‡	.....	.....	61	16.1	88	W	2	0.9	.....	.....	2	.....	W	0	0	.....	.....	Fair	
Nipsic, Norfolk, Va.	30.19‡	766.8‡	.....	.....	59	15.0	88	S	.....	.....	2	.....	8	.....	.....	.....	.....	.....	.....	Misty	
Onward, Callao, Peru	†. 29.93‡	760.2‡	.....	.....	65	18.3	84	S	.....	.....	1	.....	10	.....	.....	.....	.....	Mod'at smooth	W	Cloudy	
Palos, Tientsin, China	30.10‡	764.5‡	.....	.....	28	—2.2	88	NW	.....	.....	0–1	.....	5	.....	.....	.....	.....	.....	.....	Misty	
Passaic, Washington, D. C.	30.17‡	766.3‡	.....	.....	55	12.8	93	W	.....	.....	1	.....	8	.....	E	.....	.....	.....	.....	Cloudy	
Pensacola, Callao, Peru	29.91‡	759.7‡	.....	.....	66	18.9	79	SSW	.....	.....	0–1	.....	10	.....	.....	.....	.....	Smooth	.....	Overcast	
Powhatan, Navy Yard, Brooklyn, N.Y.	30.12‡	765.0‡	.....	.....	55	12.8	87	Calm	.....	.....	0	.....	10	.....	Calm	0	0	.....	.....	Cloudy	
Quinnebaug, Genoa, Italy	29.54‡	750.3‡	.....	.....	35	1.7	80	NNE	.....	.....	5	.....	10	.....	NE	.....	.....	.....	.....	Raining	
Ranger, N. 23° 36′, W. 172° 45′	30.02‡	762.5‡	.....	.....	59	15.0	76	NNE	.....	.....	4	.....	10	.....	NE	.....	.....	Mod'at	NE	Overcast	
Richmond, N. 26° 27′, E. 120° 35′	30.09‡	764.3‡	.....	.....	67	19.4	64	SE	.....	.....	3	.....	2	.....	SE	.....	.....	Smooth	.....	Pleasant	
Rio Bravo, Brownsville, Texas	†. 30.12‡	765.0‡	.....	.....	67	19.4	100	SE	1	0.4	.....	.....	2	.....	Calm	0	0	.....	.....	Fair	
Santee, Annapolis, Md	30.19‡	766.8‡	.....	.....	49	9.4	100	W	.....	.....	0–1	.....	10	.....	W	0.17	4.3	.....	.....	Light fog	
Shenandoah, Rio de Janeiro, Brazil	29.78‡	756.4‡	.....	.....	77	25.0	86	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	Smooth	.....	Fair	
St. Louis, League Island, Pa.	30.18‡	766.6‡	.....	.....	47	8.3	100	W	3	1.3	.....	.....	10	.....	W	0.1	3.	.....	.....	Foggy	
Tuscarora, Acapulco, Mexico	29.89‡	759.2‡	.....	.....	76	24.4	91	Calm	.....	.....	0	.....	8	.....	Calm	0	0	Smooth	.....	Cloudy	
Vandalia, Navy Yard, Brooklyn, N.Y.	30.21‡	764.8‡	.....	.....	57	13.9	87	SW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Wabash, Boston, Mass.	30.06‡	763.5‡	.....	.....	38	3.3	81	NW	3	1.3	.....	.....	10	.....	.....	.....	.....	.....	.....	Rainy	
Wachusett, S. 15° —′, W. 36° —′	30.40‡	772.1‡	.....	.....	81	27.2	83	NE	.....	.....	5	.....	7	.....	Calm	.....	.....	Smooth	.....	Cloudy	
Wyoming, Cadiz, Spain	29.74‡	755.4‡	.....	.....	64	17.8	83	SSW	.....	.....	3–5	.....	2	.....	SW	.....	.....	Mod'at	SW	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.			CHARACTER.	DIRECTION FROM—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S. S. Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																		Capt. Cobb.
S. S. City of New York																		Capt. Seabury.
S. S. City of Panama																		Capt. Berry.
S. S. City of Peking																		Capt. Dearborn.
S. S. City of Sydney																		L. B. Walls.
S. S. City of Tokio, Capt. Maury																		Capt. R. Searle.
S. S. Colima																		Capt. Whitebury.
S. S. Costa Rica																		W. House & R. Lawless.
S. S. Dakota, Capt. H. G. Morse																		Capt. Connolly.
S. S. Georgia																		F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin																		Capt. A. Fuller.
S. S. Wilmington																		
S. S. Zealandia, Sydney, New South Wales		29.83‡	757.7‡				NE			2				SW				R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																		Capt. J. W. Kennedy.
S. S. Baltic																		Capt. H. Perry.
S. S. Britannic																		Capt. B. Gleadell.
S. S. Celtic																		Capt. C. W. Kennedy.
S. S. Germanic																		

NOTE.—The orginals give the barometer as read off; wind-force by the scale 0 to 12; for the Brittanic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer N. 24° 24', E. 118° 50'..†		30.05‡	763.3‡	66	18.9	84	ENE			5		2		ENE		Mod'ate	ENE	D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson																			J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents

S. S. Baltimore																		Capt. H. Andressen.
S. S. Berlin																		Capt. T. H. Lamke.
S. S. Braunschweig																		Capt. C. Undutsch.
S. S. Leipzig, Capt. F. Pfeiffer. N. 43° 23', W. 47° 39'		30.41‡	772.4‡	45.0	7.2	92	NE			3		10		N	¼ h'r	Mod'ate	NNE	Drizzling	S. Risius, 3rd Officer.
S. S. Nurnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 47° 14', W. 40° 04'		30.21‡	767.3‡				ENE			2		5		NE		6	E	Cloudy	Capt G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa.		30.25‡	768.3‡	51	10.6		SW			1		6		SW	Light			Hazy	Capt. R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer
S. S. Pennsylvania																			Capt. Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from, sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents.																			
S. S. Belgenland, N. 40° 57′, W. 67° 35′		30.11‡	764.8‡	56	13.3		SW	30	13.4		10		SW	6 h'rs	Smooth	SW	Cloudy		Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

NOTE.—The originals give the barometer as read off; do not distinguish between upper and lower clouds; sea-swell in general terms, as published. ‡Corrections for temperature, instrumental error and elevation applied at this office.

ALLAN LINE MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. *The error of the barometer is not known. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES—Miscellaneous.																			
Furnished by the co-operation of the Observers named.																			
Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George" of Halifax, N. 20° 30′, W. 67° 48′ ...†		29.95‡	760.7‡	81	27.2		Calm			0		2			Mod'ate	NNE	Fine		N. B. Foss.
Schooner Harry and Fred																			Capt. George Gardner.
Haytian																			
§ Iron Cross																			Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time.

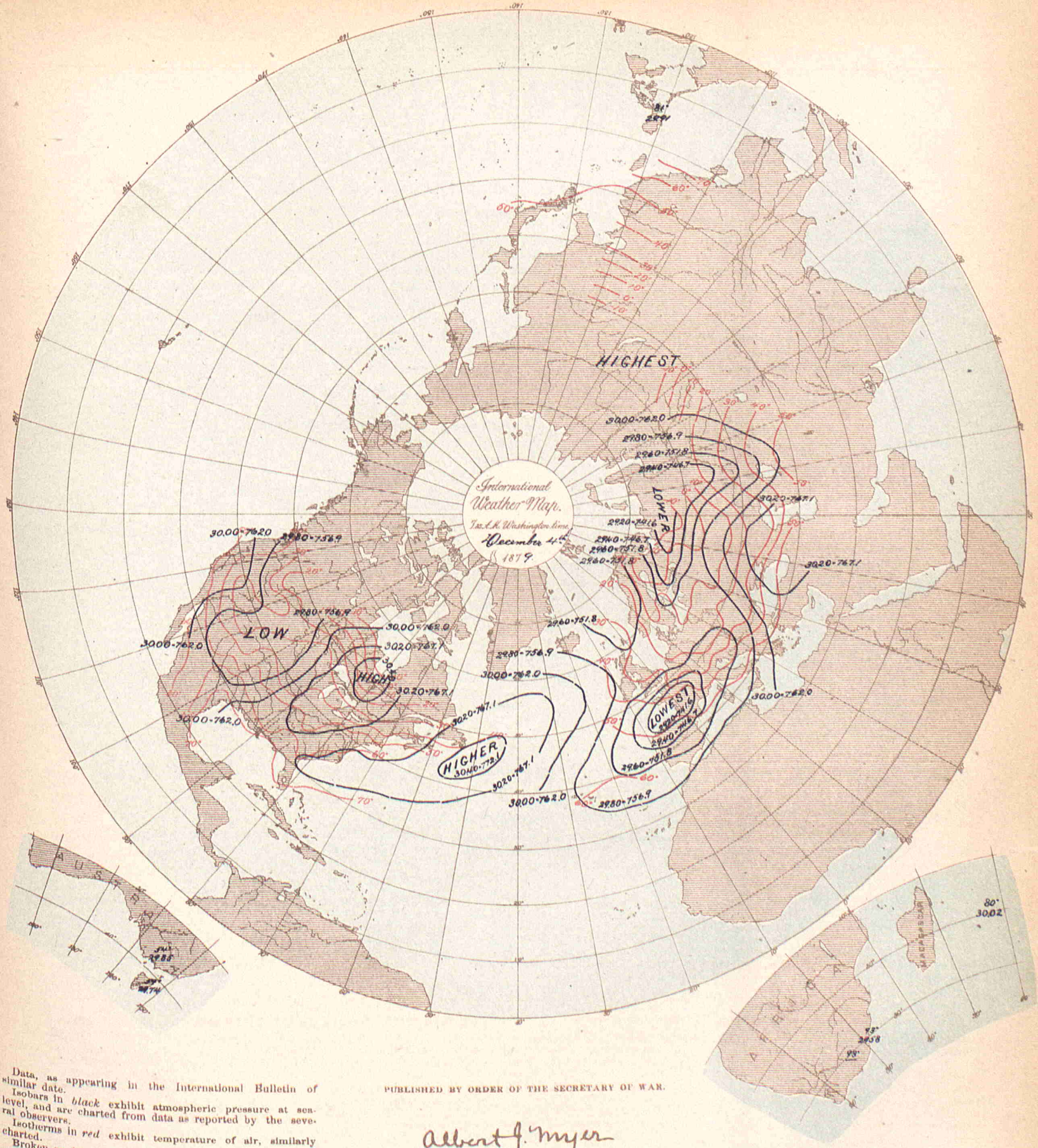
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg'd,) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (RVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 5, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE TOWN, G. G. H. mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 1—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.15	765.8	67.3	19.6	87	W			3		8			0	0	Very cloudy	
Nemours			29.94	760.5	74.1	23.4	66	WNW			1		5			0	0	Cloudy..	Kesxuche.
Algiers			29.88	758.9	68.0	20.0	57	WSW			5		2			0	0	Fair...	Tourlliere.
La Calle			29.87	758.7	71.1	21.7	64	WNW			2		5			0	0	Cloudy.....	Foufrede.
Tunis																			Jacques.
Sfax			29.97	761.1															Gau.
Saida																			Herbin.
Tebessa			30.00	762.0	66.7	19.3	50	N			4		8			0	0	Very cloudy	Watrin.
Geriville					67.7	14.3	78	NW			4		5			0	0	Cloudy.....	Brugniuax.
Laghouat			30.03	762.7	71.2	21.8	38	S			1		2			0	0	Fair	Bertrand.
Biskra			29.95	760.8	73.0	22.8	69	SE			1		0			0	0	Clear	Chanvaux.

NOTE.—The originals give the amount of cloudiness by the scale 0-4; no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	28.77	730 7	29.33	745.0	32.0	0.0	98	E			1		10			0.098	2.5		Prof. Ivan Stozir.
Cracow, I. R. Observatory	28.59	726.2	29.39	746.6	18.7	— 7.4	100	NNE	16.8	7.5			10			0.134	3.4		Dr. Wierzbicki.
Eperies	28.44	722.4	29.36	745.6	26.6	— 3.	83	Calm			0		10s						Julius Mikolik.
Gratz	28.01	711.5	29.30	744.2	27 0	— 2.8	75	NW			2		3			0.020	0.5		Andreas Rospini.
Hermannstadt	28.04	712.2	29.48	748.8	39.4	4.1	100	SE			2		10			1.669	42.40	Raining	Prof. A. Gottschling.
Kremsmünster	28.04	712.2	29.42	747.2	31.3	— 0.4	96	NW			2		10			0.059	1.5		Prof. C. Wagner.
Lemberg	28.41	721.6	29.46	748.2	18.0	— 7.8	97	S			2		10			0.366	9.3		Dr. T. Stanecki.
Pola	29.30	744.3	29.42	747.2	44.2	6.8	91	W			1		10			0.197	5.0	Rain & fog	I.R.Hydrographic Office.
Szathmar	28.00	734.0	29.37	746.0	35.2	1.8	54	SE			2		10			0	0	Foggy....	Pet. Pancsics, S. J.
Szegedin	29.04	737.7	29.33	745.0	35.8	2.1	100	S			1		10			0.039	1.00		Karl Stancel.
Trieste	29.33	744.9	29.43	747.5	40.3	4.6	100	Calm			0		10			0	0		P. Busin.
Vienna	28.63	727.1	29.36	745.6	22.6	— 5.2	98	NW			1		10			0.114	2.9		I.R.Central Met. Ob'sy.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

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Entered at the Post Office at Washington, D. C., as Second-Class Matter

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.36	745.7	29.46	748.3	32.6	0.3		W	7	3.1			6			0.035	0.89	Misty	W. Boswell.
Ardrossan	29.52	749.8	29.54	750.3	40	4.4		NW			3		8					Drizzling	Wm. McNeil & G. Carrick.
Armagh, (Observatory)	29.39	746.5	29.64	752.8	34.7	1.5		SW	12	5.4			5					D. clouds	S. Call.
Bidston (Liverpool Obs.)			29.60	751.8	33.2	0.7		W	19	8.5			10					Snowing	John Hartnup.
Bolton (Sharples)	29.06	738.1	29.58	751.3	27.3	— 2.6		N	6	2.7			10					Snowing	Thomas Mackereth.
Bradford, Yorkshire	29.19	741.4	29.58	751.3	30.6	— 0.8		W			3		10			0	0	Overcast	J. McLandsborough.
Bridgetown, Barbadoes	29.95	760.7	29.98	761.5	80	26.7		NE			2		8					Overcast	Pyt. G. Surgener, A.H.O.
Cambridge (Observatory)	29.60	751.8	29.70	754.4	30.1	— 1.1		SW			1		7					D. clouds	H. Todd.
Cardington			29.66	753.4	28.4	— 2.0		W			0–1		10					Snowing	John McLaren.
Chatham (School M. E.)	29.62	752.3	29.76	755.9	30.2	— 1.0		W			1		10					Foggy	J. Carmell, Sapper, R.E.
Donaghadee	29.52	749.8	29.56	750.8	35	1.7		W			2		10					Raining	J. Mac Gowan.
Dover	29.68	753.9	29.71	754.6	31	— 0.6		NW			3		2					⅛ clouded	J. Costello.
Falmouth (Observatory)	29.58	751.3	29.81	757.2	39.4	4.1		WSW			3		10					Overcast	The Staff.
Fort Napier, Natal	27.46	697.5	29.68	753.9	67.4	19.7		E			1		10					Overcast	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone																			
Galway (Queen's College)			29.69	754.1	42	5.6		WSW			1		3					D. clouds	Prof. A. H. Curtis.
Gibraltar, Mediterranean																			Sergt. Wm. Allen, A. H.
Glasgow, (Observatory)	29.27	743.4	29.48	748.8	34.4	1.3		WSW			2		0					Blue sky	D. G. Maclean. [C.
Great Yarmouth	29.65	753.1	29.65	753.1	30	— 1.1		NW			2		4					Misty	G. T. Watson.
Greenwich (Royal Obs'y)	29.55	750.6	29.73	755.1	30.0	— 1.1		SW			1		10			Blank	Blank	Overcast	The Staff, for G. B. Airy.
Guernsey	29.62	752.3	29.85	758.2	38	3.3		WNW			1		5			Bl. nk	Blank	D. clouds	Dr. S. E. Hoskins, F.R.S.
Helston	29.94	760.5	30.06	763.5	37	2.8		SW			4		8k			0	0	Gloomy	M. P. Moyle.
Holyhead	29.54	750.3	29.62	752.3	41	5.0		W			5		10					Misty	John Tilston.
Jersey	29.58	751.3	29.88	758.9	39.4	4.1		W			2		6					D. clouds	J. Fisher.
Kew (Observatory)	29.70	754.4	29.74	755.4	30.0	— 1.1		W	7	3.1			9					Misty	The Met'g'l Office.
Leicester (Museum)	29.40	746.7	29.66	753.4	26.5	— 3.1		SW			2		10					Snowing	Wm. J. Harrison, F.G.S
Malta, Mediterranean	29.76	755.9	29.84	757.9	71	21.7		W			2	4ck						D. clouds	A. King.
Nairn	29.38	746.2	29.47	748.5	34	1.1		NNW			4		8					¾ clouded	W. D. Penny.
Nassau, Bahamas			30.00	762.0	72.5	22.5		N			2		6					D. clouds	C. S. Duncombe.
Nottingham (Observatory)	29.48	748.8	29.67	753.6	26.7	— 2.9		SSW			1		10n		SSW	0.170	4.32	Snowing	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.12	739.6	29.67	753.6	25.9	— 3.4		S			1		10					Snowing	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)			29.72	754.9	32	0.0		SW			1		10					Overcast	H. E. Bellamy.
Plymouth	29.70	754.4	29.78	756.4	31.6	— 0.2		N			2		10					Misty	John Merrifield.
Prince Town																			W. H. Tooker.
*Roche's Point	29.69	754.1	29.74	755.4	42	5.6		NNW			4		5					⅛ clouded	Wm. Kennedy.
St. Ann's Head	29.54	750.3	29.70	754.4	40	4.4		WNW			4		7					Squally	John C. Walker.
Sandwick Manse, Orkneys			29.46	748.3	33.8	1.0		E	16	7.2			10					Overcast	Rev. C. Clouston, L.L.D.
Scutari Cemetery, Turkey	29.66	753.4	29.72	754.9	58.8	14.9		SSW			3		10			Blank	Blank	Gloomy	Serg't W. H. L ne.
Sheffield	29.36	745.7	29.65	753.1	30.7	— 0.7		SW			1		9			0.22	5.6	Overcast	W. F. Cooper.
Silloth Rectory	29.49	749.0	29.52	749.8	27.5	— 2.5	90	Calm			0		10			0.173	4.40	Snowing	Francis Redford, A. M
Stonyhurst (Observatory)			29.56	750.8	28.6	— 1.9		NNE	2	0.9			10			Blank	Blank	Misty	Rev. S. J. Perry.
Strathfield, Turgiss	29.52	749.8	29.75	755.6	30.6	— 0.8		SE			1		8					D. clouds	Rev. C. H. Griffith, F.M.S.
Truro (Royal Institution)	29.70	754.4	29.81	757.2	39	3.9		W			4		10					Gloomy	W. Newcombe.
Valencia (Observatory)	29.78	756.4	29.80	756.9	45.7	7.6		NW	10	4.5			6			Blank	Blank	D. clouds	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)																			The Staff, for D. Gill.
Colesberg Bridge, Cape Col.																			Robert Burnet.
Constable, Cape Colony	26.70	678.2			85	29.4		SW					0						Francis Abbott, F.R.A.S.
Hobart Town, Tasmania			29.72	754.9	57.0	13.9	82	N			1		10n			0.14	3.6	Cloudy	Andrew Gibb.
Leith (Restalrig Park) Sc't'l'd			29.47	748.5	36.0	2.2		W			1		10k			0.03	0.8	Overcast	C. Meldrum.
Mauritius (Observatory)	29.84	757.9	30.03	762.8	80.1	26.7	53	ENE	14.0	6.3		6	1	W		0	0	Cloudy	R. L. J. Ellery.
Melbourne (Observatory)	29.75	755.6	29.84	757.9	57.0	13.9	78	S	4	1.8			0			0	0	Very fine	J. Youngclause.
Monach Lt-house, Hebrides			29.58	751.3	43	6.1		N			4	5	3	NE		0.3	8.		
North Unst, Shetland Is.			29.50	749.3				N			2	10	10	NE		0	0		

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters; Prince Town, 1,400 feet, or 427 meters; Colesberg Bridge and Constable, unknown.

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. Alert, Alert Harbor, Patagonia			29.29‡	744.0‡	45.5	7.5		NNW			3		10					Raining	Capt. J. P. Maclear, R.N.
H. M. Sloop Gannet, S. 18° 28′, W. 70° 21′			29.98‡	761.5‡	65	18.3		SW			1		10					Overcast	Commander E. Bourke, R. N.
H. M. S. Magpie, Shaweishan I'd., China			30.00‡	762.0‡	60.0	15.6		SW			3		4					Misty	Capt. R. H. Napier, R.N.
Brig Alliance, N. 44° 45′, W. 39° 00′			30.16‡	766.1‡	58.9	14.9		SSE			4		4					D. clouds	Capt. W. Scott.
Barque Belle-Isle, N. 24° 25′, W. 73° 15′			29.99	761.7	82	27.8		NE			2		3			2	NE	D. clouds	Capt. A. J. Brown
City of Cashmere, N. 24° 52′, W. 125° 07′			30.21‡	767.3‡	63	17.2		ENE			5		4					D. clouds	Capt. W. M. Grieve.
Barque Fedalma, N. 11° 35′, W. 60° 05′			29.89	759.2	79	26.1		NE			3		10			3	NE	Squally	Capt. H. L. Fox.
S. S. Iron Cross. N. 27° 05′, W. 86° 30′			30.05	763.3	74	23.3		SE			5		7			2	ESE	Misty	Capt. W. Randall.
S. S. Strathleven, Melbourne, Australia			29.85‡	758.2‡	61.5	16.4		ENE			4		4					D. clouds	Capt. C. W. Pearson.
Light House Tender Richmond, Off Gun Cay Light, Florida Strait			30.06	763.5	73	22.8		NNE			2		3					D. clouds	Capt. W. H. Stewart.
S. S. Gordon Castle																			Capt. Wm. Waring.
German Brig "W. von Freeden"																			Capt. H. V. Freeden.
S. S. Ethiopia																			Capt. Campbell.
S. S. Sunbeam																			Capt. C. M. Dobson.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12: the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.19	665.2	29.91	759.7	58.6	14.8	82	SE			3	1ks				0	0		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.62	752.4	29.67	753.6	21.6	—5.8	82	ESE			4		10						
Faröe	29.74	755.3	29.76	755.8	22.1	—5.5	96	NE			4		10						
Godthaab (Greenland)																			
Stykkisholm (Iceland)	29.49	749.0	29.53	750.1	32.7	0.4	87	SW			4		8					Snowing	
Thorshavn (Faröe)	29.63	752.6	29.67	753.5	30.9	—0.6	71	NE			2		4						
Vestervig	29.60	751.9	29.71	754.7	17.4	—8.1	97	NE			2		1						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.32	744.8	29.87	758.8	30.2	—1	72	NW			1		5km	SE	NW	0.79	20.	Snowing	Collignon, Director.
Amiens, Normal School	29.50	749.2	29.61	752.3	33.4	0.8	86	NW			1		2		Calm	0	0	Slightly cl'dy	Vaillant, Director.
Arras, Engin'r School	29.45	747.9	29.71	754.6	27.0	—2.8	82	NW			3				NW	0	0		Klein, Commandant.
Avignon, Normal School	29.74	755.3	29.82	757.3	45.3	7.4	27	N			1		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.20	741.6	29.78	756.4	28.2	—2.1	75	W			1		10			0.138	3.5	Covered	C. Saillard, Director
Beauvais, Normal School	29.50	749.2	29.78	756.4	28.8	—1.8	92	NW			1		5		NNW	0.620	15.75	Cloudy	Frère Eugene Marie
Besançon, Normal School	28.88	733.6	29.82	757.3	30.2	—1		S			4		10		E	0	0	Covered	A. Carré, Director.
Bourg-en-Bresse, N. School	29.03	737.4	29.90	759.5	31.3	—0.4	89	S			3		10n	S	SW	0	0	Covered	Marlot, Diretor.
Bourges, Normal School	29.28	743.7	29.85	758.3	29.8	—1.2	89	WNW			3		10n		WNW	0.256	6.5	Covered	M. Gence, Director.
Brest, Naval Observatory	29.09	754.2	29.94	760.4	41.4	5.2	66	SSW			1		3		W	0	0		Ch. de Rermaree, Dir.
Caen, Normal School	29.72	755.0	29.80	757.6	34.9	1.6	53	WNW			0–1					0	0		M. Bietrix, Director.
Carcassonne, N. School	29.44	747.8	29.87	758.6	45.3	7.4	57	W			2		1		W	0	0	V. slightly cloudy	September, Director.
Châlons-sur-Marne, N. Sch'l	29.44	747.8	29.78	756.5	20.3	—6.5		NW			4		8					Very cloudy	Jadot, Director.
Chartres, Normal School	29.25	742.9	29.84	758.0	29.3	—1.5	68	NNW			1		4		SE	0.08	2.		Vergier, Director.
Clermont-Fd, Puy de D. Obs	28.41	721.6	29.82	757.3	33.8	1.0	73	NNW			6		2			0.071	1.8		Allnard, Director.
Commercy, Normal School	28.74	730.1	29.66	753.3	19.8	—6.8		W			6		10		W			Snowing	Dr. Coullet, Direct
Commune de Gréasque*	28.66	728.0	29.80	757.0	41.0	5.0	39	NW			3		2		NW	0	0		L. Kina, Director.
Grenoble, Normal School	29.07	738.4	29.88	759.0	37.8	3.2	90	N			1		km	E		0	0		Ablard, Director.
La Roche-sur-Yon, N. Sch'l	29.70	754.4	29.93	760.1	30.9	—0.6	89	NW			1		0			0.291	7.4	Clear	Mouillot, Director.
Le Mans, Normal School	29.58	751.3	29.90	759.5	30.6	—0.8	55	WNW			1		10		WNW	0.343	8.7	Covered	Poirrier, Director.
Lons-Le-Saulnier, N. School	28.85	732.9	29.80	756.8	31.1	—0.5	92	W			3		10km	S	SE	0	0	Covered	A. Baudry, Director
Lorient, Naval Observatory	29.85	758.3	29.97	761.1	35.2	1.8	74	W			2		0			0	0	Clear	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.22	742.3	29.87	758.7	33.3	0.7	87	NNW			1		5		W	0	0	Cloudy	Ch. André, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.50	749.4	29.78	756.3	45.5	7.5	50	NW			4		0			0	0	Clear	E. Stephan, Director.
Mirecourt, Normal School	28.56	725.3	29.71	754.6	22.3	—5.4	80	W			3		n		W	0	0		Barbier, Director.
Mont-Louis	24.56	623.9	29.88	758.9	36.0	2.2	46	SSW	20.6	9.2			5		W	0	0		M. Cave.
Nice	29.60	751.7	29.63	752.6	58.2	11.8	33	W			6		1	W	W	0.087	2.2	Clear	M. Boissière, Director.
Nismes, Normal School	29.60	751.9	29.82	757.3	46.8	8.2	55	N			1		0			0	0	Clear	M. Boyer, Director.
Paris, Montsouris Obs'y	29.50	749.2			29.5	—1.4	70	NW			3		7		NW	1.220	31.0		Marié Davy, Director.
Perpignan	29.73	755.1	29.84	757.9	48.0	8.9	52	N	11.2	5.0			3	W	NW	0	0		Dr. Fines.
Pic du Midi (Plantade) H. P.	22.17	563.1			21.0	—6.1								SW	N	0	0		Gen'l de Nansouty.
Pic du Midi (Summit) H. P.																			M. Baylac.
Privas, Normal School	28.71	729.1	29.80	756.9	38.8	3.8	66	NW			1		1		NW	0	0	Clear	M. Tallieu
Puy de Dome (Summit) Obs	24.74	628.3			14.9	—9.5	97	W			4		5		W	0.079	2.0	½ covered	Allnard, Director.
Rochefort, Naval Obs'y	29.92	759.9	29.95	760.7	38.8	3.8	73	NNW			2		8	WNW	NNW	0	0	¾ covered	Lt E. Decante, Director
Rouen, Normal School	29.70	754.4	29.79	756.6	32.9	0.6	56	NNW			1		0			0.224	5.7	Clear	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.84	758.0	29.87	758.8	40.8	4.9	55	NW			2		1	NW	NW	0	0	Clear	Lt. Hercouet, Director
Saint Maur (near Paris)	29.63	752.5	29.73	756.7	29.3	—1.5	78	NW			3		10		NW	0.913	23.2	Snowing	F. Renou, Director.
Tarbes, Normal School	28.91	734.3	30.07	763.7	30.2	—1	80	NW			3		0			0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.19	741.5	29.91	759.8	42.8	6.0	88	N			1		5			0	0	Cloudy	M. Julier Mercadier.
Tours	29.71	754.5	29.90	759.5	32.0	0.0		W			1		10			0.815	20.7	Snowing	Cousin-Marquet.
Versailles, Observatory	29.29	744.0	29.79	756.6	29.1	—1.6	65	N			2		0			0	0	Clear	Dr. A. Berigny, Director
Villefranche-sur-Saone, N. S	29.14	740.1	29.88	759.0	32.0	0.0	100	NW			3		8		NW	0	0	Very cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.91	759.6	29.97	761 3	74.1	23.4										0	0		L'Abbé Marchési
Zi-Ka-Wei (near Shanghai	29.99	761.8	30.02	762.5	52.3	11.3	96	W	5.4	2.4			10			0	0	Covered	Marc Decheverens

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fal as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.07 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.57	723.9	29.36	745.8	19.0 — 7.2		100	SE			8		10ks	SE		0.39	1.0	Snowing	Prof. Dr. Hoh.
Berlin	29.15	740.3	29.33	744.9	17.6 — 8.0		85	SE			5		10			0.165	4.2		Prof. Dr. Arndt.
Breslau	28.88	733.6	29.40	746.8	17.4 — 8.1		93	ESE			2		10			0.045	1.13	Snowing	Royal University Obs'y
Carlsruhe	29.04	737.5	29.48	748.8	19.4 — 7.0		100	SW			8		10			0.307	7.8	Stormy.	Albert Senz.
Cassel	28.70	729.0	29.30	744.1	19.9 — 6.7		84	N			2		10	N		0	0		Dr. H. Möhl.
Emden			29.51	749.5	22.1 — 5.5		72	NE			3		10			0.087	2.2		Prof. Dr. Prestel.
Frankfort on the Main	29.05	737.9	29.42	747.3	23.2 — 4.9		84	WSW			2		10			0.449	11.4		Physical Society.
Friedrichshafen	28.10	713.7	29.58	751.4	29.7 — 1.3		76	W			10		10	W		0.126	3.2	Snowing	Chief Telegrapher Wilhelm.
Hamburg	29.37	746.0	29.44	747.8	17.1 — 8.3		94	NE			7		10			0	0		Capt. P. F. A. Hegerman.
Kiel	29.50	749.4	29.52	749.8	26.6 — 3.0		47	ENE			5		10			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.69	754.0	29.78	756.3	7.0 —13.9		84	SE			2		3			0	0		Prof. E. Luther.
Köslin			29.65	753.1	13.5 —10.3			S			2		4			0	0		H. Müller.
Leipsic Observatory	28.87	733.2	29.31	744.4	17.2 — 8.2		88	ENE			2		10			0.087	2.2	Heavy snow	Prof. Dr. Bruhns, Privy Counselor
Magdeburg	29.13	739.9	29.35	745.6	18.0 — 7.8		83	E			5		10s			0.098	2.5	Snowing	Dr. Assmann.
Memel	29.73	755.2	29.78	756.4	7.5 —13.6		100	SSE			2–3		10n						Reinbrecht & Issermann.
Munich (München)	27.53	699.2	29.35	745.4	25.3 — 3.7		91	W			9		10	W		0.098	2.5	Snowing	Dr. C. Lang.
Neufahrwasser	29.72	754.9	29.74	755.3	12.6 —10.8		79	Calm			0		7			0	0		A. Lothes.
Neustadt (Palatinate)	28.83	732.2	29.34	745.3	22.5 — 5.3			NE			6		10			0	0		Reallehrer Dicknether
Posen	29.19	741.5	29.50	749.4	18.5 — 7.5		78	NE			8		10			0.008	0.2	Snowing	Prof. Dr. Magener.
Strassburg (in Alsace)	29.07	738.4	29.66	753.4	20.1 — 6.6		81	WSW			7		10			0.530	13.46	Stormy	Imp. University Observatory.
Stuttgart	28.48	723.4	29.47	748.4	20.3 — 6.5		72	W			9		10			0.075	1.9		Prof. Dr. Schoder.
Weissenburg (Bavaria)	27.88	708.1	29.41	747.0	21.9 — 6.1		85	W					10		W	0.126	3.2		Reallehrer J. Hopfner
Wustrow	29.53	750.0	29.55	750.6	21.6 — 5.8		95	E			4		10s			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.46	748.3	29.85	758.2	63.1	17.3		SW			0.5		5					½ clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	30.02	762.5	30.07	763.8	73.2	22.9	43	WSW	11	4.9			0			0	0	Blue sky	
Deesa	29.55	750.8	30.04	762.9	74.7	23.7	19	NNW	8.3	3.7			1	E		0	0	D. clouds.	
Bombay	29.89	759.1	29.92	760.0	75.4	24.1	75	NNW	15	6.7			1	NW		0	0	D. clouds.	
Poona (Yerrowda)	28.05	712.5	29.91	759.6	80.0	26.7	23	ENE	7	3.1			2	WSW		0	0	D. clouds	
Belgaum	27.38	695.4	29.93	760.3	73.6	23.1	61	E	3	1.3			9	SE	SE	0	0	D. clouds	
Lahore	29.32	744.7	30.10	764.7	57.2	14.0	36	Calm	0.3	0.1						0	0	Blue sky	
Roorkee	29.12	739.6	30.06	763.6	59.8	15.4	26	NW	1.6	0.7						0	0	Blue sky	
Agra	29.48	748.8	30.07	763.9	61.8	16.6	51	Calm	1.2	0.5			0			0	0		
Nagpur	28.92	734.6	29.98	761.6	73.7	23.2	34	Calm	1.9	0.8			2	W		0	0	D. clouds	
Jubbulpore	28.62	726.8	30.01	762.2	72.3	22.4	25	Calm	1.9	0.8			2			0	0	Blue sky	
Lucknow	29.66	753.4	30.06	763.5	60.3	15.7	47	WNW	0.9	0.4			0			0	0	Blue sky	
Allahabad	29.73	755.6	30.06	763.6	59.4	15.2	82	Calm	0.5	0.2			1			0	0	D. clouds	
Patna	29.85	758.2	30.04	762.9	68.4	20.2	51	Calm	0.3	0.1			2			0	0		
Hazaribagh	27.96	710.2	30.05	763.2	61.8	16.6	42	NW	3.3	1.5			2			0	0	D. clouds	
Cuttack	29.93	760.1	30.01	762.2	68.9	20.5	68	NE	1.0	0.4			0			0	0	Blue sky	
Calcutta (Alipore)	29.96	761.1	29.99	761.6	67.8	19.9	73	NNE	0.5	0.2			0			0	0	Blue sky	
Goalpara	29.59	751.6	29.99	761.8	69.8	21.0	59	SE	3.9	1.7			0			0	0	Blue sky	
Chittagong	29.88	759.0	29.98	761.4	71.0	21.7	73	NW	2.8	1.2			0			0	0	Misty	
Sibsagar	29.65	753.2	30.00	762.0	65.9	18.8	79	ENE	2.2	1.0			0			0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,361 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	29.00	736.7	29.44	747.7	35.8	2.1	96	NE	0.7	0.3	.....	.....	10	.....	.....	0.614	15.6	.....	Prof. Giovanni Clodig.
Milan	28.93	734.7	29.46	748.2	33.3	0.7	75	S	.....	.....	1	.....	3	WNW	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.31	744.5	29.43	747.4	32.5	0.3	93	SSW	5.6	2.5	.....	.....	8	W	.....	0.232	5.9	.....	Prof. Dott. Lorenzoni.
Moncalieri	28.58	725.9	29.54	750.3	23.0	— 5.0	25	NNW	8.1	3.6	.....	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.28	743.8	29.48	748.9	55.4	13.0	16	Calm	0	0	.....	.....	0	.....	.....	0.154	3.9	.....	Prof. G. M. Garibaldi.
Mondovi	27.57	700.3	29.58	751.3	42.8	6.0	15	WSW	.....	.....	8	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.35	745.5	29.40	746.8	47.8	8.8	48	S	6.9	3.1	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.29	743.9	29.56	750.8	53.6	12.0	58	WSW	.....	.....	8	.....	3	SW	.....	0.067	1.7	.....	Cav. F. Meucci.
Leghorn	29.47	748.4	29.55	750.6	55.6	13.1	52	W	33.6	15.0	.....	.....	0	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.49	749.0	29.67	753.6	58.8	14.9	69	W	24.2	10.8	.....	.....	2	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.41	747.0	29.67	753.5	63.0	17.2	84	S	26.6	11.9	.....	.....	3	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	28.91	734.2	29.81	757.2	65.1	18.4	81	NW	3.8	1.7	.....	.....	8	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.53	750.0	29.72	755.0	64.9	18.3	64	NW	.....	.....	2	.....	9	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.56	750.8	29.82	757.3	69.8	21.0	47	WSW	16.1	7.2	.....	.....	8	WSW	.....	0	0	.....	Prof. G. Ciacciatore.
Syracuse	29.74	755.3	29.81	757.1	66.6	19.2	67	SE	7.4	3.3	.....	.....	10	W	.....	0	0	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.17	741.0	29.70	754.3	55.4	13.0	87	SW	8.7	3.9	.....	.....	10	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.02	762.5	30.04	763.0	48.9	9.4	80	NNE	6.7	3.0	.....	0	0	.....	.....	0	0	Clear.	K. Sasaki.
Nagasaki, I. M. Obs'y	29.81	757.2	30.02	762.5	45.2	7.3	89	N	0	0	.....	.....	0	.....	.....	0.010	0.25	.....	S. Takehayashi.
Tokei, (Yeddo) Observatory	30.09	764.3	30.16	766.0	50.9	10.5	75	NNE	6.8	3.0	.....	.....	9s	.....	.....	0.300	7.62	Cloudy	The Staff.
Wakayama	29.96	761.0	30.02	762.5	52.3	11.3	72	NE	6.3	2.8	.....	.....	0	.....	.....	0.001	0.03	Clear	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bârcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	25.06	636.6	30.26	768.6	41.9	5.5	57	SW	.....	.....	1	.....	8	.....	SE	0	0	Cloudy	Prof. L. Perez.
Leon	24.45	620.9	30.24	768.1	51.1	10.6	83	N	.....	.....	1	10c	0	.....	.....	0	0	Cloudy	Prof. M. Leal.
Mazatlan	29.72	754.9	29.98	761.6	67.8	19.9	91	NW	.....	.....	3	3c	6k	SW	.....	0	0	Cloudy	I. Guerrero, C. E.
Mexico, Central Observatory	23.08	586.2	30.15	765.7	50.5	10.3	68	Calm	0	0	.....	6c	0	.....	.....	0	0	Cloudy	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	44.6	7.0	68	Calm	.....	.....	0	2cs	0	SW	.....	0	0	Clear.	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.44	595.4	30.32	770.1	46.4	8.0	36	N	0.4	0.2	.....	0	0	.....	.....	0	0	Very fine	Prof. P. Spina.
San Luis Potosi	24.18	614.1	30.26	768.6	49.1	9.5	58	E	.....	.....	1	7	2	W	E	0	0	Cloudy	G. Barroeta, M. D.
Tlacotalpam	29.94	760.4	29.95	760.7	68.0	20.0	95	S	.....	.....	1	0	0	.....	.....	0	0	Foggy	Prof. M. M. Chàzaro.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell
Zacatecas	22.54	572.4	30.31	769.9	45.5	7.5	66	Calm	0	0	.....	1s	0	.....	.....	0	0	Clear.	J. C. Castrillon

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column; the instrumental correction —0.88 mm., or —0.035 inch, has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Groningen	29.62	752.4	29.62	752.4	29.8	— 1.2	.....	N	.....	.....	4	.....	.....	.....	.....	0	0	.....	.....
Helder	29.47	748.4	29.52	749.8	23.4	— 4.8	.....	NE	.....	.....	4	.....	.....	.....	.....	0	0	.....	.....
Hellevoetsluis	29.58	751.2	29.58	751.2	25.7	— 3.5	.....	NE	.....	.....	4	.....	.....	.....	.....	0.079	2.0	.....	.....
Utrecht	29.57	751.0	29.57	751.0	26.8	— 2.9	70	NE	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....
.....	29.51	749.6	29.56	750.8	23.9	— 4.5	77	N	.....	.....	4	.....	2	.....	.....	0.039	1.0	Sl'ly cloudy	H. v. d. Brink

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.57	751.1	29.63	752.5	30.2	— 1.0	96	S	33.1	14.8	.....	.....	10	.....	.....	1.102	28.0	Snowing.....	
Brönö	29.58	751.3	28.62	752.3	18.7	— 7.4	56	ENE	18	8	.....	.....	3	.....	.....	0	0	.....	
Christiana	29.49	749.0	29.65	753.0	20.8	— 6.2	100	Calm	0	0	.....	.....	10	.....	.....	0 008	0.2	Foggy	
Tromsö	29.78	756.3	29.82	757.4	10.4	—12.0	93	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	30.00	761.9	30.19	766.8	55.6	13.1	75	ENE	13.7	6.1	.....	.....	3	.....	.....	0.138	3.5	.....	Dr. J. A. Sampaio.
Campo Major	28.81	731.7	29.81	757.2	52.5	11.4	90	SSW	4.9	2.2	.....	.....	10	.....	.....	0.244	6.2	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	29.89	759.3	29.98	761.5	66.0	18.9	66	W	9.8	4.4	.....	.....	2	.....	.....	0.098	2.5	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.43	747.4	29.78	756.5	54.3	12.4	96	SE	7.4	3.3	.....	.....	10	WSW	.....	0.354	9.0	.....	The Staff.
Ponta Delgada (Azores)	30.07	763.8	30.14	765.6	58.3	14.6	58	NE	12.5	5.6	.....	.....	4	.....	.....	0.114	2.9	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.																Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. M. Cabrate, 1st Lt
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Rio Lima. Capt. S. C. da Silva Costa. Santiago, Cape Verd Ids.	.....	.....	.....	.....	78.1	25.6	.....	E	.....	.....	2	.....	1	.....	E	1	E	Blue sky.....	A. D. de Fouseca Sarurento....
Sà da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Comd't.
Sado, Capt. J. A de Brito Capello, St. Paul de Loando	.....	.....	29.90	759.4	82.0	27.8	.....	WNW	.....	.....	3	.....	7	.....	S	.....	.....	Gloomy.....	Luiz Aprá, Q. M.
Tejo. Capt. J. M. T. Guimaraes, Macao, China	.....	.....	30.20	767.0	68.0	20.0	.....	NE	.....	.....	2	.....	2	.....	NE	1	.....	D. clouds.....	J. G. Felgo, 2nd Lieut
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sà da Bandeirà gives the barometer reduced tofreezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	29.56	750.7	29.58	751.2	—15.2	—26.2	79	N	2	1	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow
Astrakhan	30.02	762.5	29.94	760.4	36.3	2.4	74	ESE	11	5	.....	.....	10	.....	.....	.....	.....	.....	Capt. Wisganow.
Barnaul	29.75	755.6	30.29	769.4	13.1	—10.5	90	SW	4	2	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	29.55	750.6	29.82	757.4	5.7	—14.6	96	NE	2	1	.....	.....	0	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	28.83	732.2	29.87	758.6	9.1	—12.7	69	SW	18	8	.....	.....	2s	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	29.44	747.8	29.73	755.2	14.0	—10.0	90	S	2	1	.....	.....	10	.....	.....	.....	.....	Snowing.....	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	28.97	735.9	29.65	753.2	11.5	—11.4	100	NNE	9	4	.....	.....	10n	.....	.....	.....	.....	.....	Physical Cabinet.
Krotkowo*	29.24	742.7	29.74	755.4	18.0	— 7.8	81	S	9	4	.....	.....	10	.....	.....	.....	.....	Snowing.....	Cand. Fatjanow.
Lugan	29.33	744.9	29.54	750.2	38.5	3.6	90	S	9	4	.....	.....	10	.....	.....	Blank	Blank	.....	Meteorological Obs
Moscow	29.22	742.2	29.83	757.6	2.1	—16.6	80	NW	7.8	3.5	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	28.07	713.0	30.77	781.5	—20.2	—29.0	73	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	29.47	748.5	29.54	750.3	40.3	4.6	94	Calm	0	0	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	29.93	760.2	30.17	766.3	41.7	5.4	53	ENE	11	5	.....	.....	9ks	.....	.....	.....	.....	.....	.....
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	30.15	765.8	30.29	769.4	23.4	— 4.8	34	NW	45	20	.....	.....	2k	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	29.72	755.0	29.74	755.4	— 2.7	—19.3	87	NW	7	3	.....	.....	0	.....	.....	.....	.....	.....	Central Physical Obs.
Tashkend	28.61	726.8	30.23	767.7	46.9	— 8.3	62	.....	.....	.....	.....	.....	3	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.66	727.9	30.10	764.5	47.5	8.6	73	Calm	0	0	.....	.....	3k	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	29.15	740.3	29.60	751.8	14.5	— 9.7	81	E	16	7	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.38	746.2	29.84	758.0	1.9	—16.7	85	Calm	0	0	.....	.....	3	.....	.....	.....	.....	.....	Astronomical Obs.
Yenisiesk	29.43	747.4	29.73	755.2	11.1	—11.6	93	SE	7	3	.....	.....	3	.....	.....	.....	.....	Snowing.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	29.72	754.9	29.83	757.6	54.0	12.2	52	W	3.8	1.72	.....	.....	5	.....	.....	0	0	½ Covered....	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.89	759.1	29.95	760.6	43.7	6.5	94	E	4.7	2.12	.....	0	10	.....	.....	0.122	3.1	Raining.....	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.87	682.5	.....	.....	38.8	3.8	73	SW	16.8	7.50	.....	0	8	.....	.....	0	0	Cloudy.....	Domingo Martin y Perez.
Madrid, Royal Observatory	27.59	700.9	29.85	758.2	47.5	8.6	88	SW	4.5	2.00	.....	0	10	.....	.....	0.012	0.3	Covered.	The Staff.
Murcia, Met. Obs'y	29.68	753.9	29.82	757.4	58.6	14.8	75	S	0.9	0.39	.....	5	4	NE	.....	0.012	0.31	Misty.....	Olayo Diaz, Director.
Santiago, Met. Obs'y	28.92	734.5	29.83	757.7	44.1	6.7	79	NE	19.9	8.9	.....	.....	10	.....	.....	0	0	Covered.....	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	29.99	761.7	30.06	763.4	65.9	18.8	85	Calm	0	0	.....	4c;cs	3n	WNW	ENE	0	0	Fair.....	Benito Vines S. J.
Manilla, Phillippine Islands	29.85	758.1	29.90	759.5	82.5	28.1	83	NNE	0	0	.....	0	0	.....	.....	0	0	Fine.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.78	756.5	29.88	758.9	67.5	19 6	78	WSW	12.4	5.6	.....	0	9	.....	SW	1.087	27.6	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I	29.89	759.1	29.98	761.4	71.2	21.8	85	SW	0	0	.....	3ks	1k	SW	SW	0.157	4.06	Clear.	Enrique Gadea, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8 19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rydberg, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.86	758.4	29.90	759.4	— 4.0	—20.0	.....	N	.....	.....	2	.....	10	.....	.....	0	0	.....	
Umea	29.90	759.5	29.95	760.8	— 6.9	—21.6	71	N	.....	.....	2	.....	0	.....	.....	0	0	.....	
Hernosand	29.79	756.6	29.84	757.9	20.5	— 6.4	74	SE	.....	.....	2	.....	10	.....	.....	0.118	3.0	.....	
Stockholm	29.61	752.2	29.79	756.7	15.4	— 9.2	94	NE	.....	.....	2	.....	9	.....	.....	0	0	.....	
Wisby	29.65	753.2	29.71	754.7	29.8	— 1.2	69	NNE	.....	.....	4	.....	7	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.65	753.2	29.74	755.4	3.2	—16.0	98	NNW	2.9	1.3	.....	.....	10	.....	.....	0.053	1.34	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.37	720.7	29.88	759.0	28.2	— 2.1	80	S	.....	.....	5	.....	7	.....	.....	0	0	Cloudy	The Observatory.
Zurich	27.98	710.5	29.72	754.8	24.1	— 4.4	85	W	.....	.....	6	.....	10	.....	.....	0.039	1.0	Snow squalls	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, —6.4 mm.; Thermometer, —5.7 Cent.; Relative Humidity, +1 per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.76	755.9	59.0	15.0	95	WSW	22	10.0	.....	.....	10	.....	W	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.83	757.6	64.8	18.2	.....	S	.....	.....	2	.....	2	.....	.....	0	0	Slightly cld'y	A. Bertrand.
Sub-series.																			
Beirut, (Syria) Lee Obs'y	29.91	759.7	30.03	762.7	70.0	21.1	58	WSW	.....	.....	1	2c	.....	.....	.....	0	0	D. clouds.	Prof. C. V. A. van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B.	30.40	772.1	30.46	773.7	17.1	— 8.3	83	NW	8	3.6	.....	0	0	.....	.....	0.16	4.1	Clear.	G. A. Blair.
Charlottetown, P. E. Island	30.31	769.9	30.35	770.9	27.0	— 2.8	76	NW	12	5.4	.....	.....	10s	.....	.....	0	0	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	30.25	768.3	30.46	773.7	17.0	— 8.3	95	E	.....	.....	1	.....	10s	.....	.....	0	0	Overcast	James Smith, M. A.
Dalhousie, N. B.	30.29	769.4	30.47	773.9	12	—11.1	.....	W	.....	.....	2	0	1s	.....	.....	0.06	1.5	Fine	H. A. Johnson.
Father Point, Quebec	30.51	774.9	30.53	775.4	14.7	— 9.6	73	NW	25	11.2	.....	2cs	2s	.....	.....	0.03	0.8	Fair	J. McWilliams.
Fredericton, N. B.	30.45	783.4	30.52	775.2	18.0	— 7.8	84	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear.	Prof. Harrison.
Fort Garry, Manitoba	29.02	737.1	29.92	760.0	10.5	—11.9	90	NW	6	2.7	.....	0	0	.....	.....	0.71	18.0	Clear.	James Stewart.
Granton, Ontario	29.08	738.6	30.24	768.1	32	0.0	.....	E	.....	.....	1	.....	10n	.....	.....	0	0	Cloudy	James Grant.
Halifax, N. S.	30.24	768.1	30.38	771.6	27.9	— 2.3	78	NW	8	3.6	.....	0	0	.....	.....	0.53	13.5	Clear.	A. Allison.
Hamilton, Ontario	29.93	760.2	30.32	770.1	36.5	2.5	92	SE	.....	.....	1	10cs	0	SE	.....	0	0	Cloudy	Geo. Dickson, B. A.
Heart's Content, N. F.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	30.07	763.8	30.43	772.9	21.8	— 5.7	93	E	5	2.2	.....	.....	10s	.....	.....	0	0	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S.	30.15	765.8	30.19	766.8	31.2	— 0.4	85	NW	12	5.4	.....	5k	0	SW	.....	0.12	3.0	Fair	C. H. Rigby.
Montreal, Quebec	30.30	769.6	30.52	775.2	13.0	—10.6	81	S	11	4.9	.....	9ck;hz	0	.....	.....	0	0	Cloudy	C. H. McLeod, C. E.
Moose Factory, Ontario	30.24	768.1	30.28	769.1	3.6	—15.8	92	SE	.....	.....	3	.....	10	.....	.....	0	0	Cloudy	J. R. Nrson.
Norwood	29.64	752.8	30.39	771.9	19.7	— 6.9	100	E	.....	.....	1	.....	10s	.....	.....	0	0	Cloudy	Rev. T. F. Fotheringham, M. A.
Parry Sound, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. R. Mosley.
Peterboro, Ontario	29.48	748.8	30.29	769.4	21.4	— 5.9	71	E	.....	.....	2	.....	10s	.....	.....	0	0	Overcast	J. F. Jeffers, M. A.
Port Dover, Ontario	29.54	750.3	30.27	768.8	34.0	1.1	89	NE	7	3.1	.....	.....	Haze	.....	.....	0	0	Cloudy	H. Morgan.
Port Hastings, N. S.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.55	750.6	30.22	767.6	35.6	2.0	94	E	7	3.1	.....	.....	10n	.....	E	0	0	Cloudy	M. Payne.
Quebec, Quebec	30.20	767.1	30.56	776.2	9	—12.8	58	Calm	.....	.....	0	0	0	.....	.....	0.05	1.3	Clear.	Capt. Ashe, R. N.
Rockliffe, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. McIntyre.
St. Andrews, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Gove.
St. John, N. B.	30.30	769.6	30.48	774.2	22	— 5.6	86	N	8	3.6	.....	0	0	.....	.....	0	0	Clear.	G. Murdock, C. E.
Saugeen, Ontario	29.49	749.0	30.24	768.1	32	0.0	91	SE	12	5.4	.....	.....	10s	.....	.....	0	0	Overcast	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.90	734.0	30.25	768.3	31.3	— 0.4	96	SE	9	4.0	.....	.....	Fog	.....	.....	0	0	Foggy	C. J. MacGregor, M. A.
Sydney, C. B.	30.17	766.3	30.21	767.3	31.4	— 0.3	73	NW	11	4.9	.....	0	9ks	.....	.....	0.80	20.3	Cloudy	T. C. Hill, C. E.
Toronto, Ontario	29.91	759.7	30.31	769.9	32.9	0.5	90	NE	11	4.9	.....	.....	10n	.....	.....	0	0	Cloudy	Magnetic Observatory.
Windsor, N. S.	30.26	768.6	30.36	771.1	28.0	— 2.2	88	NW	13	5.8	.....	0	0	.....	.....	0.11	2.8	Clear.	Prof. John E. Oram, M. A.
Woodstock, Ontario	29.72	739.6	30.23	767.8	33.1	0.6	99	NE	11	4.9	.....	.....	10s	.....	.....	0	0	Overcast	Prof. J. Montgomery.
Yarmouth, N. S.	30.39	771.9	30.45	773.4	28.5	— 1.9	82	[illegible]	9	4.0	.....	0	2s	.....	.....	0.19	4.8	Fair	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.50	749.3	29.76	755.9	35.0	1.7	88	W	.....	.....	.....	5c	10ks	.....	.....	0.56	14.2	Stormy	John Delany.
St. Pierre, N. F., l'Hopital Maritime.	.....	.....	29.90	759.5	34.9	1.6	.....	NW	.....	3	.....	[illegible]	.....	.....	.....	.....	.....	.....	The Commandant.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.** UNITED STATES SERIES.

Furnished by the co-operation of BVT. BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer.
Albany, New York	30.25	768.3	30.49	774.4	32	0.0	84	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Alpena, Michigan	29.49	749.0	30.16	766.1	37	2.8	90	SE	17	7.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	28.96	735.6	30.12	765.0	52	11.1	86	E	13	5.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Atlantic City, New Jersey	30.38	771.6	30.40	772.1	47	8.3	92	NE	13	5.8	.....	10k	Fog	E	Calm	0	0	Cloudy	
Augusta, Georgia	30.01	762.2	30.22	767.6	49	9.4	78	Calm	0	0	.....	0	2s	.....	E	0	0	Fair	
Baltimore, Maryland	30.37	771.4	30.42	772.7	44	6.7	68	NE	8	3.6	.....	.....	10s	.....	SE	0	0	Cloudy	
Barnegat, New Jersey	30.39	771.9	30.41	772.4	46	7.8	92	NE	14	6.3	.....	5k	5s	E	E	0	0	Cloudy	
Bismarck, Dakota	27.98	710.7	29.84	757.9	14	—10.0	100	S	6	2.7	.....	.....	10s	.....	Calm	0.08	2.0	Cloudy	
Boerne, Texas	28.48	723.4	29.81	757.2	46	7.8	19	NW	.....	.....	2	0	0	.....	.....	0.56	14.2	Clear	
Boise City, Idaho	27.02	686.3	29.98	761.5	38.5	3.6	82	SE	4	1.8	.....	.....	10n	.....	Calm	1.00	25.4	Light rain	
Boston, Massachusetts	30.34	770.6	30.50	774.7	31	— 0.6	79	N	4	1.8	.....	1c	2s	N	Calm	0.01	0.3	Fair	
Brackettville, Texas	28.93	734.8	30.01	762.2	50	10.0	45	W	11	4.9	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Breckenridge, Minnesota	28.80	731.5	29.86	758.4	12	—11.1	100	NW	12	5.4	.....	.....	10s	.....	Calm	0.12	3.0	Cloudy	
Brownsville, Texas	29.79	756.7	29.84	757.9	74	23.3	86	W	12	5.4	.....	8k	0	SW	.....	0	0	Fair	
Buffalo, New York	29.53	750.0	30.25	768.3	40	4.4	82	E	6	2.7	.....	.....	10s;fog	.....	S;Calm	0	0	Cloudy	
Burkes, Arizona	.....	.....	.....	.....	33	0.6	51	Calm	.....	.....	.....	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	30.19	766.8	30.51	774.9	26	— 3.3	75	NE	2	0.9	.....	.....	10s	.....	NE	Inap	Inap.	Cloudy	
Cairo, Illinois	29.44	747.8	29.81	757.2	61	16.1	82	S	18	8.0	.....	.....	10s	.....	S	Inap.	Inap.	Threatening	
Campo, California	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Cape Hatteras, N. Carolina	30.22	767.6	30.23	767.8	59	15.0	94	E	8	3.6	.....	0	5ks	.....	S	0.02	0.5	Fair	
Cape Henry, Virginia	30.27	768 8	30.29	769.4	53	11.7	100	N	5	2.2	.....	.....	Fog	.....	Calm	0	0	Foggy	
Cape Lookout, N. Carolina	30.19	766.8	30.21	767.3	55	12.8	100	NE	13	5.8	.....	.....	8ks	.....	E	0	0	Clearing	
Cape May, New Jersey	30.34	770.6	30.37	771.4	44	6.7	92	NE	11	4.9	.....	.....	10s	.....	NE	0	0	Cloudy	
Castroville, Texas	29.18	741.1	29.89	759.2	52	11.1	47	NW	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Cedar Keys, Florida	30.09	764.3	30.11	764.8	63	17.2	94	SE	8	3.6	.....	2c;cs	0	NW	.....	0	0	Fair	
Charleston, South Carolina	30.11	764.8	30.17	766.3	60	15.6	88	NE	5	2.2	.....	.....	8s	.....	NE	Inap.	Inap.	Cloudy	
Charlotte, North Carolina	29.36	745.7	30.18	766.6	56	13.3	94	E	5	2.2	.....	.....	10s	.....	SE	0	0	Cloudy	
Chattanooga, Tennessee	29.29	744.0	30.11	764.8	45	7.2	92	NE	9	4.0	.....	8ck	2ks	SW	SW	0	0	Cloudy	
Cheyenne, Wyoming	23.79	604.3	29.73	755.1	30	— 1.1	57	W	12	5.4	.....	5c	0	W	.....	Inap.	Inap.	Fair	
Chicago, Illinois	29.16	740.7	29.86	758.4	45	7.2	76	SE	6	2.7	.....	.....	8s	.....	Calm	0	0	Cloudy	
Cincinnati, Ohio	29.45	748.0	30.10	764.5	52	11.1	79	SE	7	3.1	.....	.....	10s	.....	S	0	0	Threatening	
Cleveland, Ohio	29.42	747.3	30.16	766.1	42	5.6	83	E	7	3.1	.....	5cs	Fog	S	Calm	0.03	0.8	Fair	
Coleman City, Texas	28.14	714.7	29.85	758.2	38	3.3	72	NW	7	3.1	.....	0	0	.....	.....	0.03	0.8	Clear	
Columbus, Ohio	29.26	743.2	30.11	764.8	45	7.2	76	SE	6	2.7	.....	.....	Fog	.....	Calm	0	0	Foggy	
Concho, Texas	28.08	713.2	29.80	756.9	41	5.0	49	N	.....	.....	1	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.50	749.3	29.98	761.5	49	9.4	64	W	12	5.4	.....	0	0	.....	.....	0.68	17.3	Clear	
Davenport, Iowa	29.02	737.1	29.64	752.8	49	9.4	93	SE	16	7.2	.....	.....	10s	.....	Calm	0.16	4.1	Threatening	
Dayton, Washington T'y	.....	.....	.....	.....	39	3.9	81	W	.....	.....	2	2c	0	W	.....	0.20	5.1	Fair	
Deadwood, Dakota	25.06	636.5	.....	.....	22	— 5.6	45	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Denison, Texas	28.92	734.6	29.72	754.9	44	6.7	76	W	9	4.0	.....	.....	10s	.....	NW	0.34	8.6	Cloudy	
Denver, Colorado	24.58	624.3	29.80	756.9	39	3.9	31	NW	10	4.5	.....	0	0	.....	.....	0.13	3.3	Cloudy	
Des Moines, Iowa	28.70	729.0	29.56	750.8	48	8.9	93	Calm	0	0	.....	.....	10n	.....	Calm	0.79	20.1	Light rain	
Detroit, Michigan	29.43	747.5	30.12	765.0	41	5.0	91	E	6	2.7	.....	.....	10s;fg	.....	E;Calm	0.02	0.5	Cloudy	
Dodge City, Kansas	27.22	691.4	29.58	751.3	28	— 2.2	22	N	23	10.3	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.03	737.3	29.72	754.9	45	7.2	92	SE	7	3.1	.....	.....	10n	.....	Calm	0.03	0.8	Light rain	
Duluth, Minnesota	29.07	738.4	29.75	755.6	37	2.8	95	E	4	1.8	.....	.....	10n	.....	Calm	0.23	5.8	Light rain	
Eagle Pass, Texas	29.26	743.2	29.98	761.5	56	13.3	24	NW	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	30.41	772.4	30.48	774.2	23	— 5.0	73	N	15	6.7	.....	0	0	.....	.....	0.14	3.6	Clear	
Edinburg, Texas	.....	.....	.....	.....	68	20.0	84	NW	.....	.....	4	.....	10s	.....	N	0	0	Cloudy	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.49	749.0	30.22	767.6	43	6.1	83	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Escanaba, Michigan	29.35	745.5	29.91	759.7	37	2.8	81	SE	16	7.2	.....	.....	10s	.....	SE	0	0	Cloudy	
Florence, Arizona	28.59	726.2	30.19	766.8	38	3.3	72	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.67	702.3	29.67	753.6	— 8	—22.2	56	Calm	0	0	.....	0	0	.....	.....	0.01	0.3	Clear	
Fort Custer, Montana	26.47	672.3	.....	.....	24	— 4.4	74	SE	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.18	639.6	30.14	765.5	35	1.7	45	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.07	738.4	29.59	751.6	50	10.0	86	W	10	4.5	.....	.....	10s	.....	S	1.80	45.7	Cloudy	
Fort Grant, Arizona	25.26	641.6	30.06	763.5	34	1.1	36	N	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	28.60	726.4	29.58	758.9	46	7.8	54	NW	18	8.0	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.15	689.6	.....	.....	13	—10.6	67	NE	3	1.3	.....	5cs	0	NE	.....	0	0	Fair	
Fort McKavett, Texas	27.71	703.8	29.68	753.9	37	2.8	71	W	7	3.1	.....	0	0	.....	.....	0.33	8.4	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.54	724.9	29.66	753.4	42	5.6	58	NW	20	8.9	.....	0	0	.....	.....	0.38	9.7	Clear	
Fort Stevenson, Dakota	27.96	710 2	.....	.....	— 9	—22.8	79	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Verde, Arizona	.....	.....	.....	.....	27	— 2.8	76	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Galveston, Texas	29.82	757.4	29.86	758.4	58	14.4	100	N	12	5.4	.....	.....	10n	.....	W	0.94	23.9	Light rain	
Graham, Texas	28.76	730.5	29.83	757.7	43	6.1	67	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.32	744.7	29.97	761.2	43	6.1	75	SE	14	6.3	.....	.....	10s	.....	S	0	0	Cloudy	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	28.86	733.0	29.81	757.2	40	4.4	82	NW	18	8.0	.....	0	0	.....	.....	0	0	Clear	
Indianapolis, Indiana	29.17	740.9	29.95	760.7	47	8.3	92	SE	10	4.5	.....	.....	10s	.....	S	0	0	Cloudy	
Indianola, Texas	29.91	759.7	29.93	760.2	60	15.6	77	NW	7	3.1	.....	0	8s	.....	NW	0.21	5.3	Fair	
Jacksboro, Texas	28.68	728.5	29.82	757.4	45	7.2	61	N	18	8.0	.....	0	0	.....	.....	1.75	44.1	Clear	
Jacksonville, Florida	30.10	764.5	30.13	765.3	60	15.6	94	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Keokuk, Iowa	28.95	735.3	29.54	750.3	54	12.2	93	SE	19	8.5	.....	.....	10s	.....	SE	0.08	2.0	Threatening	
Key West, Florida	30.02	762.5	30.05	763.3	71	21.7	85	NE	16	7.2	.....	5k	0	NE	.....	0	0	Fair	
Kittyhawk, North Carolina	30.24	768.1	30.26	768.6	58	14.4	100	E	13	5.8	.....	0	8ks	.....	E	0.05	1.3	Fair	
Knoxville, Tennessee	29.13	739.9	30.16	766.1	41	5.0	100	NE	1	0.4	.....	.....	Fog	.....	Calm	0	0	Dense fog	
La Crosse, Wisconsin	28.92	734.6	29.65	753.1	43	6.1	83	Calm	0	0	.....	.....	10s	.....	Calm	0.39	9.9	Cloudy	
La Mesilla, New Mexico	26.12	663.4	30.27	768.8	28	— 2.2	43	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.66	753.4	30.00	762.0	61	16.1	66	N	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	28.76	730.5	29.60	751.8	40	4.4	91	NW	11	4.9	.....	.....	10n	.....	.....	1.27	32.3	Light rain	
Lewiston, Idaho	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Little Rock, Arkansas	29.43	747.5	29.78	756.4	57	13.9	94	SE	5	2.2	.....	.....	10n	.....	Calm	0.44	11.2	Light rain	
Los Angeles, California	29.77	756.1	30.11	764.8	51.0	10.6	65	NE	6	2.7	.....	1c	0	Calm	.....	0	0	Clear	
Louisville, Kentucky	29.46	748.3	30.02	762.5	48	8.9	93	E	8	1.3	.....	2c	2s;fog	Calm	Calm	Inap.	Inap.	Fair	
Lynchburg, Virginia	29.60	751.8	30.29	769.4	54	12.2	93	E	4	1.8	.....	.....	10n	.....	Calm	0.04	1.0	Light rain	
Madison, Wisconsin	28.74	730.0	29.71	754.6	45	7.2	92	SE	15	6.7	.....	.....	10n	.....	Calm	0.43	10.9	Light rain	
Marquette, Michigan	29.17	740.9	29.88	758.9	37	2.8	71	SE	16	7.2	.....	.....	10s	.....	SE	0	0	Cloudy	
Mason, Texas	28.30	718.8	30.10	764.5	45	7.2	61	N	10	4.5	.....	0	0	.....	.....	0.06	1.5	Clear	
Memphis, Tennessee	29.44	747.8	29.78	756.4	62	16.7	88	SE	14	6.3	.....	.....	10s	.....	S	0	0	Cloudy	
Milwaukee, Wisconsin	29.10	739.1	29.82	757.7	43	6.1	83	SE	22	9.8	.....	.....	10s	.....	S	0	0	Cloudy	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mobile, Alabama	29.95	760.7	30.00	762.0	63	17.2	96	SE	6	2.7	.....	.....	10s	.....	S	0.02	0.5	Cloudy	
Montgomery, Alabama	29.83	757.7	30.06	763.5	59	15.0	94	E	8	3.6	.....	9k	0	S	.....	0.06	1.5	Cloudy	
Morgantown, West Virginia	29.21	741.9	30.23	767.8	42	5.6	66	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Mt. Washington, N. H.	24.00	609.6	30.36	771.1	26	— 3.3	76	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Nashville, Tennessee	29.45	748.0	29.98	761.5	56	13.3	75	[illegible]	6	2.7	.....	0	2s	.....	S	0	0	Fair	
New Haven, Connecticut	30.36	771.1	30.48	774.2	33	0.6	79	N	10	4.5	.....	0	0	.....	.....	0	0	Clear	
New London, Connecticut	30.43	772.9	30.48	774.2	34	1.1	79	N	8	3.6	.....	7ck	1s	E	NE	0	0	Fair	
New Orleans, Louisiana	29.88	758.9	29.93	760.2	65	18.3	89	SE	7	3.1	.....	0	5s; sm'e	.....	S	0.03	0.8	Fair	
Newport, Rhode Island	30.43	772.9	30.48	774.2	33	0.6	79	N	7	3.1	.....	5c	Haze	E	.....	0	0	Fair	
New River, North Carolina	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
New York, New York	30.22	767.6	30.40	772.1	40	4.4	73	NE	10	4.5	.....	Haze	Haze	.....	.....	0	0	Dense haze	
Norfolk, Virginia	30.24	768.1	30.30	769.6	54	12.2	87	NE	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
North Platte, Nebraska	26.90	683.2	29.61	752.1	17	— 8.3	83	NW	11	4.9	.....	0	0*	.....	.....	Inap.	Inap.	Clear	
Olympia, Washington Ter.	29.77	756.1	29.81	757.2	42.0	5.6	83	S	10	4.5	.....	8k	0	W	.....	.0.82	20.8	Cloudy	
Omaha, Nebraska	28.55	725.2	29.68	753.9	27	— 2.8	88	NW	20	8.9	.....	.....	10n	.....	Calm	1.24	31.5	Sleeting	
Oswego, New York	30.07	763.8	30.40	772.1	37	2.8	81	SE	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Pembina, Dakota	28.96	735.6	29.89	759.2	— 8	—22.2	100	NW	2	0.9	.....	0	0	.....	.....	0.51	13.0	Clear	
Pensacola, Florida	30.02	762.5	30.05	763.3	66	18.9	95	SE	6	2.7	.....	.....	10s	.....	SE	0.18	4.6	Cloudy	
Philadelphia, Pennsylvania	30.36	771.1	30.42	772.7	37	2.8	81	NE	16	7.2	.....	.....	10s; Fog	.....	W; Calm	0	0	Cloudy	
Phœnix, Arizona	28.95	735.3	30.82	782.8	42	5.6	58	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.44	443.0	29.65	753.1	6	—14.4	52	N	48	21.5	.....	5cs	0	W	.....	0.23	5.8	Clear	
Pilot Point, Texas	29.05	737.9	29.88	758.9	45	7.2	60	NW	.....	.....	.....	8k	2s	N	NW	0.06	1.5	Cloudy	
Pioche, Nevada	.....	.....	.....	.....	31	— 0.6	69	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.40	746.7	30.23	767.8	44	6.7	76	E	2	0.9	.....	.....	Fog	.....	Calm	0	0	Foggy	
Port Huron, Michigan	29.46	748.3	30.15	765.8	36	2.2	90	SE	6	2.7	.....	.....	10ks	.....	SE	0	0	Cloudy	
Portland, Maine	30.45	773.4	30.50	774.7	34	1.1	61	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Portland, Oregon	29.86	758.4	29.94	760.5	45.5	7.5	81	SW	8	3.6	.....	.....	10n	.....	.....	0.56	14.2	Light rain	
Portsmouth, N. Hampshire	.....	.....	.....	.....	57	13.9	94	NE	14	6.3	.....	1cs	0	Calm	.....	0	0	Clear	
Prescott, Arizona	24.82	630.4	30.18	766.6	27	— 2.8	76	SE	.....	.....	1	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.05	763.3	30.07	763.8	64	17.8	89	NE	8	3.6	.....	1c	0	Calm	.....	0	0	Clear	
Red Bluff, California	29.72	754.9	30.08	764.0	51	10.6	90	SE	26	11.6	.....	.....	10n	.....	.....	0.40	10.2	Light rain	
Rio Grande City, Texas	29.74	755.4	29.96	761.0	66	18.9	84	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Rochester, New York	29.67	753.6	30.32	770.1	35	1.7	80	SE	8	3.6	.....	.....	10s	.....	SE	0.04	1.0	Cloudy	
Roseburg, Oregon	29.45	748.0	30.02	762.5	47	8.3	89	Calm	0	0	.....	.....	10ks	.....	W	2.63	66.8	Cloudy	
Sacramento, California	30.11	764.8	30.18	766.6	50	10.0	86	SE	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
St. Louis, Missouri	29.13	739.9	29.68	753.9	57	13.9	87	SE	16	7.2	.....	.....	10s	.....	SE	0.03	0.8	Cloudy	
St. Paul, Minnesota	28.83	732.3	29.65	753.1	39	3.9	91	E	2	0.9	.....	.....	10n	.....	E	0.76	19.3	Light rain	
Salt Lake City, Utah	25.54	648.7	29.87	758.7	39	3.9	64	SE	4	1.8	.....	.....	10s	.....	Calm	0.07	1.8	Cloudy	
San Antonio, Texas	29.24	742.7	29.84	757.9	55	12.8	39	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
San Diego, California	30.08	764.0	30.15	765.8	49	9.4	71	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Sandusky, Ohio	29.44	747.8	30.13	765.3	42	5.6	91	E	7	3.1	.....	2k	Fog	SE	Calm	0.05	1.3	Fair	
Sandy Hook, New Jersey	30.41	772.4	30.44	773.2	38	3.3	91	NE	18	8.0	.....	.....	10s	.....	E	0	0	Cloudy	
San Francisco, California	30.12	765.0	30.18	766.6	57	13.9	87	SE	9	4.0	.....	.....	10n	.....	Calm	0.08	2.0	Light rain	
Santa Fé, New Mexico	23.23	590.0	29.77	756.1	19	— 7.2	39	NW	20	8.9	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Savannah, Georgia	30.08	764.0	30.18	766.6	50	10.0	93	N	5	2.2	.....	.....	Fog	.....	Calm	0	0	Foggy	
Shreveport, Louisiana	29.52	749.8	29.74	755.4	54	12.2	93	S	8	3.6	.....	.....	10s	.....	Calm	1.35	34.3	Cloudy	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.16	766.1	30.20	767.1	57	13.9	93	N	9	4.0	.....	5k	Fog	E	.....	0.59	15.0	Fair	
Socorro, New Mexico	25.45	646.4	29.51	749.5	29	— 1.7	56	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois	29.06	738.1	29.72	754.9	53	11.7	83	SE	18	8.0	.....	.....	10s	.....	S	0.07	1.8	Cloudy	
Springfield, Massachusetts	30.37	771.4	30.51	774.9	32	0.0	79	N	1	0.4	.....	2cs	0	E	.....	0	0	Fair	
Stockton, Texas	27.01	686.0	30.01	762.2	33	0.6	23	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	30.41	772.4	30.46	773.7	41	5.0	91	NE	14	6.3	.....	.....	10s	.....	NE	0.02	0.5	Cloudy	
Toledo, Ohio	29.39	746.5	30.10	764.5	41	5.0	91	E	4	1.8	.....	8cs	Haze	W	.....	Inap.	Inap.	Threatening	
Tucson, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon	29.56	750.8	30.06	763.5	41.0	5.0	82	W	26	11.6	.....	0	1s	.....	SW	0	0	Clear	
Uvalde, Texas	29.13	739.9	29.95	760.7	53	11.7	73	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	29.65	753.1	29.90	759.4	65	18.3	94	SW	7	3.1	.....	.....	10s	.....	SW	Inap.	Inap.	Cloudy	
Virginia City, Montana	23.94	608.1	29.42	747.3	27	— 2.8	88	Calm	0	0	.....	.....	10n	.....	Calm	0.06	1.5	Light snow	
Visalia, California	29.82	757.4	30.20	767.1	41.5	5.3	91	S	1	0.4	.....	1k	0	Calm	.....	0	0	Clear	
Washington, D. C.	30.26	768.6	30.38	771.6	45	7.2	68	E	9	4.0	.....	.....	10s	.....	SE	0	0	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	32	0.0	79	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, North Carolina	30.12	765.0	30.20	767.1	54	12.2	100	NE	6	2.7	.....	.....	Fog	.....	Calm	0.45	11.4	Foggy	
Winnemucca, Nevada	25.55	649.0	29.91	759.7	43	6.1	83	SW	10	4.5	.....	.....	10n	.....	SW	0.08	2.0	Light rain	
Wood's Holl, Massachusetts	30.43	772.9	30.47	773.9	36	2.2	80	NE	6	2.7	.....	0	2s	.....	Calm	0	0	Clear	
Yankton, Dakota	28.53	724.6	29.89	759.2	21	— 6.1	57	NW	15	6.7	.....	.....	10s	.....	NW	0	0	Cloudy	
Yuma, Arizona	29.98	761.5	30.16	766.1	45	7.2	46	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Havana, Cuba, W. I.	29.96	761.0	30.01	762.2	69	20.6	75	Calm	0	0	.....	8cs	4ks	Calm	NE	0	0	Cloudy	J. B. Gordon.
Kingston, Jamaica, W. I.	30.16	766.1	30.17	766.3	71	21.7	74	Calm	0	0	.....	8c	2s	Calm	.....	.....	.....	Fair	Chas. Hasselbrink.
Navassa, W. I.	29.87	758.7	29.95	760.7	77	25.0	69	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Paramaribo, D. Guiana, S. A	29.95	760.7	29.96	761.0	81	27.2	83	E	.....	.....	2	5k	5ks	E	.....	0.100	2.54	Cloudy	F. M. Everett.
Santiago de Cuba, W. I.	29.98	761.5	30.00	762.0	71	21.7	71	N	1.2	0.5	.....	4c	0	.....	.....	0	0	.....	C. J. Hering.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
York Factory, B. A.	29.85	758.2	29.90	759.4	— 8.0	—22.2	79	W	9	4.0	.....	2c	2s	NW	W	0.01	0.3	.....	G. O. Gellich.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 m m.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 m., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.09‡	764.3‡	.....	.....	66	18.9	95	SE	10	4.5	.....	.....	10	.....	SSE	0.206	5.23	.....	.....	Threatening	
Navy Yard, Portsmouth, N.H	30.34‡	770.6‡	.....	.....	28	—2.2	88	NNW	3	1.3	.....	.....	10	.....	.....	0	0	.....	.....	Overcast	
Naval Hospital, Yokohama, Japan	30.09‡	764.3‡	.....	.....	52	11.1	86	NNE	.....	.....	3	.....	10s	.....	NW	Slight	Slight	.....	.....	Overcast	
Adams, Mare I'd., Navy Yard, Cal.	30.16‡	766.1‡	.....	.....	59	15.0	94	SE	.....	.....	3	.....	10	.....	SE	.....	.....	.....	.....	Cloudy	
Alaska, Iquique, Peru .....*	30.00‡	762.0‡	.....	.....	63	17.2	83	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....	Overcast	
Alliance, N. 33° 57′, W. 69° 47′	30.16‡	766.1‡	.....	.....	69	20.6	80	E	.....	.....	4–5	.....	5	.....	E	.....	.....	Smooth	E	D. clouds	
Colorado, New York, N. Y.	30.43‡	772.9‡	.....	.....	37	2.8	81	N	1.5	0.7	.....	.....	2	.....	Calm	0	0	.....	.....	Misty	
Constitution, Hampton Roads, Va.	30.30‡	769.6‡	.....	.....	55	12.8	?	NE	.....	.....	2	.....	10	.....	NE	.....	.....	.....	.....	Dense fog	
Enterprise, Beirout, Syria	30.09‡	764.3‡	.....	.....	71	21.7	62	W	.....	.....	2	.....	2	.....	W	.....	.....	Smooth	.....	Clear	
Franklin, Off Navy Yard, Norfolk, Va.	30.31‡	769.9‡	.....	.....	55	12.8	100	NE	6	2.7	.....	.....	10	.....	NE	0	0	.....	.....	Cloudy	
Independence, Mare I'd, Navy Yard, Cal.	30.16‡	766.1‡	.....	.....	61	16.1	88	SSW	1.9	0.8	.....	.....	10	.....	SSW	0	0	.....	.....	Overcast	
Kearsarge, Port Royal, S. C.	30.17‡	766.3‡	.....	.....	55	12.8	93	Calm	.....	.....	0	.....	0	.....	.....	0	0	Smooth	.....	Foggy	
Lackawana, N. 30° 58′ W. 151° 27′..†	30.18‡	766.6‡	.....	.....	70	21.1	80	SSE	.....	.....	2–3	.....	2	.....	SSE	.....	.....	Smooth	.....	Clear	
Marion, Navy Yard, Brooklyn, N.Y.	30.44‡	773.2‡	.....	.....	40	4.4	83	NE	.....	.....	3	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Michigan, Erie, Pa.	30.18‡	766.6‡	.....	.....	45	7.2	92	N	.....	.....	1	.....	8	.....	.....	.....	.....	.....	.....	Cloudy	
Monocacy, Shanghai, China..	30.01‡	762.2‡	.....	.....	66	13.3	94	WSW	.....	.....	1	.....	8	.....	W	.....	.....	.....	.....	Sprinkling	
New Hampshire, Port Royal, S. C.	30.14‡	765.5‡	.....	.....	54	12.2	100	NE	14	6.3	.....	.....	0	.....	.....	0	0	.....	.....	Foggy	
Nipsic, Norfolk, Va.	30.27‡	768.8‡	.....	.....	56	13.3	94	NNE	.....	.....	2	.....	10	.....	.....	.....	.....	.....	W	Misty	
Onward, Callao, Peru .....†	29.93‡	760.2‡	.....	.....	64	17.8	89	SSE	.....	.....	2	.....	10	.....	.....	.....	.....	Mod'ate smooth	.....	Misty	
Palos, Tientsin, China.	30.19‡	766.8‡	.....	.....	22	—5.6	58	N	.....	.....	5–6	.....	10	.....	.....	.....	.....	.....	.....	Snow-storm	
Passaic, Washington, D. C.	30.35‡	770.9‡	.....	.....	46	7.8	84	NE	.....	.....	2	.....	10	.....	W	.....	.....	Smooth	.....	Cloudy	
Pensacola, Callao, Peru	29.92‡	760.0‡	.....	.....	64	17.8	89	SSE	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Overcast	
Powhatan, Navy Yard, Brooklyn, N.Y.	30.44‡	773.2‡	.....	.....	40	4.4	82	NE	.....	.....	2	.....	2	.....	.....	0.13	3.3	.....	.....	Fair	
Quinnebaug, Genoa, Italy	29.44‡	747.8‡	.....	.....	55	12.8	81	SE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Ranger, N. 25° 16′, W. 171° 02′	29.80‡	756.9‡	.....	.....	63	17.2	89	NNE	.....	.....	4	.....	10	.....	NE	.....	.....	Mod'ate	ENE	Rainy	
Richmond, Min river, China	30.09‡	764.3‡	.....	.....	62	16.7	77	SE	.....	.....	1–2	.....	0	.....	.....	.....	.....	Smooth	.....	Clear	
Rio Bravo, Brownsville, Texas... †	30.01‡	762.2‡	.....	.....	72	22.2	90	SW	2	0.9	.....	.....	10	.....	S	0	0	.....	.....	Cloudy	
Santee, Annapolis, Md	30.28‡	769.1‡	.....	.....	42	5.6	83	E	.....	.....	1	.....	8	.....	SW	0	0	.....	.....	Cloudy	
Shenandoah, Rio de Janeiro, Brazil.	30.02‡	762.5‡	.....	.....	74	23.3	76	SW	.....	.....	2	.....	2	.....	.....	.....	.....	Smooth	.....	Fair	
St. Louis, League Island, Pa.	30.36‡	771.1‡	.....	.....	39	3.9	83	NE	12	5.4	.....	.....	10	.....	NE	0	0	.....	.....	Cloudy	
Tuscarora, Acapulco, Mexico	29.84‡	757.9‡	.....	.....	75	23.9	100	Calm	.....	.....	0	.....	0	.....	.....	0	0	Smooth	.....	Clear	
Vandalia, Navy Yard, Brooklyn, N.Y.	30.39‡	771.9‡	.....	.....	40	4.4	100	NE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Wabash, Boston, Mass.	30.45‡	773.4‡	.....	.....	29	—1.7	78	NNW	3	1.3	.....	.....	2	.....	.....	0.03	0.8	.....	.....	Fair	
Wachusett, S. 16° —′, W 37° —′	30.41‡	772.4‡	.....	.....	77	25.0	91	NW	.....	.....	2	.....	10	.....	N	.....	.....	Smooth	N	Rainy	
Wyoming, Gibraltar, Mediterranean	29.89‡	759.2‡	.....	.....	63	17.2	89	W	.....	.....	3	.....	10	.....	W	.....	.....	Smooth	W	Cloudy	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity; *The error of the barometer is not known. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		Character.	Direction from—		

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S. S. Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitebury.
S. S. Costa Rica																			W. House & R. Lawless.
S. S. Dakota, Capt. H. G. Morse																			Capt. Connolly.
S. S. Georgia																			F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin																			Capt. A. Fuller.
S. S. Wilmington																			R. C. Ghest, 1st Officer.
S. S. Zealandia, Sydney, New South Wales		29.70‡	754.4‡				S			2				S					

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Brittanic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer N. 20° 42′, E. 122° 45′		30.08‡	762.7‡	70	21.1	70	NE			4		2		N		Mod'ate	NE	D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson																			J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andreasen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undutsch.
S. S. Leipzig, Capt. F. Pfeiffer. N. 44° 19′, W. 42° 35′		30.16‡	766.4‡	50.0	10.0	89	NNW			2		10		NE		Mod'ate	N	Drizzling	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 46° 54′, W. 45° 29′		30.07‡	763.8‡				SW			4		5		W		3	E	Cloudy	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness by the scale 0 to 4, do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10	Lo'er 0—10.	Upper. From—	Lower. From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa		30.44‡	773.2‡	45	7.2		N			2		9		NNE	0			Cloudy	Capt. R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.
RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents.																			
S. S. Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES—Miscellaneous.																			
Furnished by the co-operation of the Observers named.																			
Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Barkentine "Carrie Heckle" N. 41° 05′, W. 68° 07′	*	3 38‡	771.6‡	63	17.2		ENE			5		8		ENE	0	Smooth		Fair	B. F. Woodbury.
Brigantine "George" of Halifax. N. 21° 06′, W. 67° 50′	††	29 96‡	761.0‡	80	26.7		Calm			0		2				Mod'te	NNE	Fine	N. B. Foss.
Schooner Harry and Fred																			Capt. George Gardner.
Haytian																			
§ Iron Cross																			Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden.																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; do not distinguish between upper and lower clouds; sea-swell in general terms, as published. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12. *The error of the barometer is not known. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time. *Instrumental error not known.

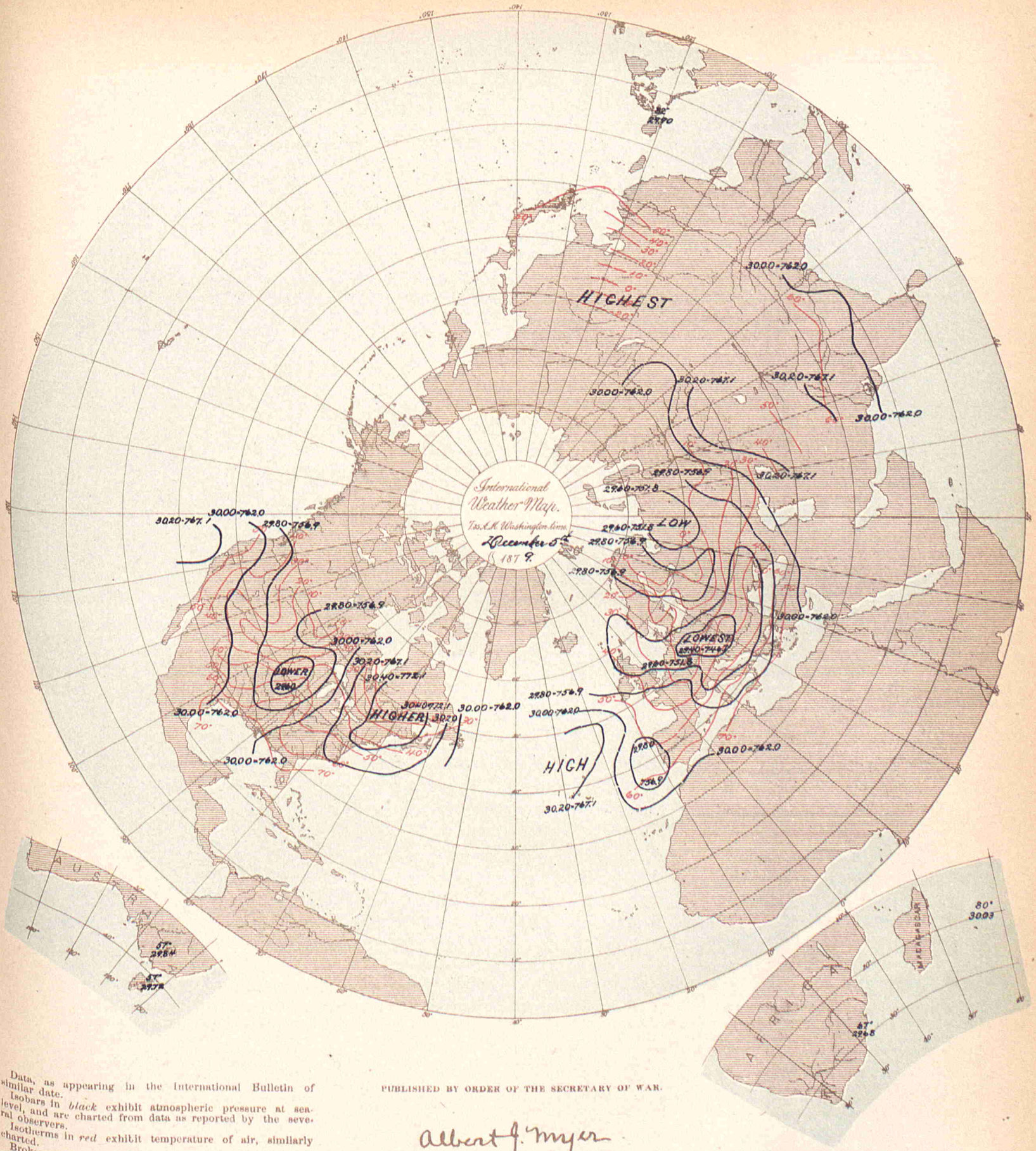
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg'd,) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASS'G'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 6, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO, mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time
1:57 P. M. CAPE TOWN, C. G. H. mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Mogador, Marocco			30.20	767.1	66.7	19.3	84	W			1		5			0.079	2.0	Cloudy	
Nemours			30.02	762.5	61.5	16.4	91	WNW			1		10			0.217	5.5	Covered	Kesxuche.
Algiers			30.01	762.3	59.7	15.4	91	SW			4		10			0.205	5.2	Raining	Tourilliere.
La Calle			29.98	761.4	68.7	20.4	81	WSW			2		5			0.079	2.0	Cloudy	Foufrede.
Tunis																			Jacques.
Sfax			30.00	762.1															Gau.
Saida																			Herbin.
Tebessa			30.03	762.8	61.0	16.1	66	N			3		8			0.008	0.2	Very cloudy	Watrin.
Geriville					61.3	16.3	62	WNW			1		2			0	0	Fair	Brugniuax
Laghouat			30.07	763.6	70.5	21.4	44	NNW			2		5			0	0	Cloudy	Bertrand.
Biskra			30.01	762.2	70.9	21.6	63	SE			1		2			0	0	Fair	Chauvaux

NOTE.—The originals give the amount of cloudiness by the scale 0–4; no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,860? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.32	744.8	29.90	759.4	30.2	—1.0	96	E			8	10				0.059	1.5		Prof. Ivan Stozir.
Cracow, I. R. Observatory	28.93	734.9	29.75	755.7	15.4	—9.2	88	W	11.2	5.0		8				0.047	1.2		Dr. Wierzbicki.
Eperies	28.76	730.4	29.69	754.0	22.6	—5.2	56	N			2	Haze			Calm	0	0		Julius Mikolik.
Gratz	28.52	724.4	29.84	757.8	27.3	—2.6	67	SSE			2	0				0.016	0.4		Andreas Rospini.
Hermannstadt	28.21	716.4	29.69	754.2	28.4	—2.0	76	NW			4	3				0	0		Prof. A. Gottschling.
Kremsmünster	28.35	720.1	29.76	756.0	24.8	—4.0	87	WNW			1	10				0.472	12.0		Prof. C. Wagner.
Lemberg	28.55	725.2	29.58	751.4	20.5	—6.4	97	NW			2	6				0.496	12.6		Dr. T. Stanecki.
Pola	29.71	754.5	29.82	757.5	40.3	4.6	59	W			1	0				0	0		I.R.Hydrographic Office.
Szathmar	29.28	743.7	29.77	756.2	23.4	—4.8	88	SW			4	9				0.228	5.8	Raining	Pet. Panesics, S. J.
Szegedin	29.56	750.8	29.85	758.3	28.9	—1.7	98	NW			2	6				0	0		Karl Stancel.
Trieste	29.72	755.0	29.83	757.6	40.3	4.6	60	Calm			0	0				0	0		P. Busin.
Vienna	29.03	737.4	29.76	756.0	29.7	—1.3	61	W			2	6				0.024	0.6		I.R. Central Met. Ob'sy

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 337 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C., as Second-Class Matter

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.94	760.5	30.64	763.0	31.0	— 0.6		NW	8	3.6			2			0	0	Misty	W. Boswell.
Ardrossan	30.04	763.0	30.06	763.5	32	0.0		SE			1		1					Blue sky	Wm.McNeil & G.Carrick
Armagh, (Observatory)	29.86	758.4	30.11	764.8	35.1	1.7		SW	3	1.3			0					Blue sky	S. Call.
Bidston (Liverpool Obs)			30.10	764.5	31.7	— 0.2		ESE	7	3.1			1					Blue sky	John Hartnup.
Bolton (Sharples)	29.56	750.8	30.09	764.3	27.5	— 2.5		N	6	2.7			0					Blue sky	Thomas Mackereth.
Bradford, Yorkshire	29.70	754.4	30.10	764.5	26.5	— 3.1		NW			1		10			0.05	1.3	Overcast	J McLandsborough.
Bridgetown, Barbadoes	29.94	760.5	29.97	761.2	80	26.7		NE			2		4					D. clouds	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	29.99	761.7	30.10	764.5	29.2	— 1.6		NNW			1		1			0.450	11.4	D. clouds	H. Todd.
Cardington			30.06	763.5	27.0	— 2.8		N			0–1		1					Blue sky	John McLaren.
Chatham (School M. E.)	29.99	761.7	30.12	765.0	31.2	— 0.4		NW			1		0					Blue sky	J. Carmell, Sapper, R.E.
Donaghadee	30.05	763.3	30.09	764.3	41	5.0		WSW			2		5					D. clouds	J. Mac Gowan.
Dover	30.02	762.5	30.05	763.3	34	1.1		NNE			2		7					Snowing	J. Costello.
Falmouth (Observatory)	29.82	757.4	30.06	763.5	41.9	5.5		N			1		10					Raining	The Staff.
Fort Napier, Natal	27.44	697.0	29.66	753.4	73.0	22.8		NE			1		10					Overcast	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone																			
Galway (Queen's College)			30.05	763.3	41	5.0		Calm			0		1					Blue sky	Prof. A. H. Curtis.
Gibraltar, Mediterranean																			Sergt.Wm. Allen, A. H.
Glasgow, (Observatory)	29.86	758.4	30.06	763.5	29.0	— 1.7		NE			2		0					Foggy	D. G. Maclean. [C.
Great Yarmouth	30.02	762.7	30.04	763.0	34	1.1		NE			2		4					D. clouds	G. T. Watson.
Greenwich (Royal Obs'y)	29.90	759.4	30.08	764.0	31.7	— 0.2		N			1		0					Blue sky	The Staff, fer G.B.Airy.
Guernsey	29.80	756.9	30.03	762.7	41	5.0		NNE			2		3					D. clouds	Dr.S.E Hoskins, F.R.S.
Helston	30.18	766.6	30.31	769.9	40	4.4		E			2	3ck				0	0	Fine	M. P. Moyle.
Holyhead	30.02	762.5	30.10	764.5	37	2.8		SE			1		0					Blue sky	John Tilston.
Jersey	29.75	755.6	30.06	763.5	40.2	4.6		NE			2		7					Misty	J. Fisher.
Kew (Observatory)	30.05	763.3	30.09	764.3	33.0	0.6		NE	8	3.6			0					Blue sky	The Met'g'l Office.
Leicester (Museum)	29.82	757.4	30.10	764.5	28.2	— 2.1		NE			1		0					Blue sky	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	29.76	755.9	29.84	757.9	67.4	19.7		SW			2		8k					Overcast	A. King.
Nairn																			W. D. Penny.
Nassau, Bahamas			30.02	762.5	69.5	20.8		S			1		4					D. clouds	C. S. Duncombe.
Nottingham (Observatory)	29.93	760.2	30.14	765.5	24.3	— 4.3		Calm			0		0			0.170	4.32	Blue sky	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.56	750.8	30.10	764.5	36.2	2.3		ENE			1		0					Blue sky	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)			30.11	764.8	35	1.7		NE			1		0					Blue sky	H. E. Bellamy.
Plymouth	29.96	761.0	30.04	763.0	35.0	1.7		E			2		7					D. clouds	John Merrifield.
Prince Town																			W. H. Tooker.
*Roche's Point	30.01	762.2	30.07	763.8	42	5.6		N			1		5					¾ clouded	Wm. Kennedy.
St. Ann's Head	29.90	759.4	30.07	763.8	37	2.8		E			2		10					Misty	John C. Walker.
Sandwick Manse, Orkneys			29.99	761.7	33	0.6		WNW	6	2.7			4					Showery	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	29.58	751.3	29.64	752.8	60.2	15.7		SSW			2		8					D. clouds	Serg't W. H. Lyne.
Sheffield	29.80	756.9	30.10	764.5	22.9	— 5.1		Calm			0		7			0	0	Foggy	W. F. Cooper.
Silloth Rectory	30.08	764.0	30.11	764.8	21.0	— 6.1	75	Calm			0		0			0	0	Blue sky	Francis Redford, A. M.
Stonyhurst (Observatory)			30.08	764.0	22.0	— 5.6		NNE	4	1.8			6			Blank	Blank	Misty	Rev. S. J. Perry.
Stratfield, Turgiss	29.86	758.4	30.08	764.0	35.6	2.0		SE			2		0					Blue sky	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	30.00	762.0	30.10	764.5	43	6.1		E			2		8					Gloomy	W. Newcombe.
Valencia Observatory)	30.06	763.5	30.09	764.3	45.7	7.6		NNE	4	1.8			6					D. clouds	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)																			The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.44	646.2			86	30.0		SW					0						Robert Burnet.
Constable, Cape Colony	26.66	677.2			74	23.3		W					4						Francis Abbott, F.R.A.S.
Hobart Town, Tasmania			29.68	753.9	59.0	15.0	88	SW			1		7k			0.05	1.3		Andrew Gibb.
Leith (Restalrig Park) Sc'tl'd			30.04	763.0	35.6	2.0		W			1	5ck				0	0	Cloudy	C. Meldrum.
Mauritius (Observatory)	29.86	758.4	30.05	763.2	80.3	26.8	59	ENE	15.5	6.9		2	3		ENE	0	0	Fine	R. L. J. Ellery.
Melbourne (Observatory)	29.56	750.8	29.65	753.1	61.7	16.5	88	SW	6	2.7			1			0.05	1.3	Very fine	J. Youngclause.
Monach Lt-house, Hebrides			30.03	762.7	42	5.6		WSW			3	3	0	NW		0.2	5.		
North Unst, Shetland Is			29.93	760.2				W			2	5	7	W		0	0		

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters; Prince Town, 1,400 feet, or 427 meters; Colesberg Bridge and Constable, unknown.

BRITISH MARINE SERIES. VESSELS.															Sea or swell: Description scale 0—9	Sea or swell: Direction from-		
H. M. S. Alert, Alert Harbor, Patagonia			29.47‡	748.5‡	46.5	8.1		NW			3		8				Hailing	Capt. J.P. Maclear, R.N.
H. M. Sloop Gannet, S. 18° 28′, W. 70° 21′			29.94	760.5‡	65.5	18.6		Calm			0		10				Overcast	Commander E. Bourke, R. N.
H. M. S. Magpie, Shaweishan I'd., China			30.36‡	771.1‡	34.5	1.4		NW			7–9		3				Squally	Capt. R. H. Napier, R.N.
Brig Alliance, N. 45° 55′, W. 36° 15′			29.70‡	754.4‡	53	11.7		WSW			6		9				Showery	Capt. W. Scott.
Barque Belle-Isle, N. 24° 45′, W. 73° 45′			29.97	761.2	81	27.2		Calm			0		3			2	E	D. clouds	Capt. A. J. Brown
City of Cashmere, N. 21° 25′, W. 124° 48′			30.05‡	763.3‡	66.6	19.2		ENE			5		10					Overcast	Capt. W. M. Grieve.
Barque Fedalma, N. 13° 10′, W. 60° 40′			29.92	760.0	80	26.7		NE			3		6			3	NE	D. clouds	Capt. H. L. Fox.
S. S. Iron Cross, N. 26° 00′, W. 85° 50′			29.93	760.2	78	25.6		SSW			3		5			2	ESE	D. clouds	Capt. W. Randall.
S. S. Peruvian, N. 55° 20′, W. 12° 40′			30.05	763.3	49	9.4		N			4		3			3	NNW	D. clouds	Capt. W. H. Smith.
S. S. Strathleven, S. 37° 35′, E. 144° 55′			29.66‡	753.4‡	67.5	19.7		NNE			3		6					D. clouds	Capt. C. W. Pearson.
Light House Tender Richmond, N. 25° 38′, W. 79° 18′			29.97	761.2	73	22.8		SE			2		2					Blue sky	Capt. W. H. Stewart.
S. S. Gordon Castle																			Capt. Wm. Waring.
German Brig "W. von Freeden"																			Capt. H. V. Freeden.
S. S. Ethiopia																			Capt. Campbell.
S. S. Sunbeam																			Capt. C. M. Dobson.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.19	665.2	29.91	759.7	60.4	15.8	74	NE			4		0			0	0		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.95	760.6	29.99	761.8	26.4	—3.1	91	E			2		8						
Faröe	30.01	762.2	30.03	762.7	27.9	—2.3	88	NE			2		1						
Godthaab (Greenland)																			
Stykkisholm (Iceland)	29.61	752.2	29.66	753.3	32.7	0.4	85	SW			6		8						
Thorshavn (Faröe)	29.89	759.3	29.93	760.2	36.7	2.6	84	W			2		8						
Vestervig	29.97	761.1	30.08	763.9	21.4	—5.9	100	N			2		1						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.47	748.6	30.02	762.6	36.5	7.5	75	NE			1		5km		N	0.008	0.20	Cloudy	Collignon, Director.
Amiens, Normal School	29.77	756.2	29.89	759.2	30.6	—0.8	77	N			1		0			0	0	Clear	Vaillant, Director.
Arras, Engin'r School	29.73	755.2	30.00	761.9	24.8	—4.0	73	N			2		0			0	0	Clear	Klein, Commandant.
Avignon, Normal School	29.91	759.8	29.99	761.8	41.9	5.5	21	N			0–1		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.35	745.5	29.94	760.5	27.0	—2.8	82	NE			1		0			0.244	6.2	Clear	C. Saillard, Director.
Beauvais, Normal School	29.73	755.2	30.02	762.4	27.5	—2.5	76	N			2		0			0.069	1.75	Clear	Frère Eugene Marie.
Besançon, Normal School	29.00	736.6	29.94	760.5	28.2	—2.1		SW			4		10		SW	0	0	Covered	A. Carré, Director.
Bourg-en-Bresse, N. School	29.12	739.7	30.00	762.0	30.9	—0.6	100	S			1		8n	S	S			Very cloudy	Mariot, Director.
Bourges, Normal School	29.35	745.6	29.93	760.2	34.2	1.2	79	W			3		5k		W			Snowing	M. Gence, Director.
Brest, Naval Observatory	29.80	757.0	30.13	765.2	45.0	7.2	86	Calm			0		4		NW	0.098	2.50		Ch. de Kermaree, Dir.
Caen, Normal School	29.89	759.2	29.97	761.1	37.8	3.2	50	E			1–2					0.474	12.05		M. Bletrin, Director.
Carcassonne, N. School	29.65	753.1	30.09	764.2	35.6	2	79	W			2		5	W	W	0	0	½ covered	September, Director.
Châlons-sur-Marne, N. Sch'	29.61	752.2	29.96	760.9	22.5	—5.3		NW			1		0					Clear	Jadot, Director.
Chartres, Normal School	29.40	746.7	30.00	761.9	30.2	—1	73	N			1		2		SE	0.051	1.3		Vergier, Director.
Clermont-Fd, Puy de D. Obs	28.54	725.0	29.95	760.6	38.3	3.5	58	NW			6		8		NW			Showery	Alluard, Director.
Commercy, Normal School	28.94	735.1	29.85	758.3	24.1	—4.4	95	NW			2		2n		NW	0	0	Slightly cld'y	Dr. Coullet, Director.
Commune de Gréasque*	28.82	732.0	29.96	761.0	38.8	3.8	49	NW			2		5		SW	0	0		L. Kina, Director.
Grenoble, Normal School	29.26	743.2	30.08	763.9	29.5	—1.4		E			1		10					Snowing	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	29.77	756.1	29.99	761.7	45.3	7.4	83	NW			1		0			0.098	2.5	Clear	Mouillot, Director.
Le Mans, Normal School	29.69	754.0	30.00	762.0	39.2	4	67	N			2		5		N	0.035	0.9	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	28.97	735.7	29.92	759.9	30.2	—1	92	SW			3		10	SW	SW	0	0	Covered	A. Baudry, Director
Lorient, Naval Observatory	29.93	760.2	30.04	762.9	43.2	6.2	88	NW			1				NW	0	0		Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.33	745.0	29.98	761.5	31.6	—0.2	85	S			1		10					Snowing	Ch. André, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.65	753.2	29.93	760.2	40.3	4.6	69	NW			1		6		NW	0	0		E. Stephan, Director.
Mirecourt, Normal School	28.77	730.8	29.88	758.9	25.0	—3.9	81	NNW			3		n		NNW	0	0		Barbier, Director.
Mont-Louis	24.80	629.9	29.96	760.9	28.4	—2.0	44	NNW	13.0	5.8			5		NW	0	0		M. Cave.
Nice	29.82	757.5	29.86	758.4	49.6	9.8	37	N			1		1	NW	N	0	0	Clear	M. Boissière, Director.
Nismes, Normal School	29.76	755.8	29.93	760.2	46.4	8	59	NE			1		2		W	0	0	Slightly cld'y	M. Boyer, Director.
Paris, Montsouris Obs'y	29.72	754.8			28.0	—2.2	79	NNE			3		0			0.102	2.6		Marié Davy, Director.
Perpignan	29.90	759.5	30.01	762.3	43.2	6.2	47	NW	11.2	5.0			10		WNW	0	0		Dr. Fines.
Pic du Midi (Plantade) H. P.	22.27	565.7			15.8	—9.0									N	0	0		Gen'l de Nansouty.
Pic du Midi (Summit) H. P.																			M. Baylac.
Privas, Normal School	28.88	733.5	29.99	761.8	32.9	0.5	92	NW			1		1	S	NW	0	0	Clear	M. Tallieu
Puy de Dome (Summit) Obs	24.88	632.0			15.8	—9.0	88	W			4					0	0	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	30.00	761.9	30.03	762.7	39.6	4.2	90	S			2		0			0	0	Clear	Lt E. Decante, Director
Rouen, Normal School	29.95	760.6	30.03	762.8	33.1	0.6	56	NE			1		0			0.256	6.5	Clear	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.98	761.4	30.01	762.2	41.2	5.1	69	NNE			2		0			0.179	4.55	Clear	Lt. Hercouet, Director
Saint Maur (near Paris)	29.85	758.1	30.01	762.3	29.8	—1.2	72	N			3		0?			0.106	2.7	Snowing?	F. Renou, Director.
Tarbes, Normal School	28.99	736.3	30.14	765.6	32.0	0.0	81	NW			3		0			0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.20	741.7	29.92	760.0	32.0	0	93	E			1		0			0	0	Clear	M. Julier Mercadier.
Tours	29.77	756.1	29.97	761.1	30.2	4.0	83	WNW			1		9		NNW	0	0	Al. covered	Cousin-Marquet.
Versailles, Observatory	29.52	749.7	30.01	762.2	29.1	—1.6	68	NNE			1		0			0.094	2.41	Clear	Dr. A. Beriguy, Director
Villefranche-sur-Saone, N.S	29.22	742.2	29.97	761.3	32.0	0	100	SE			1		5		W	0	0	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.92	760.0	29.95	760.7	79.2	26.2										0.04	1.		L'Abbé Marchési
Zi-Ka-Wei (near Shanghai	30.41	772.3	30.43	772.9	29.5	—1.4	42	NW	32.7	14.6			0			0	0	Clear	Marc Dechevrens.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fal as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinctior between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in gene al terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferraad is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Torbes 308.41 m., or 1,012.07 ft.; Mont-Louis, 1,686.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has beer added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.87	733.4	29.70	754.3	18.7 — 7.4		90	NW			4		6ks			0.173	4.4	Snowing	Prof. Dr. Hoh.
Berlin	29.62	752.3	29.80	757.0	19.8 — 6.8		88	NE			2		10			0.173	4.4		Prof. Dr. Arndt.
Breslau	29.24	742.8	29.77	756.2	15.6 — 9.1		93	NW			3		7			0.104	2.64		Royal University Obs'y.
Carlsruhe	29.32	744.6	29.76	755.9	27.7 — 2.4		92	SW			3		10	SW		0.039	1.0	Snowing	Albert Senz.
Cassel	29 17	741.0	29.78	756.3	14.7 — 9.6		85	N			3		7	N		0.270	6.84	Snowing	Dr. H. Möhl.
Emden			29.98	761.6	28.9 — 1.7		84	NE			2		5			0	0		Prof. Dr. Prestel.
Frankfort on the Main	29.46	748.2	29.84	757.8	22.8 — 5.1		77	NNE			2		9			0.071	1.8	Snowing	Physical Society.
Friedrichshafen	28.31	719.0	29.80	757.0	28.8 — 1.8		88	W			8		10	W		0.126	3.2	Snowing	Chief Telegrapher Wilhelm.
Hamburg	29.85	758.2	29.92	760.0	25.2 — 3.8		62	ENE			5		10			0.209	5.3		Capt. P. F. A. Hegerman.
Kiel	29.95	760.6	29.96	761.0	27.1 — 2.7		95	NE			3		8			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.80	756.9	29.89	759.2	13.6 —10.2		75	NE			2		4			0	0		Prof. E. Luther.
Köslin			29.88	758.9	21.2 — 6.0			E			2		4			0	0		H. Müller.
Leipsic Observatory	29.37	745.9	29.82	757.5	12.0 —11.1		93	NW			0		7			0.091	2.3	Hazy	Prof. Dr. Bruhns, Privy Counselor
Magdeburg	29.60	751.9	29.83	757.6	18.0 — 7.8		77	NE			1		10ks	NE		0.201	5.1	Snowing	Dr. Assmann.
Memel	29.86	758.4	29.91	759.6	12.9 —10.6		90	NNE			3		5ks						Reinbrecht & Issermann.
Munich (München)	27.86	707.5	29.70	754.3	26.4 — 3.1		87	W			8		10			0.114	2.9	Snowing	Dr. C. Lang.
Neufahrwasser	29.87	758.8	29.89	759.2	25.7 — 3.5		67	NE			4		5			0.008	0.2		A. Lothes.
Neustadt (Palatinate)	29.18	741.2	29.70	754.4	27.5 — 2.5			W			8		10	W		0	0		Reallehrer Dicknether.
Posen	29.48	748.8	29.79	756.6	19.9 — 6.7		82	N			1		9			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	29.24	742.6	29.81	757.2	28.8 — 1.8		85	WSW			3		10	W		0.025	0.63		Imp. University Observatory.
Stuttgart	28.74	730.0	29.72	755.0	27.5 — 2.5		82	N			1		10			0.102	2.6		Prof. Dr. Schoder.
Weissenburg (Bavaria)	28.18	715.7	29.72	754.9	24.3 — 4.3		95	W			2		10			0.047	1.2	Snow-fog	Reallehrer J. Hopfner
Wustrow	29.89	759.2	29.91	759.8	27.7 — 2.4		87	ENE			2		10s			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen 1343.3 meters, or 1,376.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 430 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.39	746.6	29.78	756.4	69.3	20.7		SW			1.5		0					Clear	Dr. J. F. J. Schmidt

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	30.06	763.5	30.11	764.8	70.8	21.6	64	WNW	13	5.8			7	WNW		0	0	D. clouds	
Deesa	29.57	751.1	30.05	763.3	76.8	24.9	16	NNE	8.6	3.8			0			0	0	Blue sky	
Bombay	29.87	758.6	29.90	759.6	76.3	24.6	73	NNW	13	5.8			3	WNW		0	0	D. clouds	
Poona (Yerrowda)	28.06	712.7	29.92	759.8	79.8	26.6	30	ENE	12	5.4			1			0	0	D. clouds	
Belgaum	27.37	695.2	29.90	759.6	77.2	25.1	50	ENE	7	3.1			0			0	0	D. clouds	
Lahore	29.33	745.0	30.12	765.0	56.6	13.7	36	Calm	0.4	0.2			0			0	0	Blue sky	
Roorkee	29.13	739.9	30.07	763.8	60.8	16.0	34	NW	2.3	1.0			0			0	0	Blue sky	
Agra	29.49	749.0	30.08	764.0	63.8	17.7	43	N	1.7	0.8			0			0	0		
Nagpur	28.96	735.6	30.02	762.5	73.2	22.9	32	Calm	3.4	1.5			5	SW		0	0	D. clouds	
Jubbulpore	28.65	727.6	30.05	763.3	68.1	20.1	29	E	2.7	1.2						0	0	Blue sky	
Lucknow	29.68	753.8	30.07	763.8	60.5	15.8	50	NNW	2.3	1.0			0			0	0	Blue sky	
Allahabad	29.74	755.4	30.07	763.8	59.7	15.4	57	Calm	1.3	0.6			0			0	0	Blue sky	
Patna	29.86	758.3	30.04	763.1	67.4	19.7	46	W	0.2	0.1			0			0	0	Blue sky	
Hazaribagh	27.96	710.2	30.05	763.3	61.0	16.1	41	NW	5.1	2.3			0			0	0	Blue sky	
Cuttack	29.92	759.9	30.00	762.1	69.9	21.1	70	NE	1.0	0.4			0			0	0	Blue sky	
Calcutta (Alipore)	29.98	761.4	30.00	761.9	68.4	20.2	74	Calm					0			0	0	Blue sky	
Goalpara	29.60	751.9	30.00	762.1	67.0	19.4	74	Calm	3.8	1.7			0			0	0	Blue sky	
Chittagong	29.88	758.9	29.97	761.3	72.6	22.6	83	WNW	3.3	1.4			1			0	0	Misty	
Sibsagar	29.70	754.3	30.04	763.1	65.3	18.5	78	ENE	0.9	0.4			4			0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,361 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—.	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	29.43	747.6	29.87	758.6	33.6	0.9	57	Calm	0	0	.....	.....	0	.....	.....	0.051	1.2	.....	Prof. Giovanni Clodig.
Milan	29.27	743.5	29.81	757.1	36.0	2.2	28	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.73	755.2	29.85	758.1	32.2	0.1	60	N	1.3	0.6	.....	.....	0	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	28.85	732.7	29.81	757.1	32.0	0.0	63	NNW	3.8	1.7	.....	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.63	752.6	29.83	757.7	48.2	9.0	42	S	3.8	1.7	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	27.84	707.0	29.84	758.0	39.2	4.0	14	W	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.80	756.9	29.85	758.2	41.0	5.0	29	W	10.5	4.7	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.60	751.9	29.87	758.7	43.7	6.5	32	S	.....	.....	2	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.70	754.3	29.79	756.6	47.8	8.8	36	ESE	1.3	0.6	.....	.....	0	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.66	753.3	29.84	757.9	50.9	10.5	31	N.	8.7	3.9	.....	.....	3	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.55	750.5	29.81	757.1	55.9	13.3	73	NNE	3.1	1.4	.....	.....	10	NW	.....	0.083	2.1	.....	Prof. C. De Giorgi.
Cosenza	28.95	735.2	29.85	758.1	57.7	14.3	78	NW	1.3	0.6	.....	.....	9	.....	.....	0.322	8.2	.....	Prof. D. Conti.
Cagliari	29.63	752.7	29.84	757.9	51.8	11.0	66	NW	.....	.....	2	.....	10	.....	.....	0.110	2.8	.....	Prof. A. Pacinotti.
Palermo	29.60	751.8	29.85	758.3	55.4	13.0	94	NE	4.9	2.2	.....	.....	10	.....	.....	0.098	2.5	.....	Prof. G. Ciacciatore.
Syracuse	29.78	756.4	29.85	758.3	65.7	18.7	74	SW	7.4	3.3	.....	.....	10	SW_1	.....	0	0	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.29	743.9	29.80	756.9	54.9	12.7	69	SW	1.8	0.8	.....	.....	9	.....	.....	0.094	2.4	.....	Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.74	755.4	29.76	755.9	54.7	12.6	69	SW	15.3	6.8	.....	.....	10s	.....	.....	0.036	0.91	Gloomy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.64	752.8	29.85	758.2	44.2	6.8	84	S	15.7	7.0	.....	.....	10n	.....	.....	0.400	10.16	Raining	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.81	757.2	29.87	758.7	49.7	9.8	88	NNW	2.5	1.1	.....	.....	10s	.....	.....	0.875	22.23	Cloudy.....	The Staff.
Wakayama	29.68	753.9	29.73	755.1	55.5	13.1	94	SE	0.7	0.3	.....	.....	3ks	.....	.....	0.144	3.66	Fair.....	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	25.02	635.4	30.21	767.3	41.4	5.2	56	Calm	.....	.....	0	.....	6	.....	SE	0	0	Cloudy.....	Prof. L. Perez.
Leon	24.41	620.1	30.21	767.4	50.2	10.1	78	N	.....	.....	1	1c	0	NW	.....	0	0	Clear.....	Prof. M. Leal.
Mazatlan	29.60	753.4	29.92	760.0	66.4	19.1	80	N	.....	.....	2	8c	0	SW	.....	0	0	Cloudy.....	I. Guerrero, C. E.
Mexico, Central Observatory	23.05	585.4	30.17	766.4	46.6	8.1	73	Calm	0	0	.....	2c	0	.....	.....	0	0	Fine.....	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	46.9	8.3	63	SE	.....	.....	1	4c	0	SW	.....	0	0	Fair.....	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.37	593.5	30.25	768.4	44.6	7.0	51	N	0.2	0.1	.....	0	0	.....	.....	0	0	Fine.....	Prof. P. Spina.
San Luis Potosi	24.15	613.3	30.25	768.4	46.9	8.3	56	E	.....	.....	1	5	0	W	.....	0	0	½ clouded...	G. Barroeta, M. D.
Tlacotalpam	29.93	760.3	29.95	760.6	73.9	23.3	90	N	.....	.....	2	2	4	NW	NE	0	0	Cloudy.....	Prof. M. M. Chàzaro
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell
Zacatecas	22.53	572.3	30.21	767.4	50.2	10.1	57	Calm	0	0	.....	3cs	0	.....	.....	0	0	Clear.....	J. C. Castrillon

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column; the instrumental correction —0.88 mm., or —0.035 inch, has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.99	761.7	29.99	761.7	32.0	0.0	.....	NNE	.....	.....	4	.....	.....	.....	.....	0.020	0.5	.....	
Groningen	29.90	759.4	29.95	760.8	28.2	— 2.1	.....	NE	.....	.....	1	.....	.....	.....	.....	0.071	1.8	.....	
Helder	29.97	761.3	29.97	761.3	28.9	— 1.7	.....	NNE	.....	.....	1	.....	.....	.....	.....	0.012	0.3	.....	
Hellevoetsluis	29.95	760.8	29.95	760.8	30.4	— 0.9	80	NNE	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.92	759.9	29.97	761.1	28.0	— 2.2	73	N	.....	.....	2	.....	5	.....	.....	0	0	Cloudy.....	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.00	762.0	30.06	763.4	32.4	0.2	96	SE	8.5	3.8			8			0.677	17.2		
Brönö	29.91	759.7	29.95	760.7	21.6	— 5.8	69	E	18	8			5			0	0		
Christiana	29.92	760.0	30.08	764.1	15.8	— 9.0	100	E	0	0			10			0	0	Foggy	
Tromsö	29.88	758.9	29.92	760.0	21.6	— 5.8	69	SW	25	11			10			0	0		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	30.06	763.4	30.25	768.3	55.0	12.8	66	ESE	6.9	3.1			6			0	0		Dr. J. A. Sampaio.
Campo Major	28.92	734.6	29.94	760.5	48.9	9.4	86	N	11.9	5.3			8			0.366	8.3		Dr. A. M. R. dos Santos.
Funchal (Maderia)	30.07	763.8	30.16	766.0	66.6	19.2	50	SE	3.1	1.4			6			0	0		Capt. D. A. de Cunha.
Lisbon Observatory	29.69	754.0	30.05	763.3	52.3	11.3	63	NNE	15.0	6.7			3			0.358	9.1		The Staff.
Ponta Delgada (Azores)	30.19	766.8	30.26	768.6	59.0	15.0	48	ESE	15.0	6.7			4			0	0		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.	Sea or swell. Height scale 0-9	Sea or swell. Direction form—		
Bartholomew Dias				A. G. da Silva Costa, Com'd't.
D. Fernando				A. M. de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.				J. C. M. Cabrate, 1st Lt.
Mindello				J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos				H. de C. C. e Athayde.
Rio Duro				J. T. d'Oliveria, Com'd't.
Rio Lima. Capt. S. C. da Silva Costa. Santiago, Cape Verd Ids.			Blue sky.	A. D. de Fonseca Sarurento.
Sà da Bandeira				F. Teixeira da Silva, Comd't.
Sado, Capt. J. A de Brito Capello, St. Paul de Loando			D. clouds	Luiz Aprá, Q. M.
Tejo, Capt. J. M. T. Guimaraes, Macao, China			Blue sky	J. G. Felgo, 2nd Lieut.

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sà da Bandeirà gives the barometer reduced tofreezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	29.69	754.0	29.71	754.5	9.1	—12.7	92	SSW	13	6			10						Capt. Sseliwerstow
Astrakhan	29.81	757.1	29.72	755.0	48.7	9.3	79	SSW	7	3			10						Capt. Wisganow.
Barnaul	29.34	745.2	29.88	758.9	10.4	—12.0	95	Calm	0	0			8					Light clouds	Meteorological Obs.
Dorpat	29.87	758.6	30.13	765.3	0.7	—17.4	89	NE	4	2			0						Prof. Dr. Weihrauch.
Ekaterinburg	28.58	725.9	29.61	752.0	9.9	—12.3	93	Calm	0	0			10					Snowing	Meteorological Obs.
Irkutsk																			
Kasan	29.61	752.0	29.91	759.7	6.7	—21.5	88	NW	2	1			2						Physical Cabinet.
Kertch																			Lagorio.
Kieff	28.90	734.0	29.58	751.2	17.8	— 7.9	100	NE	2	1			10n						Physical Cabinet.
Krotkowo*	29.37	746.1	29.91	759.6	— 7.2	—21.8	72	NNW	0	0			1						Cand. Fatjanow.
Lugan	29.14	740.2	29.35	745.5	35.2	1.8	96	ESE	2	1			10			Bl'nk	Bl'nk		Meteorological Obs
Moscow	29.41	746.9	30.02	762.5	— 1.1	—18.4	89	NNW	4	2			10s						Meteorological Obs.
Nertchinsk	28.05	712.4	30.72	780.2	—17.3	—27.4	75	E	2	1			0						Meteorological Obs.
Nikolaiev	29.48	748.9	29.56	750.7	36.3	2.4	100	N	4	2			10n					Foggy	Kurdakof.
Nukuss	29.63	752.5	29.85	758.3	47.5	8.6	71	Calm	0	0			2ks						
Orenberg																			
Pekin (China)	30.39	771.8	30.53	775.4	19.4	— 7.0	25	NW	20	9			0						Physical Observatory.
St. Petersburg	30.09	764.2	30.10	764.6	7.3	—13.7	92	WNW	2	1			10kn					Light clouds	Central Physical Obs.
Tashkend	28.41	721.7	30.00	762.1	47.5	8.6	71						5						Teich, A. M.
Tiflis	28.48	723.3	29.91	759.6	52.0	11.1	78	Calm	0	0			7cs					Light clouds	Physical Observatory.
Vladivostock																			
Warsaw	29.22	742.1	29.67	753.6	16.7	— 8.5	88	NNE	13	6			10n					Snowing	Astronomical Obs.
Wilna	29.41	747.0	29.86	758.5	12.2	—11.0	76	NE	4	2			10					Heavy clouds	Astronomical Obs.
Yenisiesk	29.96	760.9	30.28	769.0	5.9	—14.5	77	S	9	4			9						Marks.

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 400 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	29.87	758.7	29.98	761.4	45.3	7.4	57	NNE	2.4	1.06			10			0.078	1.99	Raining	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.08	764.0	30.14	765.5	42.3	5.7	72	E	0.8	0.35		2	2	N		0.083	2.1	Cloudy	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.02	686.4			30.7	— 0.7	81	NE	11.1	4.96		0	4			0	0	Cloudy	Domingo Martin y Perez
Madrid, Royal Observatory	27.67	702.8	29.97	761.1	41.5	5.3	68	NE	21.6	9.66		0	2			0.394	10.0	Clouds	The Staff.
Murcia, Met. Obs'y	29.69	754.0	29.84	757.8	62.6	17.0	74	SW	2.6	1.14		2	3	SE		0.094	0.24	Misty	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.19	741.5	30.11	764.9	44.6	7.0	56	NNE	20.6	9.2			1			0	0	Almost clear	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	29.92	759.8	29.98	761.5	65.4	18.6	89	Calm	0	0		1c	0	W		0	0	Clear.	Benito Vines S. J.
Manilla, Phillippine Islands	29.89	759.1	29.94	760.4	79.7	26.5	79	NE	0	0		0	1s		E	0	0	Fine	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.89	759.1	29.99	761.7	61.2	16.2	71	WNW	16.2	7.2		0	7		W	0.026	0.6		Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.88	759.0	29.97	762.3	72.3	22.4	88	SW	0	0		2ks	0	SW		0	0	Clear.	Enrique Gadea, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.11	764.8	30.15	765.8	—13.4	—25.2	.....	SW	.....	.....	.....	.....	0	.....	.....	0	0	.....	
Umea	30.13	765.2	30.18	766.5	— 1.5	—18.6	100	NW	.....	.....	2	.....	10	.....	.....	0	0	.....	
Hernosand	30.10	764.4	30.15	765.7	18.7	— 7.4	95	Calm	.....	.....	0	.....	10	.....	.....	0.201	5.1	.....	
Stockholm	29.93	760.3	30.11	764.8	20.1	— 6.6	84	NE	.....	.....	2	.....	10	.....	.....	0.043	1.1	.....	
Wisby	29.93	760.3	29.99	761.8	21.6	— 5.8	74	ENE	.....	.....	6	.....	10	.....	.....	0.035	0.9	.....	
Sub-Series.																			
Upsala	30.02	762.5	30.11	764.7	18.7	— 7.4	92	ENE	6.0	2.7	.....	.....	10	.....	.....	0.009	0.23	Snowing...	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.48	723.5	29.99	761.7	29.7	— 1.3	79	SW	.....	.....	3	.....	10	.....	.....	.....	.....	Sleeting.....	The Observatory.
Zurich	28.13	714.5	29.86	758.5	27.3	— 2.6	84	W	.....	.....	6	.....	10	.....	.....	0.110	2.8	Covered.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —3.6 mm.; Thermometer, —4.3 Cent.; Relative Humidity, 0 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.69	754.2	65.3	18.5	64	SW	19	8.5	.....	.....	8	.....	SW	0.843	21.4	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.86	758.5	56.8	13.8	.....	SW	.....	.....	1	.....	10	.....	.....	0.12	3	Covered.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.94	760.5	30.06	763.4	68.4	20.2	64	W	.....	.....	1	4c	.....	.....	.....	0	0	D. clouds.....	Prof. C. V. A. van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	30.39	771.9	30.46	773.7	17.5	— 8.1	92	Calm	0	0	.....	8ck	2ks	SW	.....	0	0	Cloudy.....	G. A. Blair.
Charlottetown, P. E. Island	30.43	772.9	30.47	773.9	27.1	— 2.7	82	SW	6	2.7	.....	.....	10s	.....	.....	0	0	Cloudy.....	H. J. Cundall, C. E.
Cornwall, Ontario	29.78	756.4	29.98	761.5	27.7	— 2.4	95	SW	.....	.....	1	0	9s	.....	.....	0	0	Cloudy.....	James Smith, M. A.
Dalhousie, N. B	30.24	768.1	30.42	772.7	11.5	—11.4	.....	W	.....	.....	1	.....	10s	.....	.....	0	0	Overcast.....	H. A. Johnson.
Father Point, Quebec	30.20	767.1	30.22	767.6	22.6	— 5.2	79	SW	25	11.2	.....	.....	10n	.....	.....	0	0	Threatening	J. McWilliams.
Fredericton, N. B	30.38	771.6	30.45	773.4	19.0	— 7.2	94	NW	1	0.4	.....	.....	10s	.....	S	0	0	Overcast.....	Prof. Harrison.
Fort Garry, Manitoba	28.93	734.8	29.85	758.2	— 2.7	—19.3	91	NE	8	3.6	.....	.....	10n	.....	.....	.....	.....	Heavy snow	James Stewart.
Granton, Ontario	28.56	725.4	29.66	753.4	47	8.3	.....	SE	.....	.....	2	.....	10n	.....	.....	0	0	Cloudy.....	James Grant.
Halifax, N. S	30.37	771.4	30.50	774.7	29.0	— 1.7	93	Calm	0	0	.....	.....	10n	.....	.....	0	0	Cloudy.....	A. Allison.
Hamilton, Ontario	29.40	746.7	29.77	756.1	49.7	9.8	82	SE	.....	.....	3	0	5ks	.....	S	0.02	0.5	Fair.....	Geo. Dickson, B. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.61	752.1	29.95	760.7	42.6	5.8	93	SW	7	3.1	.....	.....	10ks	.....	.....	0	0	Cloudy.....	S. Woods, M. A.
Little Glace Bay, N. S	30.46	773.7	30.50	774.7	31.7	— 0.2	80	W	7	3.1	.....	4c	0	W	.....	0	0	Fair.....	C. H. Rigby.
Montreal, Quebec	29.86	758.4	30.07	763.8	37.0	2.8	79	S	22	9.8	.....	.....	10ks	.....	.....	0.03	0.8	Cloudy.....	C. H. McLeod, C. E.
Moose Factory, Ontario	29.47	748.5	29.50	749.3	33.0	0.6	98	SE	.....	.....	1	.....	10	.....	.....	0.30	7.6	Raining.....	J. R. Nr son.
Norwood	29.16	740.7	29.87	758.7	38.1	3.4	100	SE	.....	.....	4	.....	10s	.....	.....	0.87	22.1	Showery.....	Rev. T. F. Fotheringham, M. A.
Parry Sound, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. R. Mosley.
Peterboro, Ontario	29.10	739.1	29.87	758.7	40.7	4.8	82	Calm	.....	.....	0	.....	10n	.....	.....	0	0	Overcast.....	J. F. Jeffers, M. A.
Port Dover, Ontario	29.05	737.9	29.74	755.4	45.9	7.7	92	SE	7	3.1	.....	.....	10n	.....	.....	0	0	Fair.....	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.04	737.6	29.69	754.1	44.7	7.1	95	E	24	10.7	.....	.....	10ks	.....	S •	0	0	Cloudy.....	M. Payne.
Quebec, Quebec	29.86	758.4	30.20	767.1	24	— 4.4	87	NE	.....	.....	3	.....	10s	.....	.....	0	0	Cloudy.....	Capt. Ashe, R. N.
Rockliffe, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. McIntyre.
St. Andrews, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Gove.
St. John, N. B	30.26	768.6	30.43	772.9	28	— 2.2	88	S	14	6.3	.....	.....	10ks	.....	.....	0	0	Overcast.....	G. Murdock, C. E.
Saugeen, Ontario	28.92	734.6	29.62	752.3	48.1	8.9	82	SE	20	8.9	.....	.....	9ks	.....	.....	0.02	0.5	Cloudy.....	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.41	721.6	29.68	753.9	46.0	7.8	91	SE	14	6.3	.....	2ck	7ks	SW	.....	0	0	Cloudy.....	C. J. MacGregor, M. A.
Sydney, C. B	30.46	773.7	30.51	774.9	25.3	— 3.7	87	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	T. C. Hill, C. E.
Toronto, Ontario	29.41	747.0	29.79	756.7	44.1	6.7	90	E	12	5.4	.....	5cs	8ks	SW	SW	0	0	Cloudy.....	Magnetic Observatory.
Windsor, N. S	30.36	771.1	30.46	773.7	27.5	— 2.5	94	S	1	0.4	.....	.....	10ks	.....	.....	0	0	Overcast.....	Prof. John E. Oram, M. A.
Woodstock, Ontario	28.63	727.2	29.69	754.1	46.7	8.2	95	SE	23	10.3	.....	.....	10ks,s	.....	.....	0.22	5.6	Overcast.....	Prof. J. Montgomery.
Yarmouth, N. S	30.36	771.1	30.42	772.7	34.6	1.4	71	E	6	2.7	.....	0	7s	.....	.....	0	0	Fair.....	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	30.16	766.1	30.43	772.9	24.0	— 4.4	100	NW	.....	.....	.....	.....	10	.....	.....	Inap.	Inap.	Overcast.....	John Delany.
St. Pierre, N. F., l'Hopital Maritime	.....	.....	30.34	770.6	24.8	— 4	.....	N	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	The Commandant.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer. U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer.
Albany, New York	29.98	761.5	30.22	767.6	38	3.3	72	SE	9	4.0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Alpena, Michigan	29.86	758.4	30.49	774.4	40	4.4	91	SE	26	11.6	.....	.....	10m	.....	S	0.10	2.5	Light rain	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	28.60	726.4	29.72	754.9	56	13.2	93	SE	7	3.1	.....	.....	10s	.....	SE	0.54	13.7	Cloudy	
Atlantic City, New Jersey	30.05	763.3	30.07	763.8	50	10.0	100	E	20	8.9	.....	8k	Fog	S	Calm	0.78	19.8	Fair	
Augusta, Georgia	29.69	754.1	29.88	758.9	60	15.6	100	Calm	0	0	.....	.....	10n	.....	S	0.48	12.2	Heavy rain	
Baltimore, Maryland	29.98	761.5	30.03	762.7	50	10.0	100	E	9	4.0	.....	.....	10n;fog	.....	Calm	0.17	4.3	Light rain	
Barnegat, New Jersey	30.06	763.5	30.08	764.0	50	10.0	100	E	27	12.1	.....	5ck	5s	E	E	0.09	2.3	Cloudy	
Bismarck, Dakota	27.86	707.6	29.71	754.6	16	— 8.9	83	NW	15	6.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Boerne, Texas	28.44	722.4	29.78	756.4	43	6.1	75	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Boise City, Idaho	27.10	688.3	30.06	763.5	34	1.1	79	SE	4	1.8	.....	5k	2s	W	W	0.03	0.8	Fair	
Boston, Massachusetts	30.18	766.6	30.34	770.6	39	3.9	82	SE	8	3.6	.....	.....	10s	.....	E	0	0	Cloudy	
Brackettville, Texas	28.72	729.5	29.80	756.9	43	6.1	43	N	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Breckenridge, Minnesota	28.63	727.2	29.68	753.9	10	—12.2	100	Calm	0	0	.....	.....	10s	.....	NW	Inap.	Inap.	Cloudy	
Brownsville, Texas	29.87	758.7	29.92	760.0	58	14.4	88	E	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Buffalo, New York	29.07	738.4	29.75	755.6	50	10.0	72	SE	13	5.8	.....	5cs	2s	W	S	0	0	Fair	
Burkes, Arizona	.....	.....	.....	.....	38	3.3	54	Calm	.....	.....	0	0	2s	.....	Calm	0	0	Clear.	
Burlington, Vermont	29.87	758.7	30.17	766.3	36	2.2	80	SE	13	5.8	.....	5c	2ks	W	SW	0	0	Fair	
Cairo, Illinois	29.40	746.7	29.79	756.7	45	7.2	76	W	11	4.9	.....	.....	10s	.....	W	0.23	5.8	Threatening	
Campo, California	27.42	696.5	29.99	761.7	30	— 1.1	89	E	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Cape Hatteras, N. Carolina	29.96	761.0	29.96	761.0	62	16.7	88	SE	12	5.4	.....	10cs	0	NW	.....	0.02	0.5	Cloudy	
Cape Henry, Virginia	29.93	760.2	29.95	760.7	58	14.4	82	SE	6	2.7	.....	2cs	5s	W	W	0.36	9.1	Cloudy	
Cape Lookout, N. Carolina	30.41	772.4	30.42	772.7	63	17.2	89	SE	19	8.5	.....	.....	10s	.....	E	0	0	Cloudy	
Cape May, New Jersey	30.01	762.2	30.04	763.0	53	11.7	93	E	16	7.2	.....	8ck	Fog	NW	E	0.08	2.0	Cloudy	
Castroville, Texas	29.14	740.1	29.86	758.4	38	3.3	72	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Cedar Keys, Florida	29.86	758.4	29.88	758.9	66	18.9	89	S	14	6.3	.....	0	9s	.....	S	0.02	0.5	Cloudy	
Charleston, South Carolina	29.84	757.9	29.90	759.4	62	16.7	88	SW	4	1.8	.....	0	8s	.....	SW	0.14	3.6	Cloudy	
Charlotte, North Carolina	28.99	736.3	29.78	756.4	58	14.4	100	S	8	3.6	.....	.....	Fog	.....	Calm	0	0	Foggy	
Chattanooga, Tennessee	28.96	735.6	29.75	755.6	50	10.0	93	Calm	0	0	.....	.....	10s	.....	Calm	1.18	30.0	Cloudy	
Cheyenne, Wyoming	23.75	603.2	29.69	754.1	30	— 1.1	47	W	5	2.2	.....	0	5s	.....	W	0	0	Fair	
Chicago, Illinois	28.79	731.3	29.47	748.5	44	6.7	92	S	10	4.5	.....	.....	10s	.....	Calm	0.11	2.8	Cloudy	
Cincinnati, Ohio	29.02	737.1	29.65	753.1	55	12.8	81	S	12	5.4	.....	.....	10ks	.....	SW	0.39	9.9	Threatening	
Cleveland, Ohio	28.89	733.8	29.60	751.8	51	10.6	79	SE	23	10.3	.....	5ck	2s	SW	S	0	0	Fair	
Coleman City, Texas	28.02	711.7	29.69	754.1	45	7.2	31	SW	12	5.4	.....	0	0	.....	.....	0	0	Clear.	
Columbus, Ohio	28.75	730.2	29.55	750.6	56	13.3	87	S	11	4.9	.....	.....	10n	.....	S	0.06	1.5	Light rain	
Concho, Texas	27.97	710.4	29.68	753.9	39	3.9	55	SW	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Corsicana, Texas	29.39	746.5	29.86	758.4	47	8.3	55	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Davenport, Iowa	28.93	734.8	29.56	750.8	36	2.2	90	W	9	4.0	.....	.....	10s	.....	Calm	0.23	5.8	Cloudy	
Dayton, Washington T'y	.....	.....	.....	.....	37	2.8	80	SW	.....	.....	2	.....	10n	.....	Calm	0.07	1.8	Light rain	
Deadwood, Dakota	25.05	636.3	.....	.....	22	— 5.6	58	Calm	0	0	.....	0	0	.....	.....	0.10	2.5	Clear.	
Decatur, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Denison, Texas	29.02	737.1	29.83	757.7	42	5.6	66	SW	7	3.1	.....	0	0	.....	.....	0	0	Clear.	
Denver, Colorado	24.52	622.8	29.74	755.4	31	— 0.6	73	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Des Moines, Iowa	28.75	730.2	29.64	752.8	32	0.0	79	Calm	0	0	.....	0	5s	.....	NW	0.21	5.3	Fair	
Detroit, Michigan	28.86	733.0	29.50	749.3	52	11.1	86	SE	13	5.8	.....	.....	10s	.....	S	0.12	3.0	Cloudy	
Dodge City, Kansas	27.20	690.9	29.54	750.3	30	— 1.1	78	NW	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	28.80	731.8	29.50	749.3	36	2.2	80	W	8	3.6	.....	.....	10s	.....	Calm	0.11	2.8	Cloudy	
Duluth, Minnesota	28.84	732.5	29.52	749.8	33	0.6	89	N	2	0.9	.....	.....	10s	.....	Calm	0.16	4.1	Cloudy	
Eagle Pass, Texas	29.06	738.1	29.80	756.9	42	5.6	50	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Eastport, Maine	30.31	769.9	30.38	771.6	37	2.8	81	S	11	4.9	.....	.....	10ks	.....	S	0	0	Cloudy	
Edinburg, Texas	.....	.....	.....	.....	59	15.0	70	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear.	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	28.99	736.3	29.69	754.1	50	10.0	79	SE	25	11.2	.....	5cs	0	S	.....	0	0	Fair	
Escanaba, Michigan	28.70	729.0	29.35	745.5	41	5.0	82	SW	21	9.4	.....	.....	10s	.....	SW	0.40	10.2	Cloudy	
Florence, Arizona	28.44	722.4	30.04	763.0	43	6.1	59	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.74	704.6	29.71	754.6	7	—13.9	77	NW	14	6.3	.....	8cs	0	NW	.....	0	0	Cloudy	
Fort Custer, Montana	26.68	677.7	.....	.....	12	—11.1	79	N	12	5.4	.....	0	0	.....	.....	0	0	Clear.	
Fort Davis, Texas	25.11	637.8	30.07	763.8	49	9.4	37	W	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Fort Gibson, Indian Ter	29.28	743.7	29.83	757.7	31	— 0.6	89	W	2	0.9	.....	0	0	.....	.....	0.10	2.5	Clear	
Fort Grant, Arizona	25.19	639.8	29.99	761.7	41	5.0	50	N	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Fort Griffin, Texas	28.47	723.1	29.74	755.4	46	7.8	47	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Fort Keogh, Montana	27.32	693.9	.....	.....	10	—12.2	79	NW	8	3.6	.....	2cs	0	Calm	.....	0	0	Fair	
Fort McKavett, Texas	27.59	700.8	29.53	750.0	40	4.4	56	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.56	725.4	29.69	754.1	35	1.7	70	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Fort Stevenson, Dakota	27.82	706.6	.....	.....	10	—12.2	89	NW	24	10.7	.....	.....	10s	.....	NW	0.02	0.5	Cloudy	
Fort Verde, Arizona	.....	.....	.....	.....	30	— 1.1	68	W	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Galveston, Texas	29.92	760.0	29.96	761.0	55	12.8	74	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Graham, Texas	28.69	728.7	29.76	755.9	36	2.2	71	Calm	0	0	.....	5cs	0	Calm	.....	0	0	Fair	
Grand Haven, Michigan	28.82	732.0	29.44	747.8	51	10.6	86	SW	14	6.3	.....	.....	10n	.....	Calm	0.06	1.5	Light rain	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	28.79	731.3	29.74	755.4	40	4.4	82	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Indianapolis, Indiana	28.77	730.7	29.52	749.8	52	11.1	93	S	9	4.0	.....	.....	10n	.....	S	0.40	10.2	Light rain	
Indianola, Texas	29.93	760.2	29.96	761.0	55	12.8	74	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Jacksboro, Texas	28.65	727.7	29.77	756.1	50	10.0	65	N	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Jacksonville, Florida	29.87	758.7	29.90	759.4	64	17.8	89	S	5	2.2	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
Keokuk, Iowa	28.97	735.8	29.58	751.3	38	3.3	91	W	8	3.6	.....	.....	10s	.....	W	0.46	11.7	Cloudy	
Key West, Florida	29.94	760.5	29.97	761.2	70	21.1	85	E	4	1.8	.....	0	8s	.....	E	0	0	Cloudy	
Kittyhawk, North Carolina	29.95	760.7	29.98	761.5	59	15.0	100	E	9	4.0	.....	5cs	Fog	Calm	Calm	0	0	Fair	
Knoxville, Tennessee	28.76	730.5	29.76	755.9	47.5	8.6	93	NW	3	1.3	.....	0	5ks	.....	SW	0.26	6.6	Fair	
La Crosse, Wisconsin	28.74	730.0	29.47	748.5	38	3.3	81	NW	5	2.2	.....	.....	10s	.....	Calm	1.36	34.5	Cloudy	
La Mesilla, New Mexico	26.03	661.2	30.18	766.6	28	— 2.2	54	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Laredo, Texas	29.51	749.5	29.85	758.2	60	15.6	60	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Leavenworth, Kansas	28.84	732.5	29.70	754.4	31	— 0.6	89	S	2	0.9	.....	0	1s	.....	Calm	0.53	13.5	Clear.	
Lewiston, Idaho	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Little Rock, Arkansas	29.54	750.3	29.90	759.4	40	4.4	91	W	5	2.2	.....	0	0	.....	.....	0.06	1.5	Clear.	
Los Angeles, California	29.63	752.6	29.97	761.2	45.5	7.5	84	NE	6	2.7	.....	5c	0	Calm	.....	0	0	Fair	
Louisville, Kentucky	29.10	739.1	29.65	753.1	54	12.2	87	S	9	4.0	.....	.....	10n	.....	SW	0.64	16.3	Light rain	
Lynchburg, Virginia	29.20	741.7	29.88	758.9	50	10.0	93	NE	2	0.9	.....	.....	10n	.....	Calm	0.67	17.0	Light rain	
Madison, Wisconsin	28.43	722.1	29.40	746.7	36	2.2	90	W	10	4.5	.....	.....	10s	.....	Calm	0.20	5.1	Cloudy	
Marquette, Michigan	28.57	725.7	29.25	742.9	38	3.3	100	NW	4	1.8	.....	.....	10n	.....	Calm	1.18	30.0	Heavy rain	
Mason, Texas	28.22	716.8	30.01	762.2	42	5.6	50	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Memphis, Tennessee	29.51	749.5	29.85	758.2	45	7.2	75	NW	4	1.8	.....	.....	10s	.....	Calm	0.32	8.1	Cloudy	
Milwaukee, Wisconsin	28.68	728.5	29.39	746.5	42	5.6	83	SW	23	10.3	.....	.....	10s	.....	W	0.07	1.8	Cloudy	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mobile, Alabama	29.87	758.7	29.92	760.0	50	10.0	82	N	5	2.2	.....	0	0	.....	.....	1.02	25.9	Clear.	
Montgomery, Alabama	29.63	752.6	29.87	758.7	51	10.6	86	W	7	3.1	.....	0	5ks	.....	W	1.56	39.6	Fair	
Morgantown, West Virginia	28.77	730.7	29.73	755.1	55	12.8	68	SE	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Mt. Washington, N. H.	23.90	607.0	30.26	768.6	37	2.8	71	SW	60	26.8	.....	0	8ks	.....	SW	0	0	Clear.	
Nashville, Tennessee	29.24	742.7	29.77	756.1	51	10.6	86	SW	5	2.2	.....	.....	10ks	.....	SW	1.45	36.8	Cloudy	
New Haven, Connecticut	30.12	765.0	30.25	768.3	38	3.3	91	NE	12	5.4	.....	.....	10n	.....	NE	0.03	0.8	Light rain	
New London, Connecticut	30.21	767.3	30.26	768.6	41	5.0	82	E	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
New Orleans, Louisiana	29.88	758.9	29.94	760.5	56	13.3	68	NW	3	1.3	.....	0	Sm'e	.....	Calm	0.58	14.7	Smoky	
Newport, Rhode Island	30.24	768.1	30.29	769.4	43	6.1	83	E	9	4.0	.....	.....	10s	.....	[illegible]	0	0	Cloudy	
New River, North Carolina	.....	.....	.....	.....	63	17.2	94	E	.....	.....	2	.....	10s	.....	SE	0	0	Cloudy	
New York, New York	30.02	762.5	30.20	767.1	45	7.2	100	NE	17	7.6	.....	.....	10n	.....	Calm	Inap.	Inap.	Light rain	
Norfolk, Virginia	29.90	759.4	29.96	761.0	59	15.0	91	E	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
North Platte, Nebraska	26.82	681.2	29.43	747.5	31	— 0.6	69	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Olympia, Washington Ter.	29.74	755.4	29.78	756.4	39.0	3.9	96	S	6	2.7	.....	.....	10n	.....	Calm	0.77	19.6	Light rain	
Omaha, Nebraska	28.52	724.4	29.64	752.8	26	— 3.3	75	Calm	0	0	.....	5ck	0	Calm	.....	0.01	0.3	Fair	
Oswego, New York	29.62	752.3	29.94	760.5	43	6.1	75	S	20	8.9	.....	0	8s	.....	S	0	0	Fair	
Pembina, Dakota	28.84	732.5	29.73	755.1	11	—11.7	100	N	3	1.3	.....	.....	10n	.....	Calm	0.04	1.0	Light snow.	
Pensacola, Florida	29.90	759.4	29.94	760.5	53	11.7	86	NW	3	1.3	.....	0	0	.....	.....	0.63	16.0	Clear	
Philadelphia, Pennsylvania	30.03	762.7	30.08	764.0	47	8.3	100	NE	18	8.0	.....	.....	10n;fg	.....	Calm	Inap.	Inap.	Light rain	
Phœnix, Arizona	28.81	731.8	30.66	778.7	42	5.6	58	E	3	1.3	.....	5cs	0	Calm	.....	0	0	Fair	
Pike's Peak, Colorado	17.39	441.7	29.60	751.8	5	—15.0	50	N	14	6.3	.....	.....	Fog	.....	Calm	0.14	3.6	Foggy	
Pilot Point, Texas	29.04	737.6	29.87	758.7	46	7.2	60	S	.....	.....	.....	0	0	.....	.....	0	0	Clear.	
Pioche, Nevada	.....	.....	.....	.....	30	— 1.1	68	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	28.97	735.8	29.76	755.9	51	10.6	79	E	8	3.6	.....	5c	0	SW	.....	0	0	Fair	
Port Huron, Michigan	28.89	733.8	29.53	750.0	48	8.9	93	SE	12	5.4	.....	.....	10n	.....	SE	0.09	2.3	Light rain	
Portland, Maine	30.32	770.1	30.37	771.4	34	1.1	70	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Portland, Oregon	29.80	756.9	29.87	758.7	43.5	6.4	88	S	7	3.1	.....	0	9n	.....	SW	0.93	23.6	Light rain	
Portsmouth, N. Hampshire	.....	.....	.....	.....	64	17.8	94	SE	16	7.2	.....	8cs	0	SE	.....	0.03	0.8	Cloudy	
Prescott, Arizona	24.70	627.4	30.06	763.5	29	— 1.7	78	SW	.....	.....	1	10c	0	W	.....	0	0	Cloudy	
Punta Rassa, Florida	29.93	760.2	29.94	760.5	69	20.6	85	SE	9	4.0	.....	0	0	.....	.....	0	0	Clear.	
Red Bluff, California	29.74	755.4	30.11	764.8	46	7.8	92	W	6	2.7	.....	1k	0	S	.....	0.59	15.0	Clear.	
Rio Grande City, Texas	29.74	755.4	29.97	761.2	46	7.8	77	E	1	0.4	.....	5c	0	Calm	.....	0	0	Fair	
Rochester, New York	29.24	742.7	29.85	758.2	49	9.4	78	S	14	6.3	.....	5c	0	S	.....	0	0	Fair	
Roseburg, Oregon	29.45	748.0	30.03	762.7	44.5	6.9	88	S	4	1.8	.....	.....	10ks	.....	W	0.17	4.3	Cloudy	
Sacramento, California	29.99	761.7	30.07	763.8	46	7.8	92	SE	4	1.8	.....	0	5s	.....	Calm	0.23	5.8	Fair	
St. Louis, Missouri	29.13	739.9	29.71	754.6	38	3.3	81	W	12	5.4	.....	.....	10s	.....	W	0.14	3.6	Cloudy	
St. Paul, Minnesota	28.68	728.3	29.51	749.5	33	0.6	79	NW	10	4.5	.....	.....	10s	.....	NW	0.24	6.1	Cloudy	
Salt Lake City, Utah	25.54	648.7	29.87	758.7	39	3.9	82	NW	4	1.8	.....	.....	10s	.....	Calm	0.13	3.3	Threatening	
San Antonio, Texas	29.24	742.7	29.84	757.9	45	7.2	61	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
San Diego, California	29.93	760.2	30.00	762.0	46	7.8	92	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Sandusky, Ohio	28.90	734.0	29.55	750.6	54	12.2	80	SE	20	8.9	.....	.....	10n	.....	SE	0.01	0.3	Light rain	
Sandy Hook, New Jersey	30.12	765.0	30.16	766.1	46	7.8	100	NE	24	10.7	.....	.....	10n	.....	Calm	0.61	15.5	Light rain	
San Francisco, California	30.06	763.5	30.12	765.0	52	11.1	79	W	8	3.6	.....	1c	0	Calm	.....	0.60	15.2	Clear.	
Santa Fé, New Mexico	23.06	585.7	29.60	751.8	27	— 2.8	64	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Savannah, Georgia	29.81	757.2	29.90	759.4	60	15.6	88	S	2	0.9	.....	.....	10s	.....	SW	0.08	2.0	Cloudy	
Shreveport, Louisiana	29.67	753.6	29.90	759.4	42	5.6	74	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	29.88	758.9	29.92	760.0	63	17.2	94	E	12	5.4	.....	5k	5ks	SW	SE	0.15	3.8	Cloudy	
Socorro, New Mexico	25.35	643.9	29.41	747.0	28	— 2.2	54	N	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Springfield, Illinois	28.97	735.8	29.64	752.8	40	4.4	82	W	15	6.7	.....	.....	10s	.....	W	0.27	6.9	Cloudy	
Springfield, Massachusetts	30.17	766.3	30.31	769.9	37	2.8	71	NE	4	1.8	.....	.....	10s	.....	E	0	0	Threatening	
Stockton, Texas	26.99	685.5	29.99	761.7	50	10.0	14	W	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Thatcher's Island, Mass	30.28	769.1	30.34	770.6	43	6.1	83	SE	9	4.0	.....	.....	10s	.....	SE	0	0	Cloudy	
Toledo, Ohio	8.84	732.5	29.50	749.3	55	12.8	87	S	8	3.6	.....	.....	10n	.....	S	0.03	0.8	Light rain	
Tucson, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon	29.53	750.0	30.04	763.0	35.0	1.7	90	W	4	1.8	.....	.....	10s	.....	.....	0.04	1.0	Cloudy	
Uvalde, Texas	29.02	737.1	29.86	758.4	40	4.4	48	N	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Vicksburg, Mississippi	29.66	753.4	29.93	760.2	45	7.2	76	SW	4	1.8	.....	0	0	.....	.....	1.19	30.2	Clear.	
Virginia City, Montana	24.01	609.8	29.49	749.0	22	— 5.6	72	SW	8	3.6	.....	0	0	.....	.....	0.03	0.8	Clear.	
Visalia, California	29.69	754.1	30.06	763.5	50	10.0	86	NW	2	0.9	.....	.....	10s	.....	NW	0	0	Cloudy	
Washington, D. C.	29.88	758.9	30.00	762.0	50	10.0	100	E	6	2.7	.....	.....	10n;fg	.....	Calm	0.01	0.3	Light rain	
Wickenburg, Arizona	.....	.....	.....	.....	34	1.1	70	W	.....	.....	1	8c	0	W	.....	0	0	Fair	
Wilmington, North Carolina	29.79	756.7	29.86	758.4	65	18.3	89	SE	7	3.1	.....	5k	8s	W	W	0.47	11.9	Cloudy	
Winnemucca, Nevada	25.57	649.5	29.93	760.2	38	3.3	81	SW	11	4.9	.....	.....	9s	.....	SW	0.04	1.0	Cloudy	
Wood's Holl, Massachusetts	30.24	768.1	30.28	769.1	47	8.3	69	E	16	7.2	.....	.....	8ks	.....	.....	0	0	Cloudy	
Yankton, Dakota	28.40	721.3	29.76	755.9	16	— 8.9	66	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Yuma, Arizona	29.78	756.4	29.95	760.7	46	7.8	54	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
SUB-SERIES.																			
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	29.90	759.4	29.95	760.7	72	22.2	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.09	764.3	30.10	764.5	76	24.4	83	Calm	0	0	.....	8c	2s	Calm	.....	.....	.....	Fair	James Gall.
Navassa, W. I.	29.84	757.9	29.92	760.0	76.5	24.7	73	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.96	761.0	29.96	761.0	82	27.8	79	E	.....	.....	3	.....	8ks	.....	.....	0.120	3.05	Cloudy	C. J. Hering.
Santiago de Cuba, W. I.	29.96	761.0	29.98	761.5	72	22.2	81	Calm	0	0	.....	8ck	0	N	.....	0	0	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	29.95	760.7	30.00	762.0	— 2.0	—18.9	100	NW	8	3.6	.....	.....	10s	.....	NW	0.02	0.5	Snowing	J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,289 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 m., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	29.80‡	759.2‡			64	17.8	89	Calm	0	0			0			0	0			Clear	
Navy Yard, Portsmouth, N.H	30.19‡	766.8‡			35	1.7	90	SE	2	0.9			10			6	0			Overcast	
Naval Hospital, Yokohama, Japan	29.92‡	760.0‡			51	10.6	93	N			2		9s		N	0.91	23.1			Cloudy	
Adams, Mare I'd., Navy Yard, Cal.	30.13‡	765.3‡			54	12.2	80	SW			2		10		SW					Cloudy	
Alaska, Iquique, Peru *.	29.94‡	760.5‡			63	17.2	78	Calm			0		10							Overcast	
Alliance, N. 37° 30′, W. 70° 30′	30.14‡	765.5‡			70	21.1	75	SE			4–5		7		SE			Smooth	SE	D. clouds	
Colorado, New York, . Y.	30.15‡	765.8‡			44	6.7	92	NE	4	0.4			10			0.07	1.8			Drizzling	
Constitution, Hampton Roads, Va.	29.95‡	760.7‡			54	12.2	100	SE			2		10		SE					Overcast	
Enterprise. Beirut, Syria	30.12‡	765.0‡			70	21.1	70	Calm			0		3		WNW			Smooth		Clear	
Franklin, Off Navy Yard, N rfolk, Va.	29.99‡	761.7‡			60	15.6	94	SE	2.4	1.1			10		SE	0.01	0.3			Cloudy	
Independence, Mare I'd, Navy Yard, Cal.	30.12‡	765.0‡			66?	13.3?	??	W	1.2	0.5			3		NW	0.055	1.40			Clear	
Kearsarge, Port Royal, S. C.	29.91‡	759.7‡			63	17.2	100	Var.			1		2					Smooth		Drizzling?	
Lackawana, N. 30° 36′ W. 151° 23′. †	30.20‡	767.1‡			70	21.1	85	SSE			2		5		S			Smooth	S	Fair	
Marion. Navy Yard, Brooklyn, N.Y.	30.20‡	767.1‡			45	7.2	92	NE			1		10		Calm					Drizzling	
Michigan, Erie, Pa.	29.66‡	753.4‡			52	11.1	79	SSE			7		8		S					Cloudy	
Monocacy, Shanghai, China.	30.29‡	769.4‡			31	—0.6	90	WNW			3		0							Clear	
New Hampshire, Port Royal, S. C.	29.93‡	760.2‡			61	16.1	100	Calm	0	0			10			0.300	7.62			Raining	
Nipsic, Norfolk, Va.	29.94‡	760.5‡			60	15.6	100	E			2		5							Hazy	
Onward, Callao, Peru †.	29.91‡	759.7‡			64	17.8	89	SSW			1		10					Mod'ate smooth	W	Hazy	
Palos, Tientsin, China.	30.44‡	773.2‡			29	—1.7	100	NNW			1–3		0							Clear	
Passaic, Washington, D. C.	30.01‡	762.2‡			51	10.6	93	NE			1		10							Cloudy	
Pensacola, Callao, Peru	29.87‡	758.7‡			64	17.8	89	SW			1		10					Smooth		Overcast	
Powhatan, Navy Yard, Brooklyn, N.Y.	30.17‡	766.3‡			47	8.3	85	ENE			3		10			1.3	33.			Rainy	
Quinnebaug, Genoa, Italy	29.80‡	756.9‡			49	9.4	64	SW			3		2		Calm					Fair	
Ranger, N. 22° 04′, W. 170° 10′	29.85‡	758.2‡			66	18.9	89	Calm			0		10					Long	NNE	Rainy	
Richmond, Min river, China.	30.25‡	768.3‡			62	16.7	94	NW			3–4		0					Smooth		Clear	
Rio Bravo, Brownsville, Texas. †	30.02‡	762.5‡			57	13.9	87	SE	1	0.4			2		Calm	0	0			Fair	
Santee, Annapolis, Md	30.02‡	762.5‡			50	10.1	100	E			3–4		10		SW	0.16	4.1			Dense fog	
Shenandoah, Rio de Janeiro, Brazil.	29.84‡	757.9‡			72	22.2	80	SE			2		5					Long		Fair	
St. Louis, League Island, Pa.	30.08‡	764.0‡			53	11.7	86	ENE	10	4.5			10		ENE	0.05	1.3			Cloudy	
Tuscarora, Acapulco. exico.	29.83‡	757.7‡			78	25.6	91	N			1		0			0	0	Smooth		Clear	
Vandalia. Navy Yard, Brooklyn, N.Y.	30.22‡	767.6‡			47	8.3	92	NE			2		0							Clear	
Wabash, Boston, Mass.	30.29‡	769.4‡			38	3.3	72	SE	8	3.6			8			0.25	6.3			Cloudy	
Wachusett, S. 17° —′, W 37° —′. †	30.46‡	773.7‡			80	26.7	82	NNE			3		2		NNE			Smooth	N	Fair	
Wyoming, Gibraltar, Mediterranean	29.95‡	760.7‡			61	16.1	66	W			3–4		5		W			Smooth	W	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.			CHARACTER.	DIRECTION FROM—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'er 0—10.	Upper. From—	Lower. From—					
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S. S. Samaria																			Capt. T. Roberts.
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitebury.
S. S. Costa Rica																			W. House & R. Lawless
S. S. Dakota, Capt. H. G. Morse																			Capt. Connolly.
S. S. Georgia																			F. W. Hurt, 1st Officer.
S. S. Granada, Capt. Austin																			Capt. A. Fuller.
S. S. Wilmington																			R. C. Ghest, 1st Officer.
S. S. Zealandia, Sydney, New South Wales		29.86‡	758.4‡				S			1			N						
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer N. 28° 27′, E. 127° 18′		30.08‡	764.0‡	64	17.8	78	NNW			7		10		NNW		Rough	NNW	Misty	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson																			J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undutsch.
S. S. Leipzig, Capt. F. Pfeiffer, N. 46° 52′, W. 37° 44′																			
S. S. Nürnberg		29.73‡	755.1‡	50.0	10.0	68	WNW			7		5		W	2 h'rs	Heavy	W-		S. Risius, 3rd Officer.
S. S. Ohio, N. 44° 30′, W. 40° 23′		30.27‡	768.8‡				N			6		10		N		7	N	Hailing	Capt. A. Jaeger.
																			Capt G. Meyer.

NOTE.—†Aneroid. *The error of the barometer is not known.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The orginals give the barometer as read off; wind-force by the scale 0 to to 12; for the Brittanic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'er 0—10.	Upper. From—	Lower. From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa		30.07‡	763.8‡	49	9.4		NE			3		9		NE	Light			Cloudy	Capt. R. W. Sargent
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents.

S. S. Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson
S. S. Vaderland																			Capt. Nichols.

Note.—The originals give the barometer as read off; do not distinguish between upper and lower clouds; sea-swell in general terms, as published. ‡Corrections for temperature, instrumental error and elevation applied at this office.

ALLAN LINE MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Austrian																			Capt. W. Richardson
S. S. Hibernian																			J. Powell, 4th Officer
S. S. Peruvian																			

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12. *The error of the barometer is not known. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES—Miscellaneous.

Furnished by the co-operation of the Observers named.

Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Barkentine "Carrie Heckle" N. 38° 40′, W. 66° 45′	*	3	21‡	767.3‡	61	16.1		E			9		10		SE	0	Smooth	ESE	Cloudy	B. F. Woodbury.
Brigantine "George" of Halifax. N. 21° 30′, W. 67° 45′	†..	29.92‡		760.0‡	82	27.8		ENE			2		0				Light		Fine	N. B. Foss.
Schooner Harry and Fred																			Capt. George Gardner.
Haytian																			
§ Iron Cross																			Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time. *Instrumental error not known.

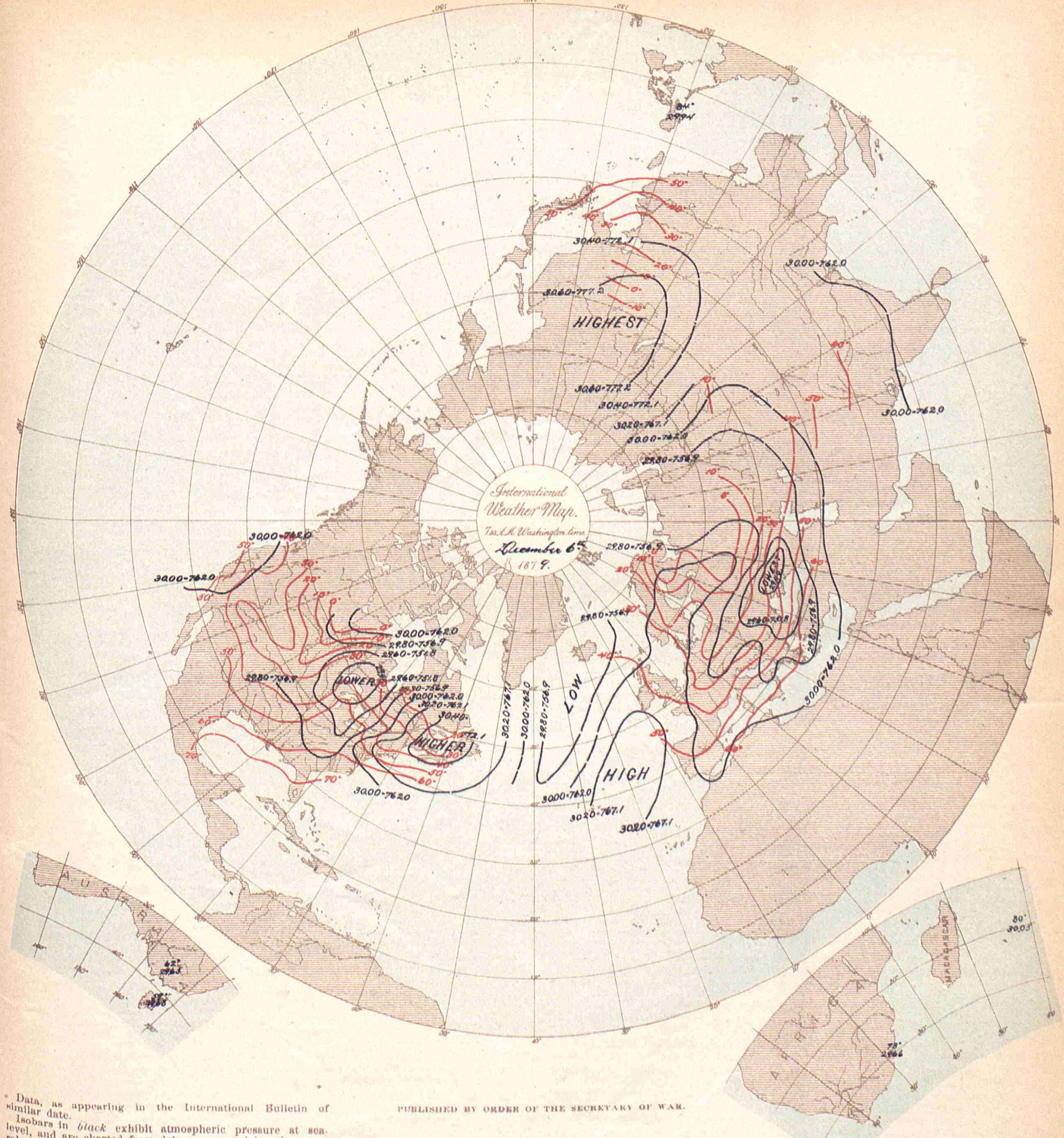
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.



* Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 7, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:40 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time
1:57 P. M. CAPE TOWN, C. G. H. mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Mogador, Marocco	.....	.....	30.17	766.3	64.9	18.3	81	NE	.....	.....	1	.....	5	.....	.....	0	0	Cloudy..	
Nemours	.....	.....	30.21	767.4	61.0	16.1	81	S	.....	.....	1	.....	8	.....	.....	0.039	1.0	Very cloudy	Kesxuche.
Algiers	.....	.....	30.20	767.1	57.6	14.2	80	ENE	.....	.....	1	.....	2	.....	.....	1.102	28.0	Fair...	Tourilliere.
La Calle	.....	.....	30.15	765.7	57.2	14.0	65	N	.....	.....	4	.....	8	.....	.....	0.157	4.0	Very cloudy	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.14	765.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gan.
Saida	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Herbin.
Tebessa	.....	.....	30.13	765.2	49.6	9.8	62	NW	.....	.....	2	.....	8	.....	.....	0	0	Very cloudy	Watrin.
Geriville	.....	.....	.....	.....	60.1	15.6	68	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Brugniaux.
Laghouat	.....	.....	30.18	766.6	58.6	14.8	52	N	.....	.....	4	.....	2	.....	.....	0	0	Fair	Bertrand.
Biskra	.....	.....	30.13	765.3	67.3	19.6	50	NNW	.....	.....	3	.....	0	.....	.....	0	0	Clear	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0–4; no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.64	752.9	30.23	767.9	24.8	— 4.0	84	NE	.....	.....	1	.....	2	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.54	750.4	30.39	771.8	13.3	—10.4	93	W	5.6	2.5	.....	.....	10	.....	.....	0	0	.....	Dr. Wierzbicki.
Eperies	29.21	741.9	30.17	766.3	15.1	— 9.4	78	N	.....	.....	2	.....	0	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.93	734.7	30.28	769.0	20 5	— 6.4	73	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.53	724.7	30.06	763.4	24.8	— 4.7	84	WNW	.....	.....	2	.....	0	.....	.....	0.016	0.40	.....	Prof. A. Gottschling
Kremsmünster	28.93	734.7	30.40	772.2	14.2	— 9 9	94	NW	.....	.....	1	.....	8	.....	.....	0.197	5.0	.....	Prof. C. Wagner.
Lemberg	29.06	738.0	30.12	765.1	0.5	—17.5	95	NE	.....	.....	1	.....	0	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	29.87	758.6	29.98	761.6	34.2	1.2	78	E	.....	.....	7	.....	8	.....	.....	0	0	.....	I.R.Hydrographic Office
Szathmar	29.65	753.1	30.16	766.0	14.9	— 9.5	91	S	.....	.....	3	.....	8	.....	.....	0	0	.....	Pet. Pancsics, S. J.
Szegedin	29.83	757.6	30.13	765.4	14.0	—10.0	97	N	.....	.....	3	.....	10	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.95	760.8	30.06	763.4	32.7	0.4	71	ENE	.....	.....	4	.....	5	.....	.....	0	0	.....	P. Busin.
Vienna	29.56	750.8	30.29	769.4	18.9	— 7.3	81	WNW	.....	.....	2	.....	3	.....	.....	0	0	.....	I.R.Central Met. Ob'sy
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

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BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	30.25	768.3	30.35	770.9	34.3	1.3		WNW	14	6.3			2			0.010	0.25	Blue sky	W. Boswell.
Ardrossan																			Wm.McNeil &G.Carrick
Armagh, (Observatory)	30.22	767.6	30.47	773.9	34.2	1.2		SW	5	2.2									S. Call.
Bidston (Liverpool Obs)			30.47	773.9	31.0	— 0.6		S	8	3.6			10					Overcast	John Hartnup.
Bolton (Sharples)	29.89	759.2	30.44	773.2	26.3	— 3.2		SE	6	2.7			10					Overcast	Thomas Mackereth.
Bradford, Yorkshire																			J McLandsborough.
Bridgetown, Barbadoes	29.91	759.7	29.94	760.5	81.5	27.5		NE			2		4			0	0	D. clouds	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	30.38	771.6	30.48	774.2	22.5	— 5.3		S			0		0					Blue sky	H. Todd.
Cardington			30.48	774.2	22.0	— 5.6		W			0–1		1					Blue sky	John McLaren.
Chatham (School M. E.)	30.41	772.4	30.55	776.0	32.2	0.1		Calm			0		2					Blue sky	J. Carmell, Sapper, R.E.
Donaghadee	30.38	771.6	30.42	772.7	38	3.3		W			2		3					D. clouds	J. Mac Gowan.
Dover	30.45	773.4	30.48	774.2	33	0.6		SW			2		1					¾ clouded	J. Costello.
Falmouth (Observatory)	30.27	768.8	30.51	774.9	40.9	4.9		SSE			4		2					D. clouds	The Staff.
Fort Napier, Natal	27.49	698.2	29.80	756.9	83.0	28.3		NE			1		0					Blue sky	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone																			
Galway (Queen's College)			30.40	772.1	33	0.6		NE			1		8					Overcast	Prof. A. H. Curtis.
Gibraltar, Mediterranean																			Sergt.Wm. Allen, A. H.
Glasgow, (Observatory)	30.17	766.3	30.38	771.6	36.8	2.7		NE			1		0					Foggy	D. G. Maclean. [C.
Great Yarmouth	30.44	773.2	30.44	773.2	25	— 3.9		W			2		2					Misty	G. T. Watson.
Greenwich (Royal Obs'y)	30.32	770.1	30.51	774.9	29.3	— 1.5		SW			1		0					Foggy	The Staff, for G.B.Airy.
Guernsey	30.29	769.4	30.52	775.2	38	3.3		SSW			1		3					D. clouds	Dr. S.E Hoskins, F.R.S.
Helston	30.62	777.7	30.74	780.8	41	5.0		SE			2	3c				0	0	Fine	M. P. Moyle.
Holyhead	30.38	771.6	30.45	773.4	41	5.0		SSW			2		10					Overcast	John Tilston.
Jersey	30.26	768.6	30.57	776.5	38.3	3.5		SSW			1		0					Blue sky	J. Fisher.
Kew (Observatory)	30.47	773.9	30.51	774.9	26.0	— 3.2		NE	1	0.4			6					Foggy	The Met'g'l Office.
Leicester (Museum)	30.21	767.3	30.49	774.4	13.5	—10.3		SW			1		10					Overcast	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	29.92	760.0	30.00	762.0	66	18.9		NW			2		0					Blue sky	A. King.
Nairn	30.25	768.3	30.34	770.6	35	1.7		Calm			0		5					½ clouded	W. D. Penny.
Nassau, Bahamas			30.07	763.8	69.0	20.6		S			1		4					D. clouds	C. S. Duncombe.
Nottingham (Observatory)	30.26	768.6	30.47	773.9	20.9	— 6.2		Calm			0	c	9k		NNW	0	0	Overcast	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.92	760.0	30.48	774.2	28.9	— 1.7		WSW			1		10					Foggy	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)			30.50	774.7	28	— 2.2		NW			1		6					D. clouds	H. E. Bellamy.
Plymouth	30.41	772.4	30.49	774.4	39.7	4.3		Calm			0		0					Blue sky	John Merrifield.
Prince Town																			W. H. Tooker.
*Roche's Point	30.35	770.9	30.42	772.7	39	3.9		NNE			2		8					¾ clouded	Wm. Kennedy.
St. Ann's Head																			John C. Walker.
Sandwick Manse, Orkneys			30.33	770 4	40.5	4.7		WNW	11	4.9			10					Overcast	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	29.74	755.4	29.81	757.2	39.0	3.9		NE			2		10					Raining	Serg't W. H. Lyne.
Sheffield	30.15	765.8	30.44	773.2	34.2	1.2		W			1		4			0	0	D. clouds	W. F. Cooper.
Silloth Rectory	30.39	771.9	30.42	772.7	26.9	— 2.8	82	Calm			0		10			0	0	Overcast	Francis Redford, A. M.
Stonyhurst (Observatory)			30.43	772.9	26.3	— 3.2		NNE	0	0			5					D. clouds	Rev. S. J. Perry.
Stratfield, Turgiss	30.26	768.6	30.50	774.7	29.5	— 1.4		NE			1		4					D. clouds	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	30.40	772.1	30.50	774.7	43	6.1		SE			2		5					D. clouds	W. Newcombe.
Valencia Observatory)	30.40	772.1	30.43	772.9	43.4	6.3		E	6	2.7			3					D. clouds	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)																			The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.50	647.7			92	33.3		W					0						Robert Burnet.
Constable, Cape Colony	26.70	678.2			73	22.8		NW					5						Francis Abbott, F.R.A.S.
Hobart Town, Tasmania			29.04	737.6	59.0	15.0	94	SW			2		10kn			0	0	Covered	Andrew Gibb.
Leith(RestalrigPark)Sc'tl'd			30.39	771.9	37.1	2.8		W			2		0			0	0	Fine	C. Meldrum.
Mauritius (Observatory)	29.87	758.7	30.06	763.4	80.9	27.2	55	ENE	15.0	6.7		0	2		ENE	0.44	11.2	Fine	R. L. J. Ellery.
Melbourne (Observatory)	29.66	753.3	29.76	755.9	55.0	12.8	71	WNW	10	4.5			2			0.12	3.0	Very fine	J. Youngclause.
Monach Lt-house, Hebrides			30.33	770.4	46	7.8		SW			3	3	0	SW		0	0		
North Unst, Shetland Is			30.23	767.8				N			2	10	8	N		0	0		

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters; Prince Town, 1,400 feet, or 427 meters; Colesberg Bridge and Constable, unknown.

BRITISH MARINE SERIES. VESSELS.																Sea or swell Height scale 0–9	Sea or swell Direction from—		
H. M. S. Alert, Off Corso Peninsula, Patagonia			29.67‡	753.6‡	52	11.1		WNW			3		5					D. clouds	Capt.J.P. Maclear, R.N.
H. M. Sloop Gannet, S. 18° 28′, W. 70° 21′			29.87‡	758.7‡	65	18.3		NW			1		10					Overcast	Commander E. Bourke, R. N.
H. M. S. Magpie, House Islands, near Shanghai, China			30.51‡	774.9‡	37.0	2.8		NW			6								Capt. R. H. Napier, R.N.
Brig Alliance, N. 46° 45′, W. 33° 15′			29.80‡	756.9‡	53.9	12.2		NNW			5		5					D. clouds	Capt. W. Scott.
Barque Belle-Isle, N. 24° 40′, W. 73° 35′			30.03	762.7	74	23.3		NE			1		1			2	E	Blue sky	Capt. A. J. Brown
City of Cashmere, N. 17° 52′, W. 124° 22′			29.91‡	759.7‡	71.9	22.2		NE			6		9					Overcast	Capt. W. M. Grieve.
Barque Fedalma, N. 15° 60′, W. 60° 40′			29.98	761.5	82	27.8		E			3		3			3	NE	D. clouds	Capt. H. L. Fox.
S. S. Iron Cross, N. 25° 05′, W. 83° 30′			30.00	762.0	79	26.1		S			3		2			1	ESE	Blue sky	Capt. W. Randall.
S. S. Peruvian, N. 55° 05′, W. 21° 15′			29.96	761.0	54	12.2		SSE			6		6			6	SSE	D. clouds	Capt. W. H. Smith.
S. S. Strathleven, S. 38° 50′, E. 142° 15′			29.66‡	753.4‡	55.0	12.8		SW			6		6					D. clouds	Capt. C. W. Pearson.
Light House Tender Richmond, N. 25° 44,′ W. 79° 20′			30.05	763.3	75	23.9		ESE			2		7					D. clouds	Capt. W. H. Stewart.
S. S. Gordon Castle																			Capt. Wm. Waring.
German Brig "W. von Freeden"																			Capt. H. V. Freeden.
S. S. Ethiopia																			Capt. Campbell.
S. S. Sunbeam																			Capt. C. M. Dobson.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.18	665.0	29.90	759.4	65.3	18.5	85	NE	.....	.....	2	8d	.....	E	.....	0	0	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.34	770.5	30.38	771.7	25.7	—3.5	91	SE	.....	.....	2	.....	8	.....	.....	.....	.....	.....	.....
Fanöe	30.16	766.0	30.18	766.5	33.1	0.6	87	SW	.....	.....	4	.....	9	.....	.....	.....	.....	.....	.....
Godthaab (Greenland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stykkisholm (Iceland)	29.22	742.3	29.27	743.4	38.8	3.8	97	SW	.....	.....	8	.....	10	.....	.....	.....	.....	Raining	.....
Thorshavn (Faröe)	30.11	764.7	30.14	765.6	43.3	6.3	79	SW	.....	.....	6	.....	10	.....	.....	.....	.....	.....	.....
Vestervig	30.06	763.4	30.17	766.2	25.9	—3.4	100	ESE	.....	.....	2	.....	5	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.98	761.4	30.53	775.4	23.0	—5	86	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Collignon, Director.
Amiens, Normal School	30.33	770.4	30.45	773.5	10.4	—12	63	NNW	.....	.....	1	.....	5	.....	Calm	0	0	Cloudy	Vaillant, Director.
Arras, Engin'r School	30.29	769.3	30.55	776.0	13.5	—10.3	90	NW	.....	.....	1	.....	.....	.....	.....	0	0	.....	Klein, Commandant.
Avignon, Normal School	29.97	761.1	30.04	763.1	25.2	—3.8	29	NNW	.....	.....	7	.....	0	.....	.....	0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.93	760.3	30.55	776.0	14.9	—9.5	.....	ENE	.....	.....	1	.....	0	.....	.....	0	0	Clear.	C. Saillard, Director.
Beauvais, Normal School	30.30	769.6	30.60	777.2	12.6	—10.8	87	NNW	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Frère Eugene Marie.
Besançon, Normal School	29.30	744.2	30.28	769.1	16.0	—8.9	.....	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear.	A. Carré, Director.
Bourg-en-Bresse, N. School	29.47	748.5	30.36	771.2	12.2	—11	93	N	.....	.....	3	.....	0	.....	.....	0	0	Clear.	Marlot, Dirctor.
Bourges, Normal School	29.87	758.8	30.48	774.2	19.4	—7	80	N	.....	.....	1	.....	1	.....	N	0	0	Clear.	M. Gence, Director.
Brest, Naval Observatory	30.28	769.2	30.53	775.4	41.7	5.4	49	SE	.....	.....	1	.....	0	.....	.....	0	0	.....	Ch. de Rermaree, Dir.
Caen, Normal School	30.44	773.2	30.52	775.2	33.8	1	88	S	.....	.....	0–1	.....	.....	.....	.....	0	0	.....	M. Bietrin, Director.
Carcassonne, N. School	29.89	759.2	30.33	770.4	31.6	—0.2	66	W	.....	.....	2	.....	0	.....	.....	0.04	1.	Clear.	September, Director.
Châlons-sur-Marne, N. Sch'	30.23	767.8	30.54	775.8	16.3	—8.7	.....	Calm	.....	.....	0	.....	2	.....	.....	.....	.....	Slightly cld'y	Jadot, Director.
Chartres, Normal School	29.97	761.2	30.61	777.5	20.8	—6.5	79	N	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Vergier, Director.
Clermont-Fd, Puy de D. Obs	29.00	736.6	30.48	774.3	20.1	—6.6	76	N	.....	.....	8	.....	0	.....	.....	0.008	0.2	.....	Alluard, Director.
Commercy, Normal School	29.58	751.3	30.54	775.6	7.3	—13.7	.....	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Dr. Coullet, Director.
Commune de Gréasque*	28.89	733.8	30.03	762.8	28.4	—2.0	87	NW	.....	.....	3	.....	0	.....	.....	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.50	749.4	30.32	770.0	15.1	—9.4	.....	E	.....	.....	1	.....	10	.....	.....	.....	.....	Snowing	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.30	769.5	30.53	775.4	31.3	—0.4	85	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Mouillot, Director.
Le Mans, Normal School	30.26	768.5	30.60	777.2	19.0	—7.2	65	N	.....	.....	2	.....	0	.....	.....	0	0	Clear.	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.38	746.2	30.34	770.7	14.0	—10	55	N	.....	.....	1	.....	10	.....	.....	0	0	Covered	A. Baudry, Director
Lorient, Naval Observatory	30.46	773.7	30.57	776.5	31.6	—0.2	81	ENE	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.78	756.5	30.46	773.7	18.5	—7.5	72	NNW	.....	.....	1	.....	1	.....	.....	0	0	Clear	Ch. André, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	29.74	755.5	30.02	762.6	30.6	—0.8	81	NW	.....	.....	3	.....	0	.....	.....	0	0	Clear	E. Stephan, Director.
Mirecourt, Normal School	29.45	748.1	30.63	777.9	10.8	—11.8	.....	N	.....	.....	1	.....	.....	.....	N	0	0	Foggy	Barbier, Director.
Mont-Louis	24.80	629.9	30.11	764.9	27.5	—2.5	61	SW	11.2	5.0	.....	.....	2	.....	W	0.039	1.0	.....	M. Cave.
Nice	29.90	759.5	29.94	760.4	50.0	10.0	48	WNW	.....	.....	3	.....	2	NW	WNW	0	0	Slightly cld'y	M. Boissière, Director.
Nismes, Normal School	30.11	764.9	30.31	769.8	29.1	—1.6	.....	N	.....	.....	4	.....	0	.....	.....	0	0	Clear	M. Boyer, Director.
Paris, Montsouris Obs'y	30.27	768.9	.....	.....	19.2	—7.1	86	WNW	.....	.....	1	.....	7	.....	.....	0	0	Foggy	Marié Davy, Director.
Perpignan	30.13	765.3	30.24	768.1	40.6	4.8	40	N	24.2	10.8	.....	.....	0	.....	.....	0	0	.....	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.43	569.8	.....	.....	15.8	—9.0	.....	.....	.....	.....	.....	.....	.....	SW	N	0.220	5.6	.....	Gen'l de Nansouty
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Privas, Normal School	29.12	739.6	30.27	768.8	22.6	—5.2	.....	N	.....	.....	3	.....	1	.....	NW	0	0	Clear	M. Tallieu
Puy de Dome (Summit) Obs	25.14	638.6	.....	.....	2.7	—16.3	100	NNE	.....	.....	3	.....	0	.....	.....	0.264	6.7	Hazy	Alluard, Director.
Rochefort, Naval Obs'y	30.40	774.5	30.52	775.8	32.5	0.3	100	NE	.....	.....	2	.....	0	.....	.....	0	0	Clear.	Lt E. Decante, Director
Rouen, Normal School	30.47	773.8	30.55	776.0	22.6	—5.2	83	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.50	774.6	30.49	774.4	33.6	0.9	65	SSE	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Lt. Hercouet, Director
Saint Maur (near Paris)	30.39	772.0	30.56	776.2	16.9	—8.4	96	N	.....	.....	1	.....	0	.....	.....	0	0	Foggy	E. Renou, Director.
Tarbes, Normal School	29.17	741.0	30.33	770.3	32.0	0.0	81	SW	.....	.....	1	.....	0	.....	.....	0	0	Clear.	T. Huguet, Director.
Toulouse, Observatory	29.66	753.4	30.39	772.0	30.6	—0.8	89	NNW	.....	.....	2	.....	0	.....	.....	0	0	Clear	M. Juher Mercadier.
Tours	30.34	770.6	30.54	775.6	20.5	—6.4	.....	WNW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Cousin-Marquet.
Versailles, Observatory	30.04	762.9	30.53	775.4	19.4	—7.0	78	NNE	.....	.....	1	.....	0	.....	.....	0	0	Very clear	Dr. A. Bergay, Director
Villefranche-sur-Saone, N. S	29.66	753.4	30.44	773.2	20.3	—6.5	86	NNW	.....	.....	3	.....	2	.....	N	0	0	Slightly cld'y	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.91	759.8	29.94	760.5	79.5	26.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	L'Abbé Marchést
Zi-Ka-Wei (near Shanghai	30.48	774.3	30.51	775.0	28.0	—2.2	74	NW	6.5	2.9	.....	.....	0	.....	.....	0	0	Clear	Marc Dechevrens.
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NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fal as measured at 9 h. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P,) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in gene al terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.54	750.3	30.39	772.0	14.4 — 9.8	87	N	.....	.....	2	.....	6ks	N	.....	0	0	.....	Prof. Dr. Hoh.
Berlin	30.21	767.4	30.40	772.1	25.7 — 3.5	86	W	.....	.....	1	.....	10	.....	.....	0.035	0.9	.....	Prof. Dr. Arndt.
Breslau	29.84	757.9	30.38	771.6	16.9 — 8.4	82	N	.....	.....	3	.....	9	.....	.....	0.011	0.27	.....	Royal University Obs'y.
Carlsruhe	30.04	762.9	30.51	774.9	16.9 — 8.4	81	NE	.....	.....	0	.....	9	N	.....	0	0	.....	Albert Senz.
Cassel	29.89	759.1	30.50	774.8	20.1 — 6.6	84	SE	.....	.....	2	.....	10	.....	.....	0.026	0.66	Snowing.....	Dr. H. Möhl.
Emden	.....	.....	30.37	771.3	25.0 — 3.9	86	SW	.....	.....	2	.....	1	.....	.....	0	0	.....	Prof. Dr. Prestel.
Frankfort on the Main	30.19	766.8	30.58	776.6	18.0 — 7.8	77	ENE	.....	.....	0	.....	5	.....	.....	Inap.	Inap.	.....	Physical Society.
Friedrichshafen	28.89	733.7	30.46	773.8	12.7 —10.7	63	NE	.....	.....	5	.....	10	.....	.....	0	0	Hazy	Chief Telegrapher Wilhelm.
Hamburg	30.37	771.5	30.44	773.3	16.0 — 8.9	100	W	.....	.....	2	.....	10	.....	.....	0.063	1.6	.....	Capt. P.F.A. Hegerman.
Kiel	30.36	771.2	30.38	771.6	26.8 — 2.9	87	SW	.....	.....	4	.....	10	.....	.....	0	0	.....	Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.33	770.4	30.43	772.8	— 1.8 —18.8	76	NE	.....	.....	2	.....	2	.....	.....	0	0	.....	Prof. E. Luther.
Köslin	.....	.....	30.38	771.7	20.3 — 6.5	.....	Calm	.....	.....	0	.....	6	.....	.....	0	0	.....	H. Müller.
Leipsic Observatory	30.03	762.7	30.48	774.3	29.1 — 6.6	84	W	.....	.....	1	.....	10	.....	.....	0	0	Foggy	Prof. Dr. Bruhns, Privy Counselo r
Magdeburg	30.22	767.6	30.45	773.5	23.9 — 4.5	84	W	.....	.....	1	.....	6ks	N	.....	0.008	0.2	.....	Dr. Assmann.
Memel	30.37	771.5	30.42	772.7	— 2.4 —19.1	100	N	.....	.....	1–2	.....	1k	.....	.....	.....	.....	.....	Reinbrecht & Issermann.
Munich (München)	28.47	723.0	30.35	770.8	12.7 —10.7	80	W	.....	.....	3	.....	9	.....	.....	0.043	1.1	Snowing.....	Dr. C. Lang.
Neufahrwasser	30.40	772.2	30.42	772.6	14.0 —10.0	67	Calm	.....	.....	0	.....	8	NNE	.....	0.047	1.2	.....	A. Lothes.
Neustadt (Palatinate)	29 93	760.1	30.46	773.6	19.9 — 6.7	.....	W	.....	.....	1	.....	7	W	.....	0	0	.....	Reallehrer Dicknether.
Posen	30.07	763.7	30.38	771.7	21.4 — 5.9	87	Calm	.....	.....	0	.....	1	.....	.....	0	0	.....	Prof. Dr. Magener.
Strassburg (in Alsace)	29.93	760.3	30.55	775.9	12.6 —10.8	76	NNE	.....	.....	2	.....	2	.....	.....	0	0	.....	Imp. University Observatory.
Stuttgart	29.45	747.9	30.49	774.4	11.7 —11.3	84	NE	.....	.....	1	.....	4	N	.....	0	0	.....	Prof. Dr. Schoder.
Weissenburg (Bavaria)	29.81	731.7	30.38	771.7	11.3 —11.5	85	Calm	.....	.....	0	.....	7c	NE	.....	0.118	3.0	Foggy	Reallehrer J. Hopfner.
Wustrow	30.41	772.5	30.44	773.1	24.4 — 4.2	91	NE	.....	.....	1	.....	5s	.....	.....	0.059	1.5	.....	E. Schütz, Director.
German Naval Series.																		
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NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.28	743.6	29.67	753.5	64.0	17.8	.....	SW	.....	.....	1.5	.....	5	.....	.....	.....	.....	⅛ clear.....	Dr. J. F. J. Schmidt.
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NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	30.03	762.7	30.08	764.0	73.0	22.8	44	WSW	7	3.1	.....	.....	4	.....	WSW	0	0	D. clouds.....	
Deesa	29.55	750.6	30.03	762.8	75.8	24.3	21	NNW	11.4	5.1	.....	.....	0	.....	.....	0	0	Blue sky.....	
Bombay	29.87	758.7	29.91	759.7	77.8	25.4	68	NNW	15	6.7	.....	.....	0	.....	.....	0	0	Blue sky.....	
Poona (Yerrowda)	28.07	713.0	29.93	760.3	79.0	26.1	23	ENE	5	2.2	.....	.....	0	.....	.....	0	0	Blue sky.....	
Belgaum	27.38	695.4	29.92	760.0	75.1	23.9	31	ENE	5	2.2	.....	.....	0	.....	.....	0	0	D. clouds. ...	
Lahore	29.30	744.2	30.09	764.2	56.6	13.7	43	Calm	0.5	0.2	.....	.....	3	.....	.....	0	0	Blue sky.....	
Roorkee	29.10	739.1	30.04	763.0	59.2	15.1	48	SW	1.7	0.8	.....	.....	0	.....	.....	0	0	Blue sky.....	
Agra	29.49	749.0	30.08	764.0	62.8	17.1	42	W	3.0	1.3	.....	.....	0	.....	.....	0	0	.....	
Nagpur	28.94	735.0	30.00	762.1	71.5	21.9	29	ENE	3.0	1.3	.....	.....	0	.....	.....	0	0	Blue sky.....	
Jubbulpore	28.64	727.4	30.05	763.3	65.6	18.7	39	Calm	1.9	0.8	.....	.....	0	.....	.....	0	0	Blue sky.....	
Lucknow	29.67	753.6	30.07	763.7	56.5	13.6	46	NNW	1.3	0.6	.....	.....	0	.....	.....	0	0	Blue sky.....	
Allahabad	29.74	755.4	30.07	763.8	56.7	13.7	58	Calm	1.3	0.6	.....	.....	0	.....	.....	0	0	Blue sky.....	
Patna	29.86	758.5	30.05	763.3	62.8	17.1	54	Calm	0.2	0.1	.....	.....	0	.....	.....	0	0	Blue sky.....	
Hazaribagh	27.95	709.9	30.05	763.3	57.8	14.3	40	NW	5.1	2.3	.....	.....	0	.....	.....	0	0	Blue sky.....	
Cuttack	29.92	760.0	30.00	762.1	67.4	19.7	68	NE	1.0	0.4	.....	.....	0	.....	.....	0	0	Blue sky.....	
Calcutta (Alipore)	29.97	761.3	29.99	761.8	65.8	18.8	68	NNW	0.5	0.2	.....	.....	0	.....	.....	0	0	Blue sky.....	
Goalpara	29.59	751.6	29.99	761.8	67.3	19.6	71	SE	5.4	2.4	.....	.....	0	.....	.....	0	0	Blue sky.....	
Chittagong	29.87	758.8	29.96	761.1	73.8	23.2	74	Calm	3.0	1.3	.....	.....	1	.....	.....	0	0	.....	
Sibsagar	29.67	753.6	30.01	762.3	69.5	20.8	75	ENE	0.9	0.4	.....	.....	0	.....	.....	0	0	Blue sky.....	
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NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,361 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.67	753.7	30.11	764.7	30.2	— 1.0	60	E	4.9	2.2	.....	.....	0	.....	.....	0	0	.....	Prof. Giovanni Clodig
Milan	29.54	750.4	30.09	764.2	30.9	— 0.6	68	NW	.....	.....	2	.....	7	E	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.97	761.3	30.09	764.2	33.8	1.0	81	NE	11.2	5.0	.....	.....	5	E	.....	0	0	.....	Prof. Dott. Lorenzoni
Moncalieri	29.14	740.2	30.10	764.6	29.8	— 1.2	61	ENE	1.8	0.8	.....	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.78	756.4	29.98	761.5	37.2	2.9	41	N	8.7	3.9	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.08	713.2	30.09	764.2	27.7	— 2.4	44	W	.....	.....	2	.....	3	N	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.89	759.1	29.94	760.4	33.8	1.0	90	SW	7.4	3.3	.....	.....	10	S	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.68	753.9	29.95	760.8	39.9	4.4	56	NE	.....	.....	6	.....	8	SW	.....	0.327	8.3	.....	Cav. F. Meucci.
Leghorn	29.85	758.3	29.95	760.6	29.5	— 1.4	41	NE	14.3	6.4	.....	.....	3	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.62	752.3	29.80	756.9	46.2	7.9	51	N	13.0	5.8	.....	.....	6	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.55	759.5	29.80	757.0	54.0	12.2	60	NE	4.9	2.2	.....	.....	4	.....	.....	0.059	1.5	.....	Prof. C. De Giorgi.
Cosenza	28.95	735.3	29.85	758.2	52.2	11.2	75	NW	1.8	0.8	.....	.....	9	.....	.....	0.520	13.2	.....	Prof. D. Conti.
Cagliari	29.75	755.6	29.95	760.6	52.3	11.3	41	NW	.....	.....	4	.....	4	NW	.....	0.039	1.0	.....	Prof. A. Pacinotti.
Palermo	29.67	753.5	29.92	760.0	55.4	13.0	60	WSW	2.5	1.1	.....	.....	9	.....	.....	0.528	13.4	.....	Prof. G. Ciacciatore.
Syracuse	29.80	756.8	29.87	758.6	60.8	16.0	52	NW	8.7	3.9	.....	.....	4	WSW	.....	0.146	3.7	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.28	743.6	29.82	757.4	50.7	10.4	56	WSW	9.8	4.4	.....	.....	6	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.87	758.7	29.88	758.9	40.1	4.5	76	W	5.1	2.3	.....	.....	5n	.....	W	0.040	1.02	Raining	K. Sasaki.
Nagasaki, I. M. Obs'y	29.89	759.2	30.10	764.5	42.2	5.7	80	W	9.2	4.1	.....	.....	8n	.....	.....	0.200	5.08	Raining	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.53	750.0	29.60	751.8	45.9	7.7	47	SW	18.1	8.1	.....	0	0	.....	.....	0.005	0.13	Very clear...	The Staff.
Wakayama	29.78	756.4	29.84	757.9	44.6	7.0	62	W	13.7	6.1	.....	.....	0	.....	.....	0.005	0.13	Clear	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	24.99	634.8	30.17	766.4	41.9	5.5	57	SW	.....	.....	1	.....	5	.....	SE	0	0	Fair...	Prof. L. Perez.
Leon	24.39	619.5	30.17	766.2	51.4	10.8	83	N	.....	.....	1	0	0	.....	.....	0	0	Fine.....	Prof. M. Leal.
Mazatlan	29.66	753.3	29.92	759.9	66.0	18.9	90	NE	.....	.....	1	8c	0	SW	.....	0	0	Cloudy.....	I. Guerrero, C. E.
Mexico, Central Observatory	23.01	584.4	30.06	763.4	50.4	10.2	69	Calm	0	0	.....	3c	0	.....	.....	0	0	Clear.....	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	49.1	9.5	65	SW	.....	.....	1	3c	0	SW	.....	0	0	Clear.....	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.33	592.6	30.18	766.5	46.4	8.0	36	NE	0.2	0.1	.....	0	0	.....	.....	0	0	Fine.....	Prof. P. Spina.
San Luis Potosi	24.15	613.3	30.19	766.9	51.1	10.6	54	SE	.....	.....	1	5	2	W	E	0	0	Cloudy.....	G. Barroeta, M. D.
Tlacotalpam	29.86	758.5	29.87	758.8	70.0	21.1	92	S	.....	.....	1	0	0	.....	.....	0	0	Dense fog ...	Prof. M. M. Châzaro
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell
Zacatecas	22.50	571.4	30.13	765.4	53.6	12.0	62	Calm	0	0	.....	9c	0	SW	.....	0	0	Very cloudy	J. C. Castrillon

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column; the instrumental correction —0.88 mm., or —0.035 inch, has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.52	775.2	30.52	775.2	26.6	— 3.0	.....	SW	.....	.....	3	.....	.....	.....	.....	0.008	0.2	.....	
Groningen	30.34	770.5	30.39	771.9	.....	.....	.....	SW	.....	.....	1	.....	.....	.....	.....	0	0	.....	
Helder	30.39	771.8	30.39	771.8	34.7	1.5	.....	SW	.....	.....	4	.....	.....	.....	.....	0.110	2.8	.....	
Hellevoetsluis	30.48	774.2	30.48	774.2	26.4	— 3.1	100	SW	.....	.....	4	.....	.....	.....	.....	.....	.....	.....	
Utrecht	30.44	773.1	30.48	774.3	27.5	— 2.5	79	SW	.....	.....	2	.....	5	.....	.....	0.020	0.5	Cloudy.....	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.34	770.6	30.39	772.0	22.6	— 5.2	80	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	
Brönö	30.14	765.6	30.18	766.6	23.0	— 5.0	71	Calm	0	0	.....	.....	2	.....	.....	0	0	.....	
Christiana	30.23	767.8	30.39	771.8	22.5	— 5.3	83	NE	2	1	.....	.....	10	.....	.....	0.012	0.3	.....	
Tromsö	29.69	754.1	29.73	755.2	29.5	— 1.4	98	SW	18	8	.....	.....	10	.....	.....	1.543	39.2	Snowing.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	29.59	751.6	29.78	756.5	57.9	14.4	76	ESE	18.1	8.1	.....	.....	10	.....	.....	.....	.....	Raining	Dr. J. A. Sampaio.
Campo Major	29.22	742.3	30.25	768.4	48.2	9.0	57	ENE	6.9	3.1	.....	.....	3	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	30.00	761.9	30.09	764.2	62.2	16.8	83	ESE	3.8	1.7	.....	.....	10	.....	.....	0.283	7.2	Rain & fog..	Capt. D. A. de Cunha.
Lisbon Observatory	29.93	760.1	30.30	769.6	45.1	7.3	63	NNE	13.7	6.1	.....	.....	7	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	29.65	753.2	29.72	755.0	59.0	15.0	89	SE	39.8	17.8	.....	.....	10	.....	.....	0.173	4.4	Raining	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.																Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Rio Lima. Capt. S. C. da Silva Costa. Santiago, Cape Verd Ids.	.....	.....	.....	.....	83.1	27.4	.....	ESE	.....	.....	1	.....	2	.....	ESE	0	.....	D. clouds.....	A. D. de Fonseca Sarurento....
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Comd't.
Sado, Capt. J. A de Brito Capello, St. Paul de Loando	.....	.....	29.86	758.5	82.4	28.0	.....	W	.....	.....	3	.....	3	.....	W	.....	.....	D. clouds.....	Luiz Aprá, Q. M.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	.....	.....	30.22	767.5	68.2	20.1	.....	NE	.....	.....	2	.....	0	.....	.....	1	.....	Blue sky.....	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sá da Bandeirá gives the barometer reduced tofreezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	29.71	754.7	29.73	755.2	15.4	— 9.2	97	SW	22	10	.....	.....	10	.....	.....	.....	.....	Snow-drift..	Capt. Sseliwerstow.
Astrakhan	29.76	755.9	29.68	753.8	50.5	10.3	86	S	2	1	.....	.....	10s	.....	.....	.....	.....	.....	Capt. Wisganow.
Barnaul	29.33	744.9	29.85	758.2	25.3	— 3.7	100	SW	0	0	.....	.....	10	.....	.....	.....	.....	Snowing.....	Meteorological Obs.
Dorpat	30.16	766.0	30.43	773.0	— 1.5	—18.6	89	W	7	3	.....	.....	0	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	28.77	730.8	29.85	758.3	—10.3	—23.5	62	W	7	3	.....	.....	1s	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	28.73	755.1	30.04	763.0	—18.0	—27.8	85	W	2	1	.....	.....	2	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.22	742.2	29.92	759.9	7.0	—13.9	100	NNE	13	6	.....	.....	8cks;n	.....	.....	.....	.....	Light snow.	Physical Cabinet.
Krotkowo*	29.43	747.4	29.96	760.9	— 6.5	—21.4	58	N	0	0	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	29.56	750.8	29.78	756.4	16.2	— 8.8	82	W	0	0	.....	.....	6	.....	.....	Blank	Blank	.....	Meteorological Obs
Moscow	29.60	751.7	30.23	767.7	—10.8	—23.8	82	NNW	4	2	.....	.....	6ks	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	27.93	709.3	30.60	777.3	—19.3	—28.5	76	Calm	0	0	.....	.....	0	.....	.....	Blank	Blank	.....	Meteorological Obs.
Nikolaiev	29.95	760.6	30.02	762.4	20.1	— 6.6	68	N	9	4	.....	.....	3cs	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	29.54	750.4	29.78	756.4	51.8	11.0	63	SSE	4	2	.....	.....	8sn	.....	.....	.....	.....	.....	.....
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	30.29	769.4	30.43	773.0	23.5	— 4.7	69	Calm	0	0	.....	.....	2cs	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	30.32	770.2	30.34	770.6	— 2.0	—18.9	88	WNW	7	3	.....	.....	0	.....	.....	.....	.....	.....	Central Physical Obs.
Tashkend	28.42	721.8	30.01	762.2	48.2	9.0	67	.....	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.45	722.6	29.85	758.2	57.7	14.3	66	NW	4	2	.....	.....	4k	.....	.....	.....	.....	Heavy clouds...	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	29.83	757.7	30.30	769.7	5.7	—14.6	78	N	4	2	.....	9ck	.....	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.85	758.3	30.33	770.4	— 2.0	—18.9	70	NNE	7	3	.....	.....	2	.....	.....	.....	.....	Light clouds	Astronomical Obs.
Yenisiesk	29.33	744.9	29.63	752.6	14.9	— 9.5	87	SE	16	7	.....	.....	10	.....	.....	.....	.....	Snowing.	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455-m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	30.03	762.8	30.14	765.6	46.8	8.2	61	WNW	1.4	0.64	.....	.....	0	.....	.....	0	0	Clear.	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.31	769.9	30.33	770.4	41.7	5.4	96	SE	1.2	0.55	.....	1	8	N	.....	0.268	6.8	Raining.....	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.27	692.6	.....	.....	37.9	3.3	91	N	2.7	1.22	.....	0	8	.....	.....	0	0	Cloudy.....	Domingo Martin y Perez
Madrid, Royal Observatory.	27.99	710.9	30.32	770.0	40.6	4.8	53	NE	3.7	1.67	.....	0	0	.....	.....	0	0	Clear.	The Staff.
Murcia, Met. Obs'y	30.04	763.1	30.20	767.0	59.9	15.5	62	WSW	3.5	1.56	.....	1	2	SE	.....	0.023	0.57	Misty.....	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.39	746.5	30.31	769.9	47.1	8.4	70	NE	6.3	2.8	.....	.....	0	.....	.....	0	0	Clear.	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	29.95	760.8	30.02	762.5	64.5	18.1	90	Calm	0	0	.....	0	1s	.....	.....	0	0	Clear.	Benito Vines S. J.
Manilla, Phillippine Islands	29.93	760.2	29.98	761.5	78.0	25.6	68	NE	3.8	1.7	.....	0	1s	.....	E	0	0	Fne.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.11	764.8	30.21	767.4	55.0	12.8	71	NNW	2.1	0.9	.....	0	5	.....	N	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I	29.91	759.6	30.00	761.9	71.6	22.0	92	W	0	0	.....	3cs	1k	W	W	0	0	Clear.	Enrique Gadea, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.08	763.9	30.11	764.9	— 9.4	—23.0	.....	W	.....	.....	2	.....	1	.....	.....	0	0	.....	
Umea	30.18	766.6	30.23	767.9	0.7	—17.4	78	Calm	.....	.....	0	.....	7	.....	.....	0	0	.....	
Hernosand	30.26	768.6	30.31	769.9	— 3.6	—19.8	87	Calm	.....	.....	0	.....	0	.....	.....	0.150	3.8	.....	
Stockholm	30.23	767.8	30.41	772.3	21.2	— 6.0	90	NNE	.....	.....	2	.....	9	.....	.....	0.008	0.2	.....	
Wisby	30.21	767.4	30.27	768.9	22.3	— 5.4	90	N	.....	.....	6	.....	10	.....	.....	0.004	0.1	Snowing	
Sub-Series.																			
Upsala	30.27	768.9	30.36	771.1	18.7	— 7.4	98	W	0	0	.....	.....	10	.....	.....	0.014	0.34	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.83	732.3	29.98	761.4	19.0	— 7.2	74	NE	.....	.....	8	.....	8	.....	.....	0.035	0.9	Hazy	The Observatory.
Zurich	28.68	728.4	30.47	773.8	12.9	—10.6	78	NE	.....	.....	1	.....	1	.....	.....	0	0	Clear	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, +5.1 mm.; Thermometer, —10.6 Cent.; Relative Humidity, —5 per cent.
NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.86	758.5	39.4	4.1	92	NNE	16	7.0	.....	.....	10	.....	NE	0.780	19.8	Raining	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.80	756.8	54.0	12.2	.....	W	.....	.....	1	.....	2	.....	.....	0	0	Slightly cld'y	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.92	760.0	30.04	762.9	69.4	20.8	71	SW	.....	.....	2	3c	.....	.....	.....	0	0	D. clouds.	Prof. C. V. A. van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B.	29.76	755.9	29.82	757.4	36.7	2.6	90	SE	1	0.4	.....	.....	10s	.....	.....	0	0	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	29.92	760.0	29.96	761.0	38.8	3.8	94	SE	15	6.7	.....	0	8s	.....	.....	0.22	5.6	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.30	744.2	29.50	749.3	42.0	5.6	85	SW	.....	.....	1	0	9s	.....	.....	0.16	4.1	Cloudy	James Smith, M. A.
Dalhousie, N. B.	29.62	752.3	29.78	756.4	32.0	0.0	.....	E	.....	.....	3	0	0	.....	.....	0	0	Misty	H. A. Johnson.
Father Point, Quebec	29.48	748.8	29.50	749.3	39.8	4.3	91	SE	14	6.3	.....	.....	10n	.....	.....	Inap.	Inap.	Light rain	J. McWilliams.
Fredericton, N. B.	29.65	753.1	29.72	754.9	40.1	4.5	95	SE	5	2.2	.....	.....	Mist	.....	.....	0.42	10.7	Foggy	Prof. Harrison.
Fort Garry, Manitoba	29.21	741.9	30.14	765.5	— 5.0	—20.6	100	N	5	2.2	.....	0	Haze	.....	.....	0.18	4.6	Hazy	James Stewart.
Granton, Ontario	28.57	725.7	29.70	754.4	35	1.7	.....	SW	.....	.....	1	.....	10n	.....	.....	0.20	5.1	Cloudy	James Grant.
Halifax, N. S.	29.87	758.7	30.00	762.0	43.0	6.1	97	SE	9	4.0	.....	.....	10n	.....	.....	0	0	Cloudy	A. Allison.
Hamilton, Ontario	29.33	745.0	29.70	754.4	38.5	3.6	93	E	.....	.....	1	10cs	0	E	.....	1.31	33.3	Cloudy	Geo. Dickson, B. A.
Heart's Content, N. F.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.37	746.0	29.71	754.6	40.3	4.6	83	W	8	3.6	.....	5ck	0	.....	.....	0.52	13.2	Fair	S. Woods, M. A.
Little Glace Bay, N. S.	29.98	761.5	30.02	762.5	35.7	2.1	85	S	6	2.7	.....	8k	0	S	.....	0	0	Cloudy	C. H. Rigby.
Montreal, Quebec	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.89	22.6	.....	C. H. McLeod, C. E.
Moose Factory, Ontario	29.30	744.2	29.34	745.2	16.7	— 8.5	97	NW	.....	.....	4	.....	10	.....	.....	0.20	5.1	Snowing	J. R. Nelson.
Norwood	28.90	734.0	29.60	751.8	37.0	2.8	.....	SW	.....	.....	3	0	8s	.....	.....	0	0	Clearing	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. R. Mosley.
Peterboro, Ontario	28.89	733.8	29.65	753.1	38.7	3.7	77	SW	.....	.....	2	.....	10ks	.....	.....	0	0	Overcast	J. F. Jeffers, M. A.
Port Dover, Ontario	29.04	737.6	29.74	755.4	38.9	3.8	73	SW	21	9.4	.....	.....	10n	.....	.....	0.29	7.4	Threatening	H. Morgan.
Port Hastings, N. S.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.09	738.9	29.75	755.6	38.2	3.4	74	W	28	12.5	.....	.....	10ks	.....	SW	0.14	3.6	Cloudy	M. Payne.
Quebec, Quebec	29.12	739.6	29.45	748.0	37	2.8	100	NW	.....	.....	5	.....	10n	.....	.....	1.22	31.1	Heavy rain	Capt. Ashe, R. N.
Rockliffe, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. McIntyre.
St. Andrews, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Gove.
St. John, N. B.	29.60	751.8	29.76	755.9	45	7.2	100	E	10	4.5	.....	.....	10n	.....	.....	0.47	11.9	Light rain	G. Murdock, C. E.
Saugeen, Ontario	28.90	734.0	29.62	752.3	37	2.8	81	SW	22	9.8	.....	.....	10ks	.....	.....	0.23	5.8	Overcast	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.44	722.4	29.74	755.4	35.0	1.7	90	SW	12	5.4	.....	.....	10s	.....	.....	0.127	3.23	Cloudy	C. J. MacGregor, M. A.
Sydney, C. B.	30.12	765.0	30.16	766.1	36.8	2.7	93	SE	1	0.4	.....	.....	10n	.....	.....	0	0	Overcast	T. C. Hill, C. E.
Toronto, Ontario	29.30	744.2	29.69	754.1	39.1	3.9	81	SW	17	7.6	.....	2ck	5ks	W	W	0.64	16.3	Clearing	Magnetic Observatory.
Windsor, N. S.	29.70	754.4	29.79	756.7	50.0	10.0	93	SE	24	10.7	.....	.....	10cks	.....	.....	0.01	0.3	Cloudy	Prof. John E. Oram, M.A.
Woodstock, Ontario	28.63	727.2	29.72	754.9	35.7	2.1	83	SW	.....	.....	.....	.....	10ks	.....	SW	0	0	Cloudy	Prof. J. Montgomery.
Yarmouth, N. S.	29.66	753.4	29.73	755.1	54.1	12.3	93	SE	41	18.3	.....	.....	10n	.....	.....	0	0	Overcast	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	30.10	764.5	30.36	771.1	33	0.6	100	SW	.....	.....	.....	5k	5s	.....	.....	0	0	Fair	John Delany.
St. Pierre, N. F., l'Hopital Maritime.	.....	.....	30.17	766.3	37.4	3	.....	SW	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	The Commandant.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Albany, New York	29.43	747.5	29.66	752.4	46	7.8	69	NW	20	8.9	.....	0	2s	.....	NW	1.09	27.7	Clearing.....	
Alpena, Michigan	28.91	734.3	29.56	750.8	35	1.7	90	SW	16	7.2	.....	.....	10s	.....	W	0.15	3.8	Cloudy.....	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	28.82	732.0	29.99	761.7	42	5.6	83	W	7	3.1	.....	0	0	.....	.....	0	0	Clear.	
Atlantic City, New Jersey	29.90	759.4	29.92	760.0	50	10.0	86	W	8	3.6	.....	0	0	.....	.....	0.65	16.5	Clear.	
Augusta, Georgia	29.84	757.9	30.05	763.3	44	6.7	76	NW	4	1.8	.....	0	Fog	.....	Calm	0	0	Light fog....	
Baltimore, Maryland	29.84	757.9	29.89	759.2	50	10.0	58	W	7	3.1	.....	0	0	.....	.....	1.00	25.4	Clear.	
Barnegat, New Jersey	29.77	756.1	29.79	756.7	50	10.0	93	W	8	3.6	.....	0	Haze	.....	Calm	0.67	17.0	Clear.	
Bismarck, Dakota	28.14	714.7	29.99	761.7	—10	—23.3	100	NW	8	3.6	.....	0	0	.....	.....	0.02	0.5	Clear.	
Boerne, Texas	28.34	719.8	29.62	752.3	60	15.6	94	S	8	3.6	.....	.....	Fog	.....	Calm	0	0	Dense fog....	
Boise City, Idaho	27.14	689.3	30.10	764.5	30	— 1.1	84	NW	2	0.9	.....	5k	0	W	.....	0.01	0.3	Fair	
Boston, Massachusetts	29.36	745.7	29.51	749.5	58	14.4	76	SW	9	4.0	.....	0	8s	.....	SW	0.60	15.2	Fair...	
Brackettville, Texas	28.62	726.9	29.66	753.4	53	11.7	86	E	7	3.1	.....	0	5s	.....	S	0	0	Fair...	
Breckenridge, Minnesota	28.87	733.3	29.98	761.5	— 4	—20.0	100	NW	8	3.6	.....	0	0	.....	.....	0.02	0.5	Clear.	
Brownsville, Texas	29.76	755.9	29.80	757.0	68	20.0	95	S	8	3.6	.....	5k	0	S	.....	0	0	Fair...	
Buffalo, New York	29.01	736.8	29.71	754.6	42	5.6	66	SW	24	10.7	.....	.....	10s	.....	SW	0.30	7.6	Cloudy.....	
Burkes, Arizona	.....	.....	.....	.....	39	3.9	46	Calm	.....	.....	0	2c	0	Calm	.....	0	0	Clear.	
Burlington, Vermont	29.25	742.9	29.53	750.0	46	7.8	92	SW	5	2.2	.....	.....	10ks	.....	W	0.70	17.8	Cloudy.....	
Cairo, Illinois	29.55	750.6	29.95	760.7	43	6.1	75	S	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Campo, California	27.27	692.6	29.84	757.9	27	— 2.8	88	E	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Cape Hatteras, N. Carolina	29.93	760.2	29.93	760.2	56	13.3	94	NW	10	4.5	.....	0	0	.....	.....	0.45	11.4	Clear	
Cape Henry, Virginia	29.90	759.4	29.92	759.9	54	12.2	80	SW	11	4.9	.....	0	1s	.....	Calm	0	0	Clear.	
Cape Lookout, N. Carolina	29.93	760.2	29.94	760.5	56	13.3	87	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Cape May, New Jersey	29.80	756.9	29.83	757.7	50	10.0	79	W	19	8.5	.....	5ck	Haze	W	.....	1.10	27.9	Fair...	
Castroville, Texas	29.02	737.1	29.71	754.6	56	13.3	81	W	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Cedar Keys, Florida	29.99	761.7	30.02	762.5	55	12.8	87	N	6	2.7	.....	0	0	.....	.....	0.17	4.3	Clear.	
Charleston, South Carolina	29.93	760.2	29.99	761.7	52	11.1	86	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Charlotte, North Carolina	29.11	739.4	29.94	760.5	45	7.2	76	NW	5	2.2	.....	0	Sm'e	.....	Calm	0	0	Clear.	
Chattanooga, Tennessee	29.21	741.9	30.05	763.3	36	2.2	90	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Dense fog....	
Cheyenne, Wyoming	23.67	601.2	29.61	752.1	25	— 3.9	75	SE	6	2.7	.....	.....	10s	.....	SE	0.08	2.0	Cloudy.....	
Chicago, Illinois	29.06	738.1	29.70	754.4	35	1.7	70	SW	10	4.5	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Cincinnati, Ohio	29.26	743.2	29.92	760.0	41	5.0	82	SE	6	2.7	.....	1k	0	W	.....	0.08	2.0	Clear.	
Cleveland, Ohio	29.08	738.6	29.81	757.2	37	2.8	81	SE	10	4.5	.....	5ck	2s	SW	S	0.26	6.6	Fair...	
Coleman City, Texas	27.96	710.2	29.62	752.3	46	7.8	54	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Columbus, Ohio	29.02	737.1	29.87	758.7	41	5.0	82	S	6	2.7	.....	.....	10ks	.....	S	0	0	Cloudy.....	
Concho, Texas	27.83	706.9	29.51	749.3	43	6.1	67	NW	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Corsicana, Texas	29.31	744.5	29.78	756.4	53	11.7	86	Calm	0	0	.....	0	5ks	.....	S	0	0	Fair...	
Davenport, Iowa	29.23	742.4	29.89	759.2	27	— 2.8	76	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear.	
Dayton, Washington T'y	.....	.....	.....	.....	29	— 1.7	78	SW	.....	.....	1	5k	0	SW	.....	0.21	5.3	Fair...	
Deadwood, Dakota	25.03	635.8	.....	.....	8	—13.3	33	Calm	0	0	.....	Haze	1s	.....	NE	0	0	Fair...	
Decatur, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Denison, Texas	28.92	734.6	29.70	754.4	53	11.7	80	S	14	6.3	.....	0	0	.....	.....	0	0	Clear.	
Denver, Colorado	24.44	620.8	29.66	753.4	25	— 3.9	81	NW	10	4.5	.....	5ck	2s	W	W	0	0	Fair...	
Des Moines, Iowa	29.04	737.6	29.97	761.2	20	— 6.7	56	NW	6	2.7	.....	0	2s	.....	N	0	0	Clear.	
Detroit, Michigan	29.05	737.9	29.73	755.1	37	2.8	81	SW	12	5.4	.....	.....	10s	.....	SW	0.31	7.9	Cloudy.....	
Dodge City, Kansas	27.16	689.8	29.52	749.8	24	— 4.4	74	E	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Dubuque, Iowa	29.15	740.4	29.89	759.2	21	— 6.1	71	W	9	4.0	.....	0	8ks	.....	NW	Inap.	Inap.	Fair...	
Duluth, Minnesota	29.06	738.1	29.78	756.4	15	— 9.4	82	NW	24	10.7	.....	.....	10s	.....	NW	0.02	0.5	Cloudy.....	
Eagle Pass, Texas	29.09	738.9	29.72	754.9	50	10.0	72	Calm	0	0	.....	10c	0	Calm	.....	0	0	Cloudy.....	
Eastport, Maine	29.58	751.3	29.65	753.1	52	11.1	93	SE	29	13.0	.....	.....	10n	.....	SE	0.02	0.5	Light rain...	
Edinburg, Texas	.....	.....	.....	.....	68	20.0	90	E	.....	.....	4	.....	10s	.....	E	0	0	Cloudy.....	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.08	738.6	29.80	756.9	40	4.4	65	SW	14	6.3	.....	.....	10ks	.....	.....	0.31	7.9	Cloudy.....	
Escanaba, Michigan	28.92	734.6	29.58	751.3	29	— 1.7	89	NW	5	2.2	.....	.....	10n	.....	NW	0.05	1.3	Light snow..	
Florence, Arizona	28.32	719.3	29.92	760.0	45	7.2	68	NW	1	0.4	.....	2c	0	Calm	.....	0	0	Fair...	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.94	709.7	30.02	762.5	— 8	—22.2	79	Calm	0	0	.....	5c	0	NW	.....	0	0	Fair...	
Fort Custer, Montana	26.64	676.6	.....	.....	6	—14.4	76	N	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Fort Davis, Texas	25.00	635.0	29.96	761.0	43	6.1	43	SE	5	2.2	.....	1c	0	Calm	.....	0	0	Clear.	
Fort Gibson, Indian Ter	29.21	741.9	29.75	755.6	41	5.0	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Fort Grant, Arizona	25.07	636.8	29.87	758.7	45	7.2	40	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Fort Griffin, Texas	28.37	720.6	29.60	751.8	55	12.8	81	S	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Fort Keogh, Montana	27.32	693.9	.....	.....	1	—17.2	71	NE	12	5.4	.....	0	0	.....	.....	0	0	Clear.	
Fort McKavett, Texas	27.49	698.2	29.38	746.2	50	10.0	65	S	8	3.6	.....	4c	0	S	.....	0	0	Clear.	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.46	722.9	29.58	751.3	36	2.2	80	N	10	4.5	.....	0	0	.....	.....	0	0	Clear.	
Fort Stevenson, Dakota	28.12	714.2	.....	.....	—15	—26.1	72	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear.	
Fort Verde, Arizona	.....	.....	.....	.....	29	— 1.7	78	W	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	27.98	710.7	29.51	749.5	55	12.8	68	S	6	2.7	.....	.....	10ks	.....	Calm	0	0	Cloudy.....	
Galveston, Texas	29.83	757.7	29.87	758.7	65	18.3	89	S	6	2.7	.....	5cs	1ks	W	Calm	0	0	Fair...	
Graham, Texas	28.59	726.2	29.65	753.1	41	5.0	74	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Grand Haven, Michigan	29.04	737.6	29.69	754.1	37	2.8	71	NW	18	8.0	.....	.....	10s	.....	NW	0.04	1.0	Cloudy.....	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	28.71	729.2	29.64	752.8	44	6.7	68	S	4	1.8	.....	0	2s	.....	Calm	0	0	Fair...	
Indianapolis, Indiana	29.05	737.9	29.84	757.9	38	3.3	91	S	1	0.4	.....	.....	10s	.....	W	0.01	0.3	Cloudy.....	
Indianola, Texas	29.81	757.2	29.84	757.9	65	18.3	89	S	7	3.1	.....	2c	2s	SW	S	0	0	Fair...	
Jacksboro, Texas	28.55	725.2	29.65	753.1	57	13.9	41	SE	12	5.4	.....	0	0	.....	.....	0	0	Clear.	
Jacksonville, Florida	30.00	762.0	30.02	762.5	53	11.7	86	SW	4	1.8	.....	0	0	.....	.....	Inap.	Inap.	Clear.	
Keokuk, Iowa	29.23	742.4	29.86	758.4	33	0.6	70	NW	7	3.1	.....	5cs	2s	NW	NW	0	0	Fair...	
Key West, Florida	29.98	761.5	30.01	762.2	70	21.1	85	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Kittyhawk, North Carolina	29.91	759.7	29.94	760.5	54	12.2	93	SW	10	4.5	.....	0	0	.....	.....	0.14	3.6	Clear.	
Knoxville, Tennessee	29.01	736.8	30.05	763.3	34.5	1.4	100	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Dense fog....	
La Crosse, Wisconsin	29.06	738.1	29.83	757.7	21	— 5.1	71	W	12	5.4	.....	.....	10s	.....	Calm	Inap	Inap.	Cloudy.....	
La Mesilla, New Mexico	25.89	657.6	30.04	763.0	35	1.7	61	Calm	0	0	.....	1c	0	.....	.....	0	0	Clear.	
Laredo, Texas	29.39	746.5	29.72	754.9	67	19.4	89	S	6	2.7	.....	.....	10ks	.....	S	0	0	Cloudy.....	
Leavenworth, Kansas	29.03	737.3	29.89	759.2	34	1.1	70	N	5	2.2	.....	.....	9s	.....	.....	0	0	Cloudy.....	
Lewiston, Idaho	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Little Rock, Arkansas	29.55	750.6	29.92	760.0	43	6.1	83	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Los Angeles, California	29.51	749.5	29.85	758.2	51.5	10.8	96	E	4	1.8	.....	.....	Fog	.....	Calm	0.02	0.5	Foggy.....	
Louisville, Kentucky	29.37	746.0	29.94	760.5	42	5.6	74	SE	4	1.8	.....	0	0	.....	.....	Inap.	Inap.	Clear.	
Lynchburg, Virginia	29.25	742.9	29.94	760.5	47	8.3	62	SW	1	0.4	.....	0	0	.....	.....	0.88	22.4	Clear.	
Madison, Wisconsin	28.74	730.0	29.76	755.9	23	— 5.0	73	W	20	8.9	.....	0	2s	.....	W	0	0	Fair...	
Marquette, Michigan	28.90	734.0	29.61	752.1	27	— 2.8	88	NW	4	1.8	.....	.....	10n	.....	Calm	0.37	9.4	Light snow..	
Mason, Texas	28.12	714.2	29.84	757.9	57	13.9	87	SW	5	2.2	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Memphis, Tennessee	29.60	751.8	29.94	760.5	44	6.7	59	SE	5	2.2	.....	2c	Sm'e	Calm	Calm	0	0	Clear.	
Milwaukee, Wisconsin	28.96	735.6	29.70	754.4	29	— 1.7	78	W	23	10.3	.....	.....	10s	.....	W	Inap.	Inap.	Cloudy.....	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mobile, Alabama	29.98	761.5	30.03	762.7	44	6.7	96	SW	1	0.4	.....	1c	0	W	.....	0	0	Clear	
Montgomery, Alabama	29.80	756.9	30.04	763.0	40	4.4	95	NW	[illegible]	0.9	.....	.....	Fog	.....	Calm	0	0	Dense fog	
Morgantown, West Virginia	28.94	735.1	29.94	760.5	43	6.1	67	SW	5	2.2	.....	2k	0	SW	.....	0.16	4.1	Fair	
Mt. Washington, N. H.	23.29	591.6	29.65	753.1	39	3.9	100	NW	60	26.8	.....	.....	10n	.....	NW	2.05	52.1	Light rain	
Nashville, Tennessee	29.45	748.0	30.01	762.2	37	2.8	90	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Foggy	
New Haven, Connecticut	29.53	750.0	29.65	753.1	53	11.7	80	W	13	5.8	.....	0	1ks	.....	W	0.87	22.1	Clear	
New London, Connecticut	29.55	750.6	29.60	751.8	53	11.7	86	W	7	3.1	.....	0	1ks	.....	W	0.61	15.5	Clear	
New Orleans, Louisiana	29.93	760.2	29.99	761.7	54	12.2	73	S	3	1.3	.....	5c	Sm'e	Calm	Calm	0	0	Smoky	
Newport, Rhode Island	29.56	750.8	29.61	752.1	50	10.0	100	SW	13	5.8	.....	.....	Fog	.....	.....	0.23	5.8	Dense fog	
New River, North Carolina	.....	.....	.....	.....	54	12.2	86	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
New York, New York	29.54	750.3	29.72	754.9	53	11.7	72	W	10	4.5	.....	Haze	Haze	.....	.....	1.08	27.4	Fair	
Norfolk, Virginia	29.86	758.4	29.92	760.0	55	12.8	74	W	5	2.2	.....	0	0	.....	.....	0.06	1.5	Clear	
North Platte, Nebraska	26.88	682.7	29.52	749.8	26	— 3.3	94	E	11	4.9	.....	.....	10n	.....	Calm	Inap.	Inap.	Light snow	
Olympia, Washington Ter.	29.94	760.5	29.98	761.5	36.0	2.2	95	S	8	3.6	.....	10k	0	SW	.....	0.35	8.9	Cloudy	
Omaha, Nebraska	28.76	730.5	29.97	761.2	5	—15.0	75	N	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
Oswego, New York	29.37	746.0	29.68	753.9	45	7.2	76	W	12	5.4	.....	.....	10s	.....	W	0.53	13.5	Cloudy	
Pembina, Dakota	29.07	738.4	30.00	762.0	— 2	—18.9	100	N	6	2.7	.....	.....	10s	.....	Calm	0.26	6.6	Cloudy	
Pensacola, Florida	30.01	762.2	30.04	763.0	46	7.8	92	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Philadelphia, Pennsylvania	29.77	756.1	29.82	757.4	50	10.0	72	W	8	3.6	.....	0	0	.....	.....	1.02	25.9	Clear	
Phœnix, Arizona	28.64	727.4	30.48	774.2	41	5.0	65	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.21	437.1	29.42	747.3	2	—16.7	100	SW	24	10.7	.....	8cs	0	Calm	.....	0	0	Fair	
Pilot Point, Texas	29.05	737.9	29.87	758.7	56	13.3	62	SE	.....	.....	.....	0	0	.....	.....	0	0	Clear	
Pioche, Nevada	.....	.....	.....	.....	31	— 0.6	58	W	3	1.3	.....	2c	0	Calm	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.09	738.9	29.92	760.0	39	3.9	73	W	12	5.4	.....	1k	0	W	.....	0.22	5.6	Clear	
Port Huron, Michigan	29.03	737.3	29.70	754.4	35	1.7	80	SW	13	5.8	.....	.....	10ks	.....	SW	0.27	6.9	Cloudy	
Portland, Maine	29.36	745.7	29.41	747.0	50	10.0	100	SE	18	8.0	.....	.....	10s	.....	Calm	0.45	11.4	Cloudy	
Portland, Oregon	29.96	761.0	30.04	763.0	40.5	4.7	87	S	8	3.6	.....	.....	10s	.....	SW	0.41	10.4	Cloudy	
Portsmouth, N. Hampshire	.....	.....	.....	.....	55	12.8	87	SW	9	4.0	.....	0	0	.....	.....	0.55	14.0	Clear	
Prescott, Arizona	24.60	624.8	29.96	761.0	29	— 1.7	78	Calm	.....	.....	0	10c	0	W	.....	0	0	Cloudy	
Punta Rassa, Florida	29.97	761.2	29.98	761.5	71	21.7	90	S	10	4.5	.....	0	8ks	.....	SW	0	0	Fair	
Red Bluff, California	29.65	753.1	30.01	762.2	46	7.8	73	N	8	3.6	.....	.....	10ks	.....	NW	0	0	Cloudy	
Rio Grande City, Texas	29.59	751.6	29.81	757.2	63	17.2	94	E	6	2.7	.....	5cs	2s	W	.....	0	0	Fair	
Rochester, New York	29.07	738.4	29.69	754.1	41	5.0	82	W	12	5.4	.....	0	8s	.....	W	0.11	2.8	Cloudy	
Roseburg, Oregon	29.51	749.5	30.10	764.5	33	0.6	89	NE	1	0.4	.....	.....	10s	.....	Calm	0.32	8.1	Cloudy	
Sacramento, California	29.91	759.7	29.99	761.7	41	5.0	96	SE	5	2.2	.....	5ck	0	W	.....	0	0	Fair	
St. Louis, Missouri	29.33	745.0	29.92	760.0	37	2.8	71	NW	3	1.3	.....	8ck;cs	0	Calm	.....	0	0	Fair	
St. Paul, Minnesota	28.95	735.3	29.83	757.7	14	—10.0	63	W	7	3.1	.....	.....	10s	.....	W	0.08	2.0	Cloudy	
Salt Lake City, Utah	25.52	648.2	29.85	758.2	31	— 0.6	69	Calm	0	0	.....	.....	10s	.....	Calm	0.10	2.5	Threatening	
San Antonio, Texas	29.13	736.9	29.70	754.4	60	15.6	77	SE	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
San Diego, California	29.81	757.2	29.88	758.9	54	12.2	87	E	6	2.7	.....	.....	10s	.....	SW	0	0	Cloudy	
Sandusky, Ohio	29.13	739.9	29.81	757.2	40	4.4	82	S	16	7.2	.....	.....	10s	.....	SW	0.40	10.2	Cloudy	
Sandy Hook, New Jersey	29.71	754.6	29.75	755.6	50	10.0	79	W	18	8.0	.....	1c	0	Calm	.....	1.05	26.7	Clear	
San Francisco, California	29.97	761.2	30.03	762.7	49	9.4	85	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Santa Fé, New Mexico	23.05	585.5	29.59	751.6	24	— 4.4	48	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	29.94	760.5	30.03	762.7	50	10.0	86	NW	4	1.8	.....	0	Fog	.....	Calm	0	0	Clear	
Shreveport, Louisiana	29.65	753.1	29.86	758.4	48	8.9	78	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	29.97	761.2	30.01	762.2	52	11.1	93	Calm	0	0	.....	0	0	.....	.....	0.38	9.7	Clear	
Socorro, New Mexico	25.21	640.3	29.27	743.4	32	0.0	50	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois	29.24	742.7	29.92	760.0	38	3.3	72	W	4	1.8	.....	0	5s	.....	W	0	0	Fair	
Springfield, Massachusetts	29.47	748.5	29.60	751.8	50	10.0	93	SW	2	0.9	.....	0	8s	.....	SW	2.10	53.3	Cloudy	
Stockton, Texas	26.94	684.3	29.94	760.5	45	7.2	24	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	29.49	749.0	29.54	750.3	52	11.1	93	W	26	11.6	.....	0	0	.....	.....	1.07	27.2	Clear	
Toledo, Ohio	29.10	739.1	29.79	756.7	41	5.0	82	SW	16	7.2	.....	.....	10s	.....	SW	0.15	3.8	Threatening	
Tucson, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon	29.17	753.6	30.18	766.6	32.5	0.3	89	NE	3	1.3	.....	8cs	0	Calm	.....	0	0	Fair	
Uvalde, Texas	28.89	733.8	29.70	754.4	69	15.0	82	E	1	0.4	.....	.....	10s	.....	E	0	0	Cloudy	
Vicksburg, Mississippi	29.70	754.4	29.97	761.2	45	7.2	76	S	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Virginia City, Montana	23.92	607.6	29.40	746.7	19	— 7.2	100	Calm	0	0	.....	.....	10n	.....	Calm	0.52	13.2	Light snow	
Visalia, California	29.59	751.6	29.98	761.5	38	3.3	95	SE	1	0.4	.....	0	Fog	.....	Calm	0.01	0.3	Light fog	
Washington, D. C.	29.77	756.1	29.88	758.9	50	10.0	52	NW	21	9.4	.....	0	1s	.....	NW	0.75	19.1	Clear	
Wickenburg, Arizona	.....	.....	.....	.....	34	1.1	79	W	.....	.....	1	2c	0	W	.....	0	0	Fair	
Wilmington, North Carolina	29.90	759.4	29.98	761.5	51	10.6	93	W	2	0.9	.....	0	0	.....	.....	0.58	14.7	Clear	
Winnemucca, Nevada	25.56	649.2	29.92	760.0	30	— 1.1	68	SW	4	1.8	.....	.....	10n	.....	SW	0.04	1.0	Light snow	
Wood's Holl, Massachusetts	29.56	750.8	29.60	751.8	53	11.7	93	W	10	4.5	.....	.....	10s	.....	SW	0.38	9.7	Cloudy	
Yankton, Dakota	28.69	728.7	30.11	764.8	6	—14.4	76	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Yuma, Arizona	29.65	753.1	29.82	757.4	45	7.2	53	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	29.93	760.2	29.98	761.5	69	20.6	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Navassa, W. I.	29.90	759.4	30.04	763.0	78	25.6	78	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.96	761.0	29.96	761.0	81	27.2	83	E	.....	.....	2	.....	8ks	.....	.....	0.310	7.62	Cloudy	C. J. Hering.
Santiago de Cuba, W. I.	29.98	761.5	30.01	762.2	73	22.8	76	NNE	4.8	2.1	.....	2cs	0	.....	.....	0	0	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	30.09	764.3	30.14	765.5	—16.0	—26.7	70	NW	12	5.4	.....	.....	9s	.....	NW	0.05	1.3	Cloudy	J. Fortescue & W. Wood
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 m m.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 3.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 m., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.04‡	763.0‡			54	12.2	87	NE	3	1.3			0			0	0			Clear	
Navy Yard, Portsmouth, N.H	30.04‡	763.0‡			38	3.3	81	SW	4	1.8			0			0	0			Clear	
Naval Hospital, Yokohama, Japan	29.65‡	753.1‡			47.5	8.6	45	W			3		0			0	0			Clear	
Adams, Mare I'd., Navy Yard, Cal.	30.13‡	765.3‡			49	9.4	93	SW			2		0							Clear	
Alaska, S. 18° 30′, W. 70° 26′.....*	29.87‡	758.7‡			65	18.3	73	ENE			1		10		S;W					Hazy	
Alliance, N. 40° 31′, W. 69° 04′.....	29.65‡	753.1‡			53	11.7	100	SE			4–6		10		SE			Mod'ate	SE	Raining	
Colorado, New York, . Y.	29.68‡	753.9‡			51	10.6	79	SW	2	0.9			0			1.26	32.0			Clear	
Constitution, Hampton Roads, Va....	29.92‡	760.0‡			51	10.6	100	WNW			3		0							Clear	
Enterprise. Beirut, Syria	30.09‡	764.3‡			71	21.7	75	SW			1		4		WSW			Smooth		Clear	
Franklin, Off Navy Yard, Norfolk, Va.	29.93‡	760.2‡			53	11.7	86	WSW	5	2.2			2		SW	0.06	1.5			Fair	
Independence, Mare I'd, Navy Yard, Cal.	30.02‡	762.5‡			58	14.4	88	Calm	0	0			2		Calm	0	0			Clear	
Kearsarge, Port Royal, S. C.	30.04‡	763.0‡			53	11.7	86	NW			1		1		NW	0	0	Smooth		Blue sky	
Lackawana. N. 28° 57′ W. 152° 00′..†	30.21‡	767.3‡			70	21.1	85	SSE			3		2		SSE			Smooth	SE	Fair	
Marion. Navy Yard, Brooklyn, N.Y.	29.74‡	755.4‡			53	11.7	80	WNW			2		0							Hazy	
Michigan, Erie, Pa.	29.74‡	755.4‡			39	3.9	83	WSW			2		10		WSW					Cloudy	
Monocacy, Shanghai, China..	30.52‡	775.2‡			30	—1.1	90	NW			2		0							Clear	
New Hampshire, Port Royal, S. C.	30.01‡	762.2‡			51	10.6	93	NNW	6	2.7			0			0	0			Clear	
Nipsic, Norfolk, Va.	29.92†	760.0‡			50	10.0	?	SW			3		2							D. clouds	
Onward, Callao, Peru †.	29.89‡	759.2‡			65	18.3	84	S			1		5					Long smooth	W	Hazy	
Palos. Tientsin, China.	30.44‡	773.2‡			32	0.0	59	WNW			0–1		0							Clear	
Passaic, Washington, D. C.	29.90‡	759.4‡			49	9.4	93	WNW			3		2							Clear	
Pensacola, Callao, Peru	29.90‡	759.4‡			63	17.2	94	Calm			0		10					Smooth		Overcast	
Powhatan, Navy Yard, Brooklyn, N.Y.	29.92‡	760.0‡			53	11.7	73	W			3		0			0	0			Clear	
Quinnebaug, Genoa, Italy	29.96‡	761.0‡			40	4.4	48	N			3		0							Clear	
Ranger, N. 3° 50′, W. 169° 36′.....	29.55‡	750.6‡			69	20.6	90	SE			5–6		10		SE			Mod'ate	SE	Cloudy	
Richmond. Min river, China	30.42‡	772.7‡			52	11.1	60	NE			3		0					Smooth		Clear	
Rio Bravo, Brownsville, Texas... †.	29.96‡	761.0‡			69	20.6	95	SE	1	0.4		5	2	Calm	S	0	0			Cloudy	
Santee. Annapolis, Md	29.91‡	759.7‡			50	10.0	64	W			3		2		SW	0.20	5.1			Clear	
Shenandoah, S. 5° 32′, W. 43° 00′.....	29.75‡	755.6‡			76	24.4	91	WNW			3		10					Smooth		Cloudy	
St. Louis, League Island, Pa.	29.82‡	757.4‡			49	9.4	78	WNW	12	5.4			2		W	1.1	28.			Clear	
Tuscarora, Acapulco. exico	29.83‡	757.7‡			77	25.1	95	Calm			0		5		Calm	0	0	Smooth		Fair	
Vandalia. Navy Yard, Brooklyn, N.Y	29.70‡	754.4‡			55	12.8	??	W			2		0							Clear	
Wabash, Boston, Mass.	29.42‡	747.3‡			56	13.3	63	SW	13	5.8			10			0.35	8.9			Light rain	
Wachusett, S. 18° —′, W 38° —′.....†	30.44‡	773.2‡			80	26.7	82	NNE			4		5		NNE			Long	NNE	Fair	
Wyoming, Gibraltar, Mediterranean	30.19‡	766.8‡			62	16.7	56	Calm			0		2					Smooth		Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		CHARACTER.	DIRECTION FROM—		

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S. S. Samaria																			Capt. T. Roberts.

NOTE—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama																			Capt. Seabury.
S. S. City of Peking																			Capt. Berry.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio, Capt. Maury																			L. B. Walls.
S. S. Colima																			Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota, Capt. H. G. Morse																			W. House & R. Lawless.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin																			F. W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Sydney, New South Wales		29.61‡	752.1‡				NE			2				SW				Overcast	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The orginals give the barometer as read off; wind-force by the scale 0 to to 12; for the Brittanic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer N. 30° 29′, E. 131° 53′..†		30.09‡	764.3‡	61	16.1	71	NW			6		10		NW		Rough	NW	Squally	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson N. 38° 16′, W. 125° 14′..†		30.07†	763.8‡	55	12.8		Var.			2		ks		SW	0	Mod'ate	SW	D. clouds	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undutsch.
S. S. Leipzig, Capt. F. Pfeiffer. N. 49° 51′, W. 31° 18′		29.82‡	757.4‡	54.5	12.5	68	SSE			4		10		SE	2 hrs	Mod'ate	SW	Drizzling	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 43° 37′, W. 54° 44′		30.40‡	772.1‡				Calm			0		5		W		4	N	Cloudy?	Capt G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness by the scale 0 to 4, do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD.	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		CHARACTER.	DIRECTION FROM—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa		29.80‡	759.2‡	45	7.2		W			4		1		WSW	Heavy			Clear	Capt. R. W. Sargent
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.
RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents.																			
S. S. Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES—Miscellaneous.																			
Furnished by the co-operation of the Observers named.																			
Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Barkentine "Carrie Heckle" N. 38° 35′, W. 64° 40′	*	29.87‡	758.7‡	69	20.6		S			9		10		SSW	0	Rough	S	Cloudy	B. F. Woodbury.
Brigantine "George" of Halifax. N. 22° 20′, W. 67° 30′	†	29.97‡	761.2‡	80	26.7		NW			2		2				Light		Fine	N. B. Foss.
Schooner Harry and Fred																			Capt. George Gardner.
Haytian																			
§ Iron Cross																			Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; do not distinguish between upper and lower clouds; sea-swell in general terms, as published. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. *The error of the barometer is not known. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; amount of cloudiness by vario is scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time. *Instrumental error not known.

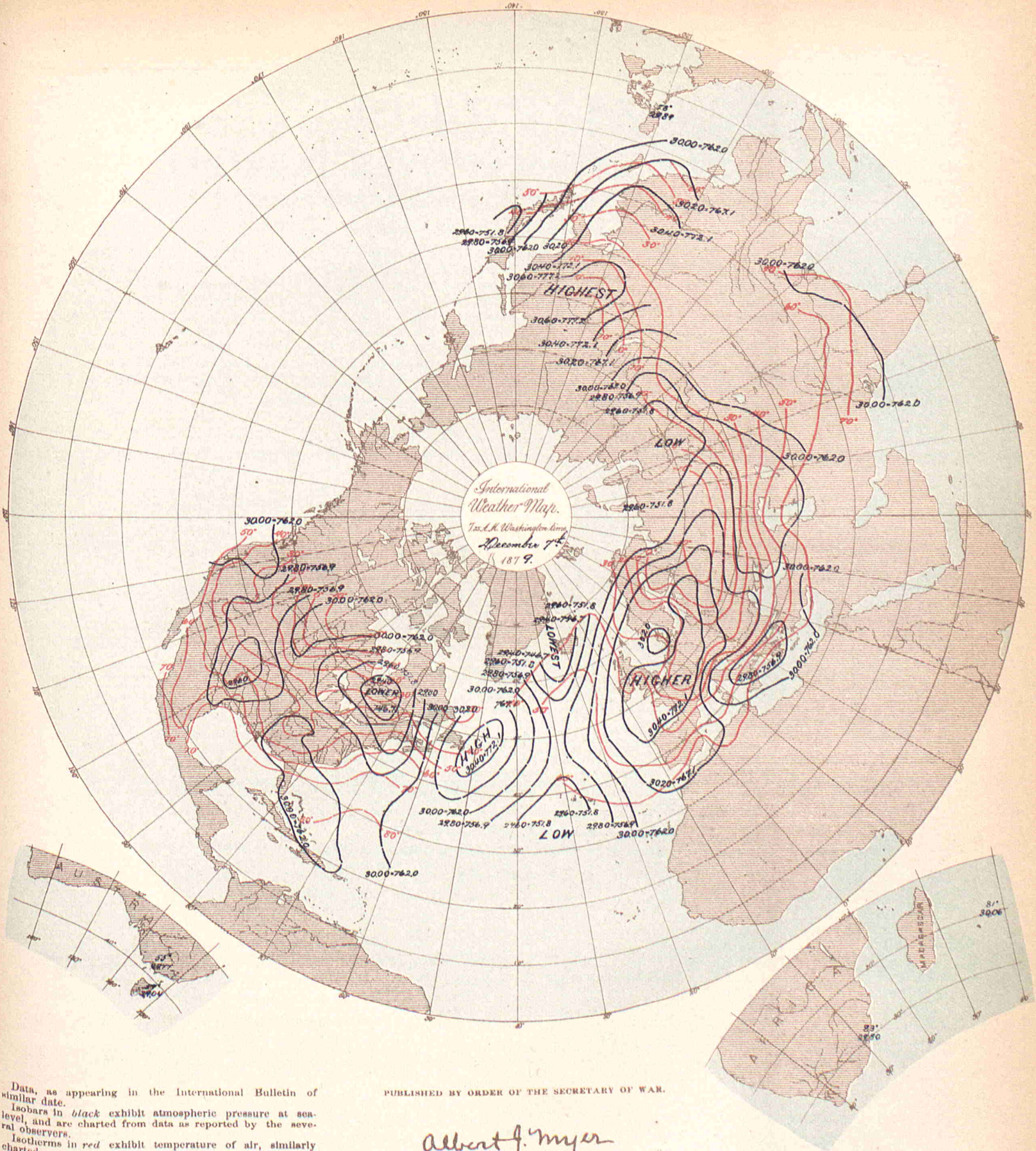
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 8, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time
1:57 P. M. CAPE TOWN, C. G. H. mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:38 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer, corrected for instrum'tal error and temperature. Inches.	Barometer, corrected for instrum'tal error and temperature. Millimeters.	Barometer, reduced to sea-level. Inches.	Barometer, reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.16	766.0	65.7	18.7	84	SE			1		5			0	0	Cloudy	
Nemours			30.29	769.3	62.2	16.8	70	E			2		5			0	0	Cloudy	Kesxuche.
Algiers			30.29	769.4	55.0	12.8	65	NNE			2		5			0.228	5.8	Cloudy	Tourilliere.
La Calle			30.21	767.4	53.6	12.0	69	NNW			5		8			1.890	48.0	Very cloudy	Foufrede.
Tunis																			Jacques.
Sfax			30.26	768.5															Gau.
Saida																			Herbin.
Tebessa			30.21	767.3	42.6	5.9	79	N			5		10			0	0	Covered	Watrin.
Geriville					53.4	11.9	48	NNW			3		5			0	0	Cloudy	Brugniuax.
Laghouat			30.27	768.9	54.3	12.4	54	NNE			1		2			0	0	Fair	Bertrand.
Biskra			30.23	767.9	60 8	16.0	71	NW			4		2			0	0	Fair	Chanvaux.

NOTE.—The originals give the amount of cloudiness by the scale 0–4; no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.87	758.7	30.48	774.1	17.6	— 8.0	82	NE			4		4			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.85	758.2	30.73	780.6	—1.8	—18.8	88	ESE	0	0			0			0	0		Dr. Wierzbicki.
Eperies	29.64	750.2	30.52	775.3	8.1	—13.3	72	N			3		2cs			0	0		Julius Mikolik.
Gratz	29.14	740.2	30.52	775.2	15.8	— 9.0	57	SW			3		0			0	0		Andreas Rospini.
Hermannstadt	28.82	732.0	30.38	771.7	18.0	— 7.8	95	N			2		10			0.022	0.55	Snowing	Prof. A. Gottschling
Kremsmünster	29.12	739.7	30.61	777.4	15.3	— 9.3	94	Calm			0		10			0.071	1.8		Prof. C. Wagner.
Lemberg	29.45	748.1	30.59	777.0	9.5	—12.5	98	NW			3		10			0	0		Dr. T. Stanecki.
Pola	30.15	765.9	30.28	769.0	26.4	— 3.1	89	NNE			5		4			0	0		I.R.Hydrographic Office
Szathmar	29.97	761.2	30.50	774.6	6.8	—14.0	79	S			2		0			0	0		Pet. Pancsics, S. J.
Szegedin	30.14	765.6	30.45	773.5	13.3	—10.4		N			4		0			0	0		Karl Stancel.
Trieste	30.19	766.7	30.29	769.3	23.2	— 4.9	84	ENE			4		5			0	0		P. Busin.
Vienna	29.79	756.6	30.54	775.6	12.2	—11.0	82	NE			2		0			0	0		I.R. Central Met. Ob'sy

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C., as Second-Class Matter

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.38	771.6	30.48	774.2	35.5	1.9		WSW	8	3.6			6			0	0	Misty	W. Boswell.
Ardrossan	30.49	774.4	30.51	774.9	37	2.8		Calm			0		3					Blue sky	Wm. McNeil & G. Carrick.
Armagh, (Observatory)	30.31	769.9	30.56	776.2	31.8	— 0.1		SW	4	1.8								Foggy	S. Call.
Bidston (Liverpool Obs)			30.54	775.7	38.9	3.6		NW	5	2.2			2					Blue sky	John Hartnup.
Bolton (Sharples)	29.96	761.0	30.50	774.7	37.3	2.9		NW	6	2.7			0					Blue sky	Thomas M. Ekereth.
Bradford, Yorkshire	30.13	765.3	30.52	775.2	35.7	2.1		NW			1		9			0	0	Overcast	J McLandsborough.
Bridgetown, Barbadoes	29.90	759.4	29.93	760.2	83	28.3		NE			2		6					Gloomy	Pvt. G. Surgener, A.H.C.
Cambridge (Observatory)	30.36	771.1	30.46	773.7	35.0	1.7		NNW			1		10			Blank	Blank	Overcast	H. Todd.
Cardington			30.48	774.2	36.6	2.6		N			0-1		7					D. clouds	John McLaren.
Chatham (School M. E.)	30.32	770.1	30.46	773.7	35.2	1.8		N			1		5					D. clouds	J. Carmell, Sapper, R.E.
Donaghadee	30.48	774.2	30.53	775.4	38	3.3		W			2		3					D. clouds	J. Mac Gowan.
Dover	30.38	771.6	30.41	772.4	35	1.7		N			3		5					Misty	J. Costello.
Falmouth (Observatory)	30.34	770.6	30.58	776.7	43.0	6.1		WNW			1		10					Raining	The Staff.
Fort Napier, Natal	27.42	696.5	29.63	752.6	95.0	35.0		N			1		0					Blue sky	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone																			
Galway (Queen's College)			30.50	774.7	31	— 0.6		Calm			0		Fog					Foggy	Prof. A. H. Curtis.
Gibraltar, Mediterranean																			Sergt. Wm. Allen, A. H.
Glasgow, (Observatory)	30.29	769.4	30.50	774.7	37.2	2.9		NNW			1		0					Blue sky	D. G. Maclean. [O.
Great Yarmouth	30.43	772.9	30.44	773.2	36	2.2		NE			4		6					D. clouds	G. T. Watson.
Greenwich (Royal Obs'y)	30.31	769.9	30.49	774.4	36.5	2.5		N			1		9			Blank	Blank	Almost overcast	The Staff, for G. B. Airy.
Guernsey	30.29	769.4	30.51	774.9	42.5	5.8		NW			2		8			Blank	Blank	D. clouds	Dr. S. E. Hoskins, F.R.S.
Helston	30.68	779.3	30.81	782.6	44	6.7		E			0		10n					Raining	M. P. Moyle.
Holyhead	30.46	773.7	30.54	775.7	41	5.0		SW			1		1					Blue sky	John Tilston.
Jersey	30.24	768.1	30.54	775.7	42.8	6.0		W			4		10					Raining	J. Fisher.
Kew (Observatory)	30.46	773.7	30.50	774.7	37.6	2.8		NNW	10	4.5			8					Misty	The Met'g'l Office.
Leicester (Museum)	30.24	768.1	30.52	775.2	37.0	2.8		NE			1		10					Overcast	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	29.98	761.5	30.05	763.3	56.8	13.8		NW			2		4k					D. clouds	A. King.
Nairn	30.31	769.9	30.40	772.1	40	4.4		W			1		2					¼ clouded	W. D. Penny.
Nassau, Bahamas			30.12	765.0	72.5	22.5		NE			1		4					D. clouds	C. S. Duncombe.
Nottingham (Observatory)	30.34	770.6	30.54	775.7	37.1	2.8		N			1		10k		N	0.008	0.20	Overcast	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.97	761.2	30.52	775.2	38.0	3.3		NNE			1-2		9					D. clouds	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)			30.52	775.2	37	2.8		NNW			1		8					Overcast	H. E. Bellamy.
Plymouth	30.47	773.9	30.55	776.0	38.8	3.8		Calm			0		10					Misty	John Merrifield.
Prince Town																			W. H. Tooker.
*Roche's Point	30.47	773.9	30.53	775.4	35	1.7		N			2							Dense fog	Wm. Kennedy.
St. Ann's Head	30.39	771.9	30.56	776.2	41	5.0		NE			1		7					D. clouds	John C. Walker.
Sandwick Manse, Orkneys			30.35	770.9	41.7	5.4		SSW	14	6.3			0					Blue sky	Rev. C. Clouston, L.L.D.
Scutari Cemetery, Turkey	30.12	765.0	30.19	766.8	36.2	2.3		NE			3		10					Drizzling	Serg't W. H. Lane.
Sheffield	30.25	768.3	30.54	775.7	38.2	3.4		NE			1		10			0	0	Overcast	W. F. Cooper.
Silloth Rectory	30.50	774.7	30.53	775.4	27.5	— 2.5	90	Calm			0		10			0	0	Overcast	Francis Redford, A. M.
Stonyhurst (Observatory)			30.52	775.2	32.0	0.0		NNE	4	1.8			2					Misty	Rev. S. J. Perry.
Stratfield, Turgiss	30.28	769.1	30.51	774.9	37.0	2.8		NE			1		9					Foggy	Rev. C. H. Griffith, F.M.S.
Truro (Royal Institution)	30.46	773.7	30.55	776.6	45	7.2		NW			1		8					Gloomy	W. Newcombe.
Valencia (Observatory)	30.51	774.9	30.53	775.4	43.9	6.6		ESE	9	4.0			2					D. clouds	The Met'g'l Office.
Sub-Series.																			
Cape Town (C. G. H. Obs'y)																			The Staff, for D. Gill.
Colesberg Bridge, Cape Col.																			Robert Burnet.
Constable, Cape Colony	26.74	679.2			71	21.7		W					8						Francis Abbott, F.R.A.S.
Hobart Town, Tasmania			29.54	750.3	59.0	15.0	94	S			3		5k			0.22	5.6		Andrew Gibb.
Leith (Restalrig Park) Sc'tl'd			30.52	775.2	36.0	2.2		NW			1		10s			0	0	Squally	C. Meldrum.
Mauritius (Observatory)	29.82	757.4	30.01	762.3	81.1	27.3	50	ESE	13.0	5.8		0	2		SSW	0	0	Overcast	R. L. J. Ellery.
Melbourne (Observatory)	29.88	758.9	29.97	761.2	54.4	12.4	78	WSW	6	2.7			1			0	0	Fine	J. Youngclause.
Monach Lt-house, Hebrides			30.32	770.1	49	9.4		SW			4		10			0.1	2.	Very fine	
North Unst, Shetland Is			30.22	767.6				SW			6	10	10	SW		0	0		

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670′ meters; Prince Town, 1,400 feet, or 427 meters; Colesberg Bridge and Constable, unknown.

British Marine Series. Vessels.																Sea or swell.			
H. M. S. Alert, Port Henry, Patagonia			29.76‡	755.9‡	50.5	10.3		NNE			2		7					D. clouds	Capt. J. P. Maclear, R.N.
H. M. Sloop Gannet, S. 18° 28′, W. 70° 21′			29.93‡	760.2‡	67.5	19.7		SSW			1		9					Overcast	Commander E. Bourke, R. N.
H. M. S. Magpie, House Islands, near Shanghai, China			30.37‡	771.4‡	42.5	5.8		Calm			0		2					Misty	Capt. R. H. Napier, R.N.
Brig Alliance, N. 46° 55′, W. 30° 40′			29.88‡	758.9‡	57	13.9		NE			7		10					Overcast	Capt. W. Scott.
Barque Belle-Isle, N. 25° 05′, W. 73° 40′			30.16	766.1	77	25.0		NE			3		2			2	NE	Blue sky	Capt. A. J. Brown
City of Cashmere, N. 14° 32′, W. 124° 06′			29.88‡	758.9‡	75	23.9		ENE			5		8					D. clouds	Capt. W. M. Grieve.
Barque Fedalma, N. 15° 20′, W. 60° 50′			29.98	761.5	79	26.1		Calm			0		8			2	NE	Showery	Capt. H. L. Fox.
S. S. Iron Cross, N. 25° 50′, W. 83° 20′			30.10	764.5	76	24.4		SE			3		6			2	ESE	D. clouds	Capt. W. Randall.
S. S. Peruvian, N. 54° 20′, W. 29° 10′			30.22	767.6	47	8.3		N			4		6		W	4	Confused	D. clouds	Capt. W. H. Smith.
S. S. Strathleven, S. 38° 30′, E. 139° 25′			29.97‡	761.2‡	54.5	12.5		Calm			0		3					D. clouds	Capt. C. W. Pearson.
Light House Tender Richmond, N. 26° 02′, W. 79° 09′			30.15	765.8	74	23.3		ESE			1		6			1		D. clouds	Capt. W. H. Stewart.
S. S. Gordon Castle																			Capt. Wm. Waring.
German Brig "W. von Freeden"																			Capt. H. V. Freeden.
S. S. Ethiopia																			Capt. Campbell.
S. S. Sunbeam																			Capt. C. M. Dobson.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. L'w'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
San José	26.17	664.7	29.89	759.2	68.4	20.2	85	NE			2	3c;ck	2d		NE	0	0		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.58	776.6	30.62	777.8	27.1	—2.7	92	SSW			2		10						
Farõe	30.58	776.8	30.60	777.3	19.4	—7.0	97	S			2		10						
Godthaab (Greenland)																			
Stykkisholm (Iceland)	29.99	761.8	30.04	762.9	23.5	—4.7	88	NE			6		8					Snowing	
Thorshavn (Farõe)	29.85	758.2	29.80	759.1	46.0	7.8	94	SW			8		3						
Vestervig	30.46	773.6	30.57	776.4	25.7	—3.5	100	S			4		10					Foggy	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.93	760.3	30.48	774.3	27.3	—2.6	92	W			1		2k					Snowing	Collignon, Director.
Amiens, Normal School	30.19	766.7	30.30	769.7	31.3	—0.4	73	SSW			1		10		Calm	0	0	Covered	Vaillant, Director.
Arras, Engin'r School	30.17	766.2	30.44	773.1	20.7	—6.3	94	SE			3		10					Snowing	Klein, Commandant.
Avignon, Normal School	30.31	769.8	30.39	771.8	26.4	—3.1	51	NNW			6		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.97	761.3	30.60	771.1	12.6	—10.8		SSE			2		10			0	0	Covered	C. Saillard, Director.
Beauvais, Normal School	30.13	765.4	30.42	772.7	30.0	—1.1	94	ENE			1		10			0.020	0.50	Covered	Frère Eugene Marie.
Besançon, Normal School	29.62	752.3	30.60	777.2	17.6	—8		E			1		0			0	0	Clear	A. Carré, Director.
Bourg-en-Bresse, N. School	29.67	753.5	30.58	776.8	14.0	—10	94	N			3		0			0	0	Clear	Marlot, Director.
Bourges, Normal School	29.98	761.6	30.59	776.9	23.9	—4.5	89	SW			1		10n		SW	0.31	8.	Snowing	M. Gence, Director.
Brest, Naval Observatory	30.36	771.1	30.60	777.3	37.4	3.0	55	Calm			0		10		NE	0	0		Ch. de Rermaree, Dir.
Caen, Normal School	30.36	771.1	30.44	773.2	37.4	3	76	SW			0–1				NNW	0	0		M. Bietrin, Director.
Carcassonne, N. School	30.07	763.8	30.52	775.2	25.5	—3.6	69	WNW			1		0			0	0	Clear	September, Director.
Châlons-sur-Marne, N. Sch'	30.24	768.1	30.60	777.1	11.3	—11.5		S			1		0					Clear	Jadot, Director.
Chartres, Normal School	29.89	759.1	30.51	774.9	22.1	—5.5	76	N			3		10					Snowing	Vergier, Director.
Clermont-Fd, Puy de D. Obs	29.69	738.9	30.60	777.3	24.1	—4.4	54	N			1		0?					Snowing?	Alluard, Director.
Commercy, Normal School	29.67	753.6	30.62	777.8	6.8	—14		NW			1		10			0	0	Misty	Dr. Coullet, Director.
Commune de Gréasque*	29.15	740.3	30.29	769.3	26.6	—3.0	92	NW			1		2		NW	0.08	2.		L. Kina, Director.
Grenoble, Normal School	29.74	755.5	30.59	777.0	18.3	—7.6		NW			1		2kn	N		0.362	9.2	Slightly cld'y	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.37	771.4	30.60	777.2	32.0	0.0	97	SW			1		0			0	0	Clear	Mouillot, Director.
Le Mans, Normal School	30.22	767.5	30.55	776.0	28.0	—5	76	W			2		5		NW	0	0	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.52	749.8	30.39	772.0	14.2	—9.9	87	W			1		0			0	0	Foggy	A. Baudry, Director
Lorient, Naval Observatory	30.49	774.5	30.60	777.3	32.4	0.2	86	N			1				N	0	0		Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.90	759.5	30.58	776.7	19.4	—7.0	69	ENE			1		0			0	0	Clear	Ch. André, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.98	761.4	30.26	768.6	32.7	0.4	61	NW			2		0			0.008	0.20	Clear	E. Stephan, Director.
Mirecourt, Normal School	29.47	748.4	30.05	778.5	5.4	—14.8		N			1		2n		N	0	0	Foggy	Barbier, Director.
Mont-Louis	24.96	634.0	30.28	769.0	23.0	—5.0	38	N	7.4	3.3			4		E	0	0		M. Cave.
Nice	30.19	766.9	30.23	767.8	47.5	8.6	40	W			2		2	W	W	0	0	Slightly cld'y	M. Boissière, Director.
Nismes, Normal School	30.26	768.5	30.43	773.0	31.3	—0.4		N			3		0			0	0	Clear	M. Boyer, Director.
Paris, Montsouris Obs'y	30.15	765.8			22.3	—5.4	95	SSE			1		10			0.079	2.0	Snowing	Marié Davy, Director.
Perpignan	30.29	769.4	30.40	772.2	40.3	4.6	11	N	28.0	12.5			0			0	0		Dr. Fines.
Pic du Midi (Plantade) H. P.	22.53	572.2			14.0	—10.0									NE	0	0		Gen'l de Nansouty.
Pic du Midi (Summit) H. P.																			M. Baylac.
Privas, Normal School	29.34	745.1	30.50	774.6	22.6	—5.2		N			1		0			0	0	Clear	M. Tallieu
Puy de Dome (Summit) Obs	25.30	642.7			12.0	—11.1	68	NNE			2		2			0	0	Rain at distance	Alluard, Director.
Rochefort, Naval Obs'y	30.62	777.8	30.65	778.6	32.0	0.0	81	E			1		0			0	0	Clear	Lt E. Decante, Director
Rouen, Normal School	30.35	771.0	30.44	773.2	36.7	2.6	90	W			1		2		N	0.217	5.5	Slightly cld'y	Frere Lucard, Director.
Saint Mulo (Port) Obs'y	30.49	774.4	30.52	775.2	39.0	3.9	54	WSW			4			WSW	WSW	0	0		Lt. Hercouet, Director
Saint Maur (near Paris)	30.29	769.3	30.45	773.5	22.3	—5.4	97	SSE			2		10			0.291	7.4	Snowing	E. Renou, Director.
Tarbes, Normal School	29.31	744.4	30.46	773.6	33.8	1	60	W			1		0			0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.84	758.0	30.58	776.7	24.8	—4.0	59	NNW			1		0			0	0	Clear	M. Juher Mercadier.
Tours	30.33	770.4	30.53	775.4	24.8	—4.0		W			1		10		N	0	0	Covered	Cousin-Marquet.
Versailles, Observatory	29.91	759.8	30.41	772.3	28.8	—1.8	92	WNW			1		10			0	0	Covered	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.81	757.1	30.59	776.9	23.0	—5	48	E			1		0			0	0	Clear	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.95	760.7	29.98	761.4	75.2	24										0	0		L'Abbé Marchési
Zi-Ka-Wei (near Shanghai	30.34	770.5	30.36	771.1	32.7	0.4	81	W	1.1	0.5			7			0	0	Very cloudy	Marc Dechevrens.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fal as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinctior between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,082.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 136.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity Miles per hour.	Wind. Velocity Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.72	754.9	30.58	776.8	8.6	—13.0	100	NE	.....	.....	4	.....	8ks	N	.....	0	0	Foggy	Prof. Dr. Hoh.
Berlin	30.44	773.2	30.63	778.0	20.3	— 6.5	87	NW	.....	.....	1	.....	10	.....	.....	0	0	.....	Prof. Dr. Arndt.
Breslau	30.12	765.0	30.66	778.8	0.3	—17.6	74	ENE	.....	.....	2	.....	1	.....	.....	0	0	.....	Royal University Obs'y.
Carlsruhe	30.15	765.8	30.63	778.0	14.0	—10.0	87	NE	.....	.....	1	.....	0	.....	.....	0	0	.....	Albert Senz.
Cassel	30.07	763.6	30.68	779.3	2.8	—16.2	75	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Dr. H. Möhl.
Emden	.....	.....	30.63	778.1	20.3	— 6.5	80	SSE	.....	.....	0	.....	0	.....	.....	0	0	.....	Prof. Dr. Prestel.
Frankfort on the Main	30.35	771.0	30.75	781.0	8.6	—13.0	95	NE	.....	.....	1	.....	3	.....	.....	0	0	.....	Physical Society.
Friedrichshafen	29.02	737.2	30.61	777.4	13.5	—10.3	80	E	.....	.....	3	.....	0	.....	.....	0	0	.....	Chief Telegrapher Wilhelm.
Hamburg	30.60	777.3	30.67	779.1	15.1	— 9.4	91	SE	.....	.....	1	.....	1	.....	.....	0	0	.....	Capt. P. F. A. Hegerman.
Kiel	30.65	778.4	30.66	778.8	24.3	— 4.3	77	SW	.....	.....	2	.....	2	.....	.....	0	0	.....	Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.63	778.0	30.72	780.4	— 3.1	—19.5	52	SW	.....	.....	3	.....	0	.....	.....	0	0	.....	Prof. E. Luther.
Köslin	.....	.....	30.69	779.4	6.6	—14.1	.....	SE	.....	.....	2	.....	1	.....	.....	0	0	.....	H. Müller.
Leipsic Observatory	30.24	768.0	30.70	799.9	14.7	— 9.6	84	W	.....	.....	1	.....	9	.....	.....	0	0	Foggy	Prof. Dr. Bruhns, Privy Counselor
Magdeburg	30.44	773.2	30.67	779.1	16.2	— 8.8	72	N	.....	.....	1	.....	9ks	.....	.....	0	0	Dense fog	Dr. Assmann.
Memel	30.59	776.9	30.63	778.1	10.2	—12.1	93	WSW	.....	.....	2	.....	5k	.....	.....	.....	.....	.....	Reinbrecht & Issermann.
Munich (München)	28.64	727.4	30.53	775.5	11.8	—11.2	83	N	.....	.....	1	.....	9	.....	.....	0.008	0.2	.....	Dr. C. Lang.
Neufahrwasser	30.70	779.7	30.71	780.1	— 0.8	—18.2	89	SE	.....	.....	2	.....	3	.....	.....	0	0	.....	A. Lothes.
Neustadt (Palatinate)	30.07	763.8	30.61	777.4	4.6	—15.2	.....	Calm	.....	.....	0	.....	6	.....	.....	0	0	.....	Reallehrer Dicknether.
Posen	30.39	771.9	30.72	780.2	6.3	—14.3	50	N	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. Dr. Magener.
Strassburg (in Alsace)	30.06	763.5	30.69	779.6	0.9	—17.3	100	Calm	.....	.....	0	.....	5	.....	.....	0	0	Foggy	Imp. University Observatory.
Stuttgart	29.58	751.3	30.63	777.9	10.4	—12.0	75	N	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. Dr. Schoder.
Weissenburg (Bavaria)	29.00	736.6	30.59	776.9	11.3	—11.5	89	Calm	.....	.....	0	9ck	.....	.....	NE	0	0	Foggy	Reallehrer J. Hopfner
Wustrow	30.64	778.2	30.66	778.8	25.5	— 3.6	95	SE	.....	.....	2	.....	10s	.....	.....	0	0	.....	E. Schütz, Director.
German Naval Series.																			
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NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.60	751.7	29.99	761.8	55.2	12.9	.....	NE	.....	.....	1.5	.....	5	.....	.....	.....	.....	⅛ Clear	Dr. J. F. J. Schmidt.
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NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	30.07	763.7	30.12	765.0	71.3	21.8	43	NNW	15	6.7	.....	.....	0	.....	.....	0	0	Blue sky	
Deesa	29.54	750.4	30.03	762.6	75.7	24.3	24	N	12	5.4	.....	.....	0	.....	.....	0	0	Blue sky	
Bombay	29.88	758.9	29.92	759.9	76.5	24.7	74	WNW	9	4.0	.....	.....	5	W	.....	0	0	Blue sky	
Poona (Yerrowda)	28.06	712.7	29.93	760.2	76.5	24.7	29	E	5	2.2	.....	.....	2	WSW	.....	0	0	D. clouds	
Belgaum	27.37	695.2	29.93	760.1	73.0	22.8	28	ENE	5	2.2	.....	.....	7	SE	.....	0	0	D. clouds	
Lahore	29.34	745.2	30.12	765.1	58.6	14.8	42	Calm	0.3	0.1	.....	.....	0	.....	.....	0	0	D. clouds.	
Roorkee	29.14	740.0	30.09	764.2	57.2	14.0	49	NW	1.3	0.6	.....	.....	0	.....	.....	0	0	Blue sky	
Agra	29.48	748.6	30.07	763.7	61.8	16.6	43	W	2.1	0.9	.....	.....	0	.....	.....	0	0	Blue sky	
Nagpur	28.94	735.0	30.01	762.3	67.7	19.8	37	Calm	2.8	1.2	.....	.....	0	.....	.....	0	0	.....	
Jubbulpore	28.63	727.2	30.03	762.8	69.7	20.9	23	NE	2.1	0.9	.....	.....	0	.....	.....	0	0	Blue sky	
Lucknow	29.67	753.6	30.07	763.7	61.3	16.3	58	Calm	0.6	0.3	.....	.....	0	.....	.....	0	0	Blue sky	
Allahabad	29.74	755.5	30.08	763.9	56.7	13.7	63	Calm	0.8	0.4	.....	.....	0	.....	.....	0	0	Blue sky	
Patna	29.86	758.4	30.05	763.2	65.8	18.8	59	W	0.2	0.1	.....	.....	2	.....	.....	0	0	D. clouds	
Hazaribagh	27.95	710.0	30.04	763.1	61.0	16.1	40	NW	3.4	1.5	.....	.....	2	W	W	0	0	.....	
Cuttack	29.93	760.2	30.02	762.4	65.9	18.8	63	ENE	2.0	0.9	.....	.....	0	.....	.....	0	0	Blue sky	
Calcutta (Alipore)	29.98	761.6	30.01	762.1	63.8	17.7	68	Calm	.....	.....	.....	.....	0	.....	.....	0	0	Blue sky	
Goalpara	29.59	751.6	29.99	761.8	71.6	22.0	59	Calm	3.4	1.5	.....	.....	0	.....	.....	0	0	Blue sky	
Chittagong	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Sibsagar	29.69	754.0	30.03	762.8	69.0	20.6	75	ENE	1.2	0.5	.....	.....	0	.....	.....	0	0	Blue sky	
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NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,361 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.93	760.2	30.36	771.2	23.5	— 4.7	55	Calm	0	0			9						Prof. Giovanni Clodig.
Milan	29.81	757.1	30.36	771.1	27.7	— 2.4	46	E			2		10	N		0	0		Prof. Schiaparelli.
Padua	30.26	768.5	30.37	771.4	28.7	— 4.6	68	NE	13.7	6.1			7	E		0	0		Prof. Dott. Lorenzoni.
Moncalieri	29.37	746.1	30.33	770.4	29.3	— 1.5	74	SSE	1.8	0.8			8	N		0	0		Prof. P. F. Denza.
Genoa	30.08	764.1	30.28	769.2	29.5	— 1.4	55	N	11.2	5.0			0			0	0		Prof. G. M. Garibaldi.
Mondovi	28.27	718.0	30.27	768.9	22.6	— 5.2	73	W			2		6			0.079	2.0		Prof. D. C. Bruno.
Pesaro	30.20	767.1	30.25	768.4	28.9	— 1.7	66	N	29.8	13.3			10			0.043	1.1		Prof. Luigi Guidi.
Florence	29.98	761.5	30.25	768.3	30.4	— 0.9	67	NE			6		0			0	0		Cav. F. Meucci.
Leghorn	30.16	766.1	30.25	768.3	33.3	0.7	51	ENE	19.9	8.9			2			0	0		Prof. P. Monte.
Rome	29.85	758.1	30.03	762.7	40.6	4.8	81	N	16.8	7.5			2			0	0		Prof. P. S. Ferrari.
Lecce	29.69	754.2	29.95	770.7	46.4	8.0	67	N	14.3	6.4			5	N		0	0		Prof. C. De Giorgi.
Cosenza	29.08	738.5	29.98	761.4	39.2	4.0	77	NW	0.7	0.3			10			0.709	18.0		Prof. D. Conti.
Cagliari	29.85	758.1	30.04	763.1	45.0	7.2	71	NW			1		10			0	0		Prof. A. Pacinotti.
Palermo	29.74	755.5	30.00	762.1	51.1	10.6	44	W	11.2	5.0			7	W		0.008	0.2		Prof. G. Ciaccintore.
Syracuse	29.95	760.7	30.02	762.6	53.8	12.1	37	WNW	12.5	5.6			2	W		0	0		Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.41	747.0	29.96	761.0	36.0	2.2	73	NE	4.3	1.9			10			0.028	0.7		Prof. F. Brioschi

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.05	763.3	30.07	763.8	37.6	3.1	71	NNE	4.2	1.9		0	0			0	0	Clear.	K. Sasaki.
Nagasaki, I. M. Obs'y	29.99	761.7	30.20	767.1	41.2	5.1	82	NW	2.1	0.9			0			0	0	Clear.	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.66	753.3	29.73	755.1	44.3	6.8	63	W	8.7	3.9		0	0			0	0	Clear.	The Staff.
Wakayama	29.99	761.7	30.04	763.0	45.1	7.3	53	NW	9.3	4.2			0			0	0	Clear.	

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima																			R. Banda, C. E.
Guadalajara	25.06	636.4	30.25	768.4	41.9	5.5	55	SW			1		3		Calm	0	0	Clear.	Prof. L. Perez.
Leon	24.43	620.5	30.22	767.6	51.1	10.6	79	N			3	3c	0			0	0	Clear.	Prof. M. Leal.
Mazatlan	29.72	754.9	29.98	761.5	69.3	20.7	80	NE			1	3c	5k	Calm	SW	Inap.	Inap.	Cloudy.	I. Guerrero, C. E.
Mexico, Central Observatory	23.05	585.4	30.15	765.7	48.2	9.0	72	Calm	0	0		0	0			0	0	Very clear.	The Staff.
Pabellon (Aguascalientes)					47.5	8.6	68	Calm			0	5c	0	SW		0	0	½ clouded.	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.37	593.6	30.23	767.8	46.4	8.0	39	NW	0.4	0.2		0	0			0	0	Fine.	Prof. P. Spina.
San Luis Potosi	24.15	613.3	30.18	766.6	52.0	11.1	59	SW			1	4	2	W	E	0	0	Fair.	G. Barroeta, M. D.
Tlacotalpam	29.85	758.1	29.86	758.4	70.9	21.6	91	SW			1	0	0			0	0	Very foggy.	Prof. M. M. Chazaro
Vera-Cruz																			Prof. J. Rossell
Zacatecas	22.60	571.5	30.16	766.0	51.4	10.8	62	Calm	0	0		1c	1s			0	0	Clear.	J. C. Castrillon

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column; the instrumental correction —0.88 mm., or —0.035 inch, has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing																			
Groningen	30.46	773.6	30.46	773.6	25.7	— 3.5		SSE			5					0.102	2.6		
Helder	30.55	776.9	30.60	777.3	28.2	— 4.9		S			2					0.031	0.8		
Hellevoetsluis	30.48	774.3	30.48	774.3	26.4	— 3.1		SSE			4					0	0		
Utrecht	30.46	773.7	30.47	773.9	25.0	— 3.9	95	SE			4								
	30.49	774.5	30.54	775.7	24.6	— 4.1	79	SSE			4		5			0.181	4.6	Cloudy.	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.53	775.5	30.59	776.9	31.5	— 0.4	81	SE	7.8	3.5	.....	.....	10	.....	.....	0	0	.....	
Brönö	29.89	759.2	29.93	760.2	38.3	3.5	92	SW	36	16	.....	.....	10	.....	.....	.....	.....	Raining	
Christiana	30.30	769.6	30.46	773.7	15.8	— 9.0	100	N	2	1	.....	.....	10	.....	.....	0	0	Foggy	
Tromsö	29.28	743.6	29.32	744.7	38.5	3.6	85	SW	27	12	.....	.....	10	.....	.....	0.748	19.0	Raining	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	29.35	745.4	29.54	750.3	59.4	15.2	81	S	9.8	4.4	.....	.....	4	.....	.....	0.591	15.0	.....	Dr. J. A. Sampaio.
Campo Major	29.31	744.4	30.34	770.5	50.4	10.2	41	ENE	7.4	3.3	.....	.....	5	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	29.88	758.9	29.97	761.1	67.8	19.9	91	WSW	3.1	1.4	.....	.....	10	.....	.....	0.106	2.7	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.93	760.2	30.30	769.6	51.6	10.9	55	ENE	16.1	7.2	.....	.....	5	W	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	29.46	748.3	29.53	750.1	61.5	16.4	73	S	11.2	5.0	.....	.....	3	.....	.....	0.161	4.1	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.	Sea or swell. Height scale 0-9	Sea or swell. Direction form—		
Bartholomew Dias			.....	A. G. da Silva Costa, Com'd't.
D. Fernando			.....	A. M. de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.			.....	J. C. M. Cabrate, 1st Lt.
Mindello			.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos			.....	H. de C. C. e Athayde.
Rio Duro			.....	J. T. d'Oliveria, Com'd't.
Rio Lima. Capt. S. C. da Silva Costa. Santiago, Cape Verd Ids.	1	ENE	D. clouds	A. D. de Fonseca Saruento ....
Sà da Bandeira			.....	F. Teixeira da Silva, Comd't.
Sado, Capt. J. A de Brito Capello, St. Paul de Loando	.....	.....	D. clouds....	Luiz Aprá, Q. M.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	1	.....	Blue sky.....	J. G. Felgo, 2nd Lieut.
.....			.....	
.....			.....	

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sà da Bandeirà gives the barometer reduced tofreezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	29.51	749.6	29.53	750.1	20.8	— 6.2	98	W	13	6	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sselliwerstow.
Astrakhan	30.03	762.7	29.95	760.6	21.6	— 5.8	90	NW	9	4	.....	.....	10n	.....	.....	.....	.....	Heavy clouds...	Capt. Wisgnow.
Barnaul	29.18	741.1	29.70	754.4	21.9	— 5.6	100	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Snowing.....	Meteorological Obs.
Dorpat	30.09	764.2	30.35	770.8	23.7	— 4.6	98	W	11	5	.....	.....	10n	.....	.....	.....	.....	Light snow.	Prof. Dr. Weihrauch.
Ekaterinburg	28.63	727.1	29.69	754.0	— 2.4	—19.1	80	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Snowing.	Meteorological Obs.
Irkutsk																			
Kasan	29.53	750.1	29.84	757.9	9.2	—22.9	87	WNW	2	1	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch																			Lagorio.
Kieff	29.69	754.0	30.41	772.4	— 2.0	—18.9	100	N	4	2	.....	8c;ck	ks	.....	.....	.....	.....	.....	Physical Cabinet.
Krotkowo*	29.34	745.1	29.86	758.5	— 3.6	—19.8	74	NW	0	0	.....	.....	4	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	29.83	757.7	30.06	763.5	1.8	—16.8	59	WNW	9	4	.....	.....	10	.....	.....	Blank	Blank	.....	Meteorological Obs
Moscow	29.53	750.1	30.13	765.4	9.0	—12.8	80	N	7.8	3.5	.....	.....	10s	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	27.70	703.5	30.34	770.5	—15.9	—26.6	81	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	30.31	769.8	30.38	771.6	5.4	—14.8	78	N	22	10	.....	6c	.....	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	29.50	749.2	29.73	755.2	47.8	8.8	88	SSE	2	1	.....	.....	9ks	.....	.....	.....	.....	.....	
Orenberg																			
Pekin (China)	30.08	764.1	30.23	767.7	25.3	— 3.7	84	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	30.08	763.9	30.09	764.3	19.9	— 6.7	89	W	18	8	.....	.....	6s	.....	.....	.....	.....	Light clouds	Central Physical Obs.
Tashkend	28.37	720.5	29.93	760.2	57.2	14.0	52	.....	.....	.....	.....	.....	10	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.47	723.0	29.91	759.6	46.2	7.9	68	NW	45	20	.....	.....	10	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock																			
Warsaw	30.23	767.7	30.71	780.1	— 5.4	—20.8	79	NNE	2	1	.....	.....	0	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	30.17	766.4	30.65	778.4	6.6	—14.1	88	NNW	2	1	.....	.....	10	.....	.....	.....	.....	.....	Astronomical Obs.
Yenisiesk	29.54	750.2	29.85	758.2	5.9	—14.5	81	W	2	1	.....	.....	5	.....	.....	.....	.....	.....	Marks.
.....																			
.....																			
.....																			

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	30.24	768.2	30.35	771.0	44.6	7	38	WNW	3.8	1.72	.....	.....	0	.....	.....	0	0	Clear.	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.48	774.1	30.54	775.6	39.7	4.3	63	SE	1.1	0.48	.....	0	0	.....	.....	0	0	Clear.	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.40	696.0	.....	.....	33.8	1.0	76	N	2.6	1.18	.....	0	0	.....	.....	0	0	Clear.	Domingo Martin y Perez
Madrid, Royal Observatory	28.12	714.2	30.45	773.5	41.0	5.0	32	NE	12.7	5.67	.....	0	0	.....	.....	0	0	Clear.	The Staff.
Murcia, Met. Obs'y	30.22	767.5	30.37	771.4	55.6	13.1	51	WNW	0.4	0.19	.....	0	2	.....	.....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.43	747.6	30.35	770.8	47.8	8.8	59	SE	8.7	3.9	.....	.....	2	.....	.....	0	0	Almost clear	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.04	763.0	30.11	764.7	65.0	18.3	89	Calm	0	0	.....	1c	0	W	.....	0	0	Clear.	Benito Vines S. J.
Manilla, Phillippine Islands	29.91	759.7	29.97	761.1	79.7	26.5	83	NE	0	0	.....	0	0	.....	.....	0	0	Clear.	Federico Fauca, S. J.
San Fernando, Naval Obs'y	30.15	765.8	30.25	768.4	59.5	15.3	73	ESE	18.0	8.1	.....	0	6	.....	E	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.95	760.7	30.04	763.0	75.2	24.0	79	W	0	0	.....	4kn	3k	W	W	0.010	0.25	Cloudy.....	Enrique Gades, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rydenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.69	754.2	29.73	755.2	30.6	— 0.8	.....	SW	.....	.....	2	.....	7	.....	.....	0	0	.....	
Umea	29.93	760.2	29.98	761.5	28.4	— 2.0	84	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	
Hernosand	30.10	764.5	30.15	765.8	24.4	— 4.2	77	SW	.....	.....	2	.....	2	.....	.....	0	0	.....	
Stockholm	30.27	768.8	30.45	773.3	21.2	— 6.0	95	WNW	.....	.....	4	.....	10	.....	.....	0.016	0.4	.....	
Wisby	30.41	772.3	30.47	773.8	29.1	— 1.6	80	WNW	.....	.....	7	.....	5	.....	.....	0.091	2.3	.....	
Sub-Series.																			
Upsala	30.28	769.0	30.36	771.2	16.7	— 8.5	95	WSW	14.5	6.5	.....	.....	8	.....	WSW	0.002	0.05	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	29.03	737.3	30.58	776.6	16.5	— 8.6	81	ENE	.....	.....	3	.....	10	.....	.....	0	0	Covered	The Observatory.
Zurich	28.82	732.1	30.61	777.6	12.6	—10.8	83	N	.....	.....	2	.....	2	.....	.....	0	0	Clear.	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, +10.1 mm.; Thermometer, —11.9 Cent.; Relative Humidity, +2 per cent.
NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.18	766.5	36.7	2.6	79	N	22	10.0	.....	.....	10	.....	NNE	0.118	3.0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.91	759.6	46.6	8.1	.....	NE	.....	.....	1	.....	10	.....	.....	0	0	Covered	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.83	757.7	29.94	760.5	72.0	22.2	63	SW	.....	.....	5	7c	.....	.....	.....	0	0	D. clouds	Prof. C. V. A. van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B.	29.76	755.6	29.82	757.4	38.2	3.4	72	SW	12	5.4	.....	2k	8ks	SW	.....	0.20	5.1	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	29.84	757.9	29.89	759.2	38.2	3.4	81	SW	10	4.5	.....	cs	2s	SW	.....	0	0	Fair	H. J. Cundall, C. E.
Cornwall, Ontario	29.92	760.6	30.12	765.0	27.3	— 2.6	70	NW	.....	.....	1	0	2s	.....	.....	0.02	0.5	Fine	James Smith, M. A.
Dalhousie, N. B.	29.48	748.8	29.65	753.1	36.5	2.5	.....	SW	.....	.....	2	0	7s	.....	.....	0.17	4.3	Cloudy	H. A. Johnson.
Father Point, Quebec	29.81	757.2	29.83	757.7	24.4	— 4.2	81	SW	45	20.1	.....	.....	10s	.....	.....	0.78	19.8	Cloudy	J. McWilliams.
Fredericton, N. B.	29.87	758.7	29.94	760.5	37.1	2.8	70	SW	10	4.5	.....	1ck	1s	W	W	0	0	Clear.	Prof. Harrison.
Fort Garry, Manitoba	29.38	746.2	30.32	770.1	— 6.2	—14.3	93	N	3	1.3	.....	1c	1ks	N	.....	0	0	Fair	James Stewart.
Granton, Ontario	29.02	737.1	30.17	766.3	29	— 1.7	.....	N	.....	.....	1	.....	10n	.....	.....	0	0	Cloudy	James Grant.
Halifax, N. S.	29.91	759.7	30.04	763.0	38.9	3.8	90	S	5	2.2	.....	4cs	0	W	.....	0.29	7.4	Fair	A. Allison.
Hamilton, Ontario	29.80	756.9	30.19	766.8	34.1	1.2	94	W	.....	.....	1	10cs	0	W	.....	0.2	5.	Cloudy	Geo. Dickson, B. A.
Hearts Content, N. F.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.84	757.9	30.19	766.8	32.1	0.1	75	W	2	0.9	.....	.....	10ks	.....	.....	0	0	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S.	29.90	759.4	29.94	760.5	41.7	5.4	90	SW	7	3.1	.....	7cs	0	SW	.....	0.65	16.5	Fair	C. H. Rigby.
Montreal, Quebec	29.93	760.2	30.14	765.5	28.4	— 2.0	77	NW	14	6.3	.....	0	1ks	.....	.....	Inap.	Inap.	Fine	C. H. McLeod, C. E.
Moose Factory, Ontario	30.28	769.1	30.32	770.1	—15.7	—26.5	94	W	.....	.....	2	0	3	.....	.....	0.40	10.2	Fair	J. R. Nelson.
Norwood	29.42	747.3	30.15	765.8	29.0	— 1.7	.....	NW	.....	.....	3	10k	0	NW	.....	[illegible]	0	Cloudy	Rev. T. F. Fotheringham, M. A.
Parry Sound, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. R. Mosley.
Peterboro, Ontario	29.41	747.0	30.20	767.1	29.6	— 1.3	61	N	.....	.....	2	.....	10n	.....	.....	0	0	Overcast	J. F. Jeffers, M. A.
Port Dover, Ontario	29.45	748.0	30.18	766.6	30.0	— 1.1	80	Calm	0	0	.....	2ck	0	SW	.....	0.03	0.8	Fair	H. Morgan.
Port Hastings, N. S.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.50	749.3	30.17	766.3	30.2	— 1.0	91	W	1	0.4	.....	.....	10ks	.....	NE	0.01	0.3	Cloudy	M. Payne.
Quebec, Quebec	29.67	753.6	30.01	762.2	24	— 4.4	87	NW	.....	.....	5	0	0	.....	.....	0.17	4.3	Clear.	Capt. Ashe, R. N.
Rockliffe, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. McIntyre.
St. Andrews, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Gove.
St. John, N. B.	29.81	757.2	29.88	758.9	39	3.9	85	SW	9	4.0	.....	0	4ks	.....	.....	0	0	Fair	G. Murdock, C. E.
Saugeen, Ontario	29.45	748.0	30.21	767.3	20.1	— 3.3	90	NE	8	3.6	.....	.....	10ks	.....	.....	0.15	3.8	Raining	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.84	732.5	30.18	766.6	28.2	— 2.1	86	N	4	1.8	.....	.....	10s	.....	.....	0	0	Cloudy	C. J. MacGregor, M. A.
Sydney, C. B.	29.93	760.2	29.97	761.2	40.2	4.6	89	SW	12	5.4	.....	9c	0	.....	.....	0.48	12.2	Fair	T. C. Hill, C. E.
Toronto, Ontario	29.80	756.9	30.20	767.1	31.9	— 0.1	87	NW	3	1.3	.....	.....	10ks	.....	W	0	0	Cloudy	Magnetic Observatory.
Windsor, N. S.	29.90	759.4	30.00	762.0	39.0	3.9	82	SW	10	4.5	.....	0	4s	.....	.....	0.51	13.0	Fair	Prof. John E. Oram, M. A.
Woodstock, Ontario	29.06	738.1	30.18	766.6	30.7	— 0.7	100	N	8	3.6	.....	0	9ks	.....	NW	0	0	Cloudy	Prof. J. Montgomery.
Yarmouth, N. S.	29.98	761.5	30.04	763.0	43.8	6.6	89	W	7	3.1	.....	6c	2s	W	.....	0.23	5.8	Cloudy	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.77	756.1	30.03	762.7	43	6.1	92	SW	.....	.....	.....	.....	10	.....	.....	0.08	2.0	Overcast	John Delany.
St. Pierre, N. F., l'Hopital Maritime	.....	.....	29.89	759.2	41.0	5	.....	W	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	The Commandant.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.** UNITED STATES SERIES.

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.92	760.0	30.15	765.8	40	4.4	65	N	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Alpena, Michigan	29.52	749.8	30.21	767.3	22	— 5.6	86	NW	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	28.96	735.6	30.12	765.0	49	9.4	63	SE	4	1.8	.....	8c	1s	Calm	Calm	0	0	Cloudy	
Atlantic City, New Jersey	30.12	765.0	30.14	765.5	47	8.3	92	SW	4	1.8	.....	2ck	0	W	.....	0	0	Clear.	
Augusta, Georgia	29.96	761.0	30.16	766.1	45	7.2	76	S	1	0.4	.....	2cs	Fog	S	Calm	0	0	Fair	
Baltimore, Maryland	30.09	764.3	30.14	765.5	47	8.3	85	SW	4	1.8	.....	.....	10s;fg	.....	Calm	0	0	Cloudy	
Barnegat, New Jersey	30.13	765.3	30.16	766.1	43	6.1	100	S	3	1.3	.....	8ck	0	W	.....	0	0	Fair	
Bismarck, Dakota	28.28	718.3	30.14	765.5	—10	—23.3	100	E	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Boerne, Texas	28.42	721.9	29.70	754.4	64	17.8	100	Calm	0	0	.....	.....	Fog	.....	SE	0	0	Dense fog	
Boise City, Idaho	26.78	680.2	29.74	755.4	28	— 2.2	88	NW	6	2.7	.....	.....	10n	.....	Calm	0.05	1.3	Light snow	
Boston, Massachusetts	29.95	760.7	30.11	764.8	46	7.8	69	SW	7	3.1	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy.	
Brackettville, Texas	28.69	728.7	29.72	754.9	60	15.6	94	NE	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy	
Breckenridge, Minnesota	29.20	741.7	30.34	770.6	- 7	—21.7	100	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Brownsville, Texas	29.80	756.9	29.84	757.9	75	23.9	81	S	8	3.6	.....	0	0	.....	.....	0	0	Cloudy	
Buffalo, New York	29.44	747.8	30.16	766.1	34	1.1	61	NW	2	0.9	.....	.....	10s	.....	SW	0.01	0.3	Cloudy	
Burkes, Arizona	.....	.....	.....	.....	37	2.8	63	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear.	
Burlington, Vermont	29.82	757.4	30.12	765.0	36	2.2	71	NE	7	3.1	.....	.....	10n	.....	W	0.05	1.3	Light snow	
Cairo, Illinois	29.66	753.4	30.05	763.3	47	8.3	70	N	6	2.7	.....	.....	10s	.....	W	0	0	Cloudy	
Campo, California	27.32	693.9	29.89	759.2	39	3.9	91	SW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Cape Hatteras, N. Carolina	30.15	765.8	30.16	766.1	57	13.9	94	NE	4	1.8	.....	2k	0	SW	.....	0	0	Clear.	
Cape Henry, Virginia	30.11	764.8	30.13	765.3	48	8.9	85	S	8	3.6	.....	0	2s	.....	Calm	0	0	Clear.	
Cape Lookout, N. Carolina	30.12	765.0	30.14	765.5	54	12.2	93	NE	8	3.6	.....	5c	2s	W	Calm	0	0	Cloudy	
Cape May, New Jersey	30.12	765.0	30.15	765.8	51	10.6	79	S	2	0.9	.....	2c	Haze	W	.....	0	0	Clear.	
Castroville, Texas	29.06	738.1	29.75	755.6	62	16.7	94	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Cedar Keys, Florida	30.13	765.3	30.15	765.8	62	16.7	88	E	9	4.0	.....	0	8s	.....	S	0	0	Fair	
Charleston, South Carolina	30.09	764.3	30.15	765.8	52	11.1	86	NE	1	0.4	.....	5cs	0	W	.....	0	0	Fair	
Charlotte, North Carolina	29.26	743.2	30.09	764.3	43	6.1	92	S	4	1.8	.....	0	Sm'e	.....	Calm	0	0	Clear.	
Chattanooga, Tennessee	29.30	744.2	30.13	765.3	42	5.6	83	E	2	0.9	.....	5ck	Sm'e	SW	Calm	0	0	Fair	
Cheyenne, Wyoming	23.79	604.3	29.73	755.1	16	— 8.9	66	S	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Chicago, Illinois	29.42	747.3	30.14	765.5	37	2.8	63	NE	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Cincinnati, Ohio	29.38	746.2	30.04	763.0	46	7.8	69	E	5	2.2	.....	.....	10s	.....	SW	Inap.	Inap.	Cloudy	
Cleveland, Ohio	29.38	746.2	30.13	765.3	36	2.2	80	NE	8	3.6	.....	.....	10s	.....	Calm	0	0	Threatening	
Coleman City, Texas	28.17	715.5	29.90	759.4	36	2.2	61	N	20	8.9	.....	0	0	.....	.....	0	0	Clear.	
Columbus, Ohio	29.22	742.2	30.07	763.8	41	5.0	82	E	6	2.7	.....	.....	10s	.....	SE	0	0	Cloudy	
Concho, Texas	28.11	714.0	29.84	757.9	41	5.0	74	W	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Corsicana, Texas	29.39	746.5	29.84	757.9	64	17.8	89	Calm	0	0	.....	0	8ks	.....	SW	0	0	Cloudy	
Davenport, Iowa	29.52	749.8	30.20	767.1	24	— 4.4	74	NE	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Dayton, Washington T'y	.....	.....	.....	.....	25	— 3.9	81	Calm	.....	.....	0	10k	0	N	.....	0	0	Cloudy	
Deadwood, Dakota	25.18	639.6	.....	.....	11	—11.7	60	Calm	0	0	.....	0	8s	.....	SW	0.17	4.3	Fair	
Decatur, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Denison, Texas	29.14	740.1	29.94	760.5	44	6.7	76	N	9	4.0	.....	.....	10s	.....	N	0	0	Cloudy	
Denver, Colorado	24.58	624.3	29.80	756.9	24	— 4.4	61	NW	5	2.2	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Des Moines, Iowa	29.23	743.7	30.23	767.8	20	— 6.7	70	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Detroit, Michigan	29.46	748.3	30.16	766.1	31	— 0.6	79	N	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy	
Dodge City, Kansas	27.51	698.7	30.00	762.0	12	—11.1	61	N	10	4.5	.....	5ck	5s	W	W	0	0	Cloudy	
Dubuque, Iowa	29.47	748.5	30.23	767.8	20	— 6.7	70	NW	2	0.9	.....	8c	0	Calm	.....	0	0	Fair	
Duluth, Minnesota	29.55	750.6	30.30	769.6	9	—12.8	78	NW	2	0.9	.....	.....	10s	.....	NW	0	0	Cloudy	
Eagle Pass, Texas	29.04	737.6	29.77	756.1	51	10.6	86	Calm	0	0	.....	5ck	0	Calm	.....	0	0	Fair	
Eastport, Maine	29.92	760.0	29.98	761.5	40	4.4	73	SW	8	3.6	.....	10c	0	W	.....	0.44	11.2	Cloudy	
Edinburg, Texas	.....	.....	.....	.....	72	22.2	90	S	.....	.....	4	.....	10s	.....	S	0	0	Cloudy	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.44	747.8	30.17	766.3	39	3.9	73	N	1	0.4	.....	.....	10ks	.....	N	0	0	Cloudy	
Escanaba, Michigan	29.57	751.1	30.28	769.1	17	— 8.3	83	NW	13	5.8	.....	.....	10s	.....	NW	0.06	1.5	Cloudy	
Florence, Arizona	28.34	719.8	29.94	760.5	43	6.1	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.94	709.7	29.97	761.2	— 1	—18.3	68	E	5	2.2	.....	10cs	0	W	.....	Inap.	Inap.	Cloudy	
Fort Custer, Montana	26.63	676.4	.....	.....	0	—17.8	69	Calm	0	0	.....	5c	0	W	.....	0.02	0.5	Fair	
Fort Davis, Texas	25.11	637.8	30.07	763.8	36	2.2	61	W	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Fort Gibson, Indian Ter	29.47	748.5	30.03	762.7	33	0.6	89	NW	7	3.1	.....	0	0	.....	.....	0	0	Clear.	
Fort Grant, Arizona	25.10	637.5	29.90	759.4	48	8.9	37	E	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Fort Griffin, Texas	28.72	729.5	30.04	763.0	57	13.9	63	N	12	5.4	.....	0	0	.....	.....	0	0	Clear.	
Fort Keogh, Montana	27.29	693.2	.....	.....	—10	—23.3	53	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Fort McKavett, Texas	27.68	703.1	29.62	752.3	42	5.6	74	N	7	3.1	.....	4cs	0	.....	.....	0	0	Fair	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.78	731.0	29.94	760.5	29	— 1.7	67	N	24	10.7	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	28.29	718.6	.....	.....	— 6	—21.1	81	SE	2	0.9	.....	2c	0	Calm	.....	0	0	Fair	
Fort Verde, Arizona	.....	.....	.....	.....	30	— 1.1	68	SW	.....	.....	2	0	0	.....	.....	0	0	Clear.	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.05	712.5	29.57	751.1	58	14.4	76	N	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Galveston, Texas	29.91	759.7	29.95	760.7	68	20.0	95	SE	7	3.1	.....	.....	10ks	.....	SW	0	0	Cloudy	
Graham, Texas	28.90	734.0	29.99	761.7	36	2.2	61	N	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Grand Haven, Michigan	29.50	749 3	30.17	766.3	31	— 0.6	79	E	7	3.1	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.03	737.3	30.01	762.2	33	0.6	79	NE	12	5.4	.....	0	8s	.....	N	0	0	Cloudy	
Indianapolis, Indiana	29.23	742.4	30.02	762.5	39	3.9	91	NE	6	2.7	.....	.....	10s	.....	NE	0.03	0.8	Cloudy	
Indianola, Texas	29.89	759.2	29.92	760.0	71	21.7	95	S	6	2.7	.....	.....	10s	.....	S	0	0	Cloudy	
Jacksboro, Texas	28.82	732.0	29.98	761.5	41	5.0	65	N	12	5.4	.....	.....	10s	.....	N	0	0	Cloudy	
Jacksonville, Florida	30.13	765.3	30.16	766.1	57	13.9	81	E	3	1.3	.....	5cs	0	.....	.....	0	0	Fair	
Keokuk, Iowa	29.50	749.3	30.16	766.1	25	— 3.9	87	N	9	4.0	.....	.....	10s	.....	Calm	0.12	3.0	Cloudy	
Key West, Florida	30.07	763.8	30.10	764.5	72	22.2	76	SE	8	3.6	.....	0	0	.....	.....	0.01	0.3	Clear.	
Kittyhawk, North Carolina	30.15	765.8	30.17	766.3	53	11.7	100	SW	2	0.9	.....	5c	0	Calm	.....	0	0	Fair	
Knoxville, Tennessee	29.10	739.1	30.14	765.5	38	3.3	96	SE	1	0.4	.....	2k	5ks	W	W	0	0	Fair	
La Crosse, Wisconsin	29.46	748.3	30.24	768.1	22	— 5.6	72	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
La Mesilla, New Mexico	25.96	659.4	30.11	764.8	31	— 0.6	69	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Laredo, Texas	29.44	747.8	29.78	756.4	67	19.4	95	SE	4	1.8	.....	.....	8ks	.....	SE	0	0	Cloudy	
Leavenworth, Kansas	29.27	743.4	30.16	766.1	28	— 2.2	77	N	6	2.7	.....	.....	10n	.....	.....	0.01	0.3	Light snow	
Lewiston, Idaho	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Little Rock, Arkansas	29.62	752.3	29.98	761.5	60	15.6	88	SW	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Los Angeles, California	29.58	751.3	29.92	760.0	52.0	11.1	93	E	5	2.2	.....	.....	10n	.....	Calm	0.02	0.5	Light rain	
Louisville, Kentucky	29.44	747.8	30.01	762.2	48	8.9	78	Calm	0	0	.....	5k	5s	SW	Calm	0	0	Cloudy	
Lynchburg, Virginia	29.42	747.3	30.13	765.3	36	2.2	100	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Madison, Wisconsin	29.15	740.4	30.20	767.1	23	— 5.0	74	N	3	1.3	.....	8cs	0	W	.....	0	0	Fair	
Marquette, Michigan	29.52	749.8	30.28	769.1	17	— 8.3	67	W	4	1.8	.....	.....	10s	.....	W	0.14	3.6	Cloudy	
Mason, Texas	28.27	718.0	30.02	762.5	54	12.2	74	NW	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Memphis, Tennessee	29.66	753.4	30.00	762.0	57	13.9	74	SE	9	4.0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Milwaukee, Wisconsin	29.44	747.8	30.21	767.3	26	— 3.3	88	NW	11	4.9	.....	0	8s	.....	NW	0	0	Cloudy	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mobile, Alabama	30.06	763.5	30.10	764.5	54.5	12.5	96	S	2	0.9	.....	.....	10s	.....	W	0	0	Cloudy	
Montgomery, Alabama	29 91	759.7	30.15	765.8	51	10.6	86	N	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Morgantown, West Virginia	29.08	738.6	30.08	764.0	45	7.2	68	NE	6	2.7	.....	2ck	0	W	.....	0	0	Fair	
Mt. Washington, N. H	23.47	596.1	29.83	757.7	18	— 7.8	100	NW	60	26.8	.....	.....	Fog	.....	NW	0.20	5.1	Foggy	
Nashville, Tennessee	29.52	749.8	30.05	763.3	55	12.8	74	W	1	0.4	.....	.....	10ks	.....	SW	0	0	Cloudy	
New Haven, Connecticut	30.03	762.7	30.15	765.8	47	8.3	77	SW	3	1.3	.....	.....	10s	.....	SW	0	0	Cloudy	
New London, Connecticut	30.08	764.0	30.13	765.3	44	6.7	84	W	1	0.4	.....	7ck	Fog	W	Calm	0	0	Fair	
New Orleans, Louisiana	30.00	762.0	30.06	763.5	61	16.1	88	SE	5	2.2	.....	5cs	Sm'e	Calm	Calm	0	0	Smoky	
Newport, Rhode Island	30.07	763.8	30.12	765.0	47	8.3	85	SW	4	1.8	.....	5k	0	W	.....	0.02	0.5	Fair	
New River, North Carolina	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
New York, New York	29.97	761.2	30.16	766.1	47	8.3	70	Calm	0	0	.....	Haze	Haze	.....	.....	0	0	Dense haze	
Norfolk, Virginia	30.08	764.0	30.14	765.5	49	9.4	78	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
North Platte, Nebraska	27.14	689.3	30.06	763.5	— 8	—22.2	79	NW	4	1.8	.....	2c	0	Calm	.....	0.21	5.3	Clear	
Olympia, Washington Ter	29.84	757 9	29.88	758.9	32.5	0.3	94	W	2	0.9	.....	5ck	0	NE	.....	0	0	Fair	
Omaha, Nebraska	29.00	736.6	30.18	766.6	19	— 7.2	85	N	5	2.2	.....	.....	10s	.....	Calm	0.21	5.3	Cloudy	
Oswego, New York	29.86	758.4	30.19	766.8	37	2.8	71	N	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Pembina, Dakota	29.31	744.5	30.26	768.6	—10	—23.3	100	NW	2	0.9	.....	.....	10s	.....	NW	0	0	Cloudy	
Pensacola, Florida	30.11	764.8	30.14	765.5	56	13.3	94	NE	4	1.8	.....	2k	Haze	W	Calm	0	0	Fair	
Philadelphia, Pennsylvania	30.10	764.5	30.15	765.8	42	5.6	91	SW	4	1.8	.....	2c	5ks;fg	Calm	S;Calm	0	0	Cloudy	
Phœnix, Arizona	28.66	728.0	30.50	774.7	43	6.1	67	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.33	440.2	29.54	750.3	4	—15.6	48	SW	40	17.9	.....	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	29.19	741.4	30.03	762.7	45	7.2	60	N	.....	.....	.....	.....	10s	.....	N	0	0	Cloudy	
Pioche, Nevada	.....	.....	.....	.....	34	1.1	61	S	26	11.6	.....	5k	0	W	.....	0	0	Fair	
Pittsburg, Pennsylvania	29.29	744.0	30.12	765.0	41	5.0	82	E	3	1.3	.....	.....	10s	.....	.....	0.01	0.3	Cloudy	
Port Huron, Michigan	29.47	748.5	30.16	766.1	33	0.6	70	N	10	4.5	.....	.....	10s	.....	N	0	0	Cloudy	
Portland, Maine	29.98	761.5	30.03	762.7	41	5.0	74	SW	12	5.4	.....	.....	10s	.....	Calm	9	0	Cloudy	
Portland, Oregon	29.84	757.9	29.91	759.7	37.5	3.1	86	N	2	0.9	.....	.....	10s	.....	.....	0	0	Cloudy	
Portsmouth, North Carolina	.....	.....	.....	.....	57	13.9	94	N	8	3.6	.....	8k	0	N	.....	0	0	Fair	
Prescott, Arizona	24.54	623.3	29.90	759.4	45	7.2	61	S	.....	.....	1	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.12	765.0	30.14	765.5	65	18.3	94	SE	6	2.7	.....	1c	0	Calm	.....	0	0	Clear	
Red Bluff, California	29.45	748.0	29.82	757.4	38	3.3	86	N	10	4.5	.....	0	0	.....	.....	1.17	29.7	Clear	
Rio Grande City, Texas	29.64	752.8	29.86	758.4	68	20.0	90	SE	5	2.2	.....	2c	2s	Calm	Calm	0	0	Fair	
Rochester, New York	29.51	749.5	30.15	765.8	35	1.7	80	W	5	2.2	.....	.....	10s	.....	W	0	0	Cloudy	
Roseburg, Oregon	29.37	746.0	29.96	761.0	35.5	1.9	90	SW	1	0.4	.....	1k	2s	NW	Calm	0.08	2.0	Fair	
Sacramento, California	29.73	755.1	29.81	757.2	41	5.0	91	SW	2	0.9	.....	0	5s	.....	Calm	0.42	10.7	Fair	
St. Louis, Missouri	29.53	750.0	30.14	765.5	31	— 0.6	79	N	12	5.4	.....	.....	10s	.....	.....	0.32	8.1	Cloudy	
St. Paul, Minnesota	29.35	745.5	30.25	768.3	14	—10.0	82	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Salt Lake City, Utah	25.08	637.0	29.41	747.0	37	2.8	63	SE	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
San Antonio, Texas	29.19	741.1	29.75	755.6	70	21.1	96	SE	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
San Diego, California	29.92	760.0	29.99	761.7	55	12.8	74	SE	4	1.8	.....	.....	10s	.....	NW	0	0	Cloudy	
Sandusky, Ohio	29.45	748 0	30.15	765.8	35	1.7	90	NE	16	7.2	.....	.....	10n	.....	NE	0.02	0.5	Light snow	
Sandy Hook, New Jersey	30.13	765.3	30.16	766.1	46	7.8	77	NW	5	2.2	.....	5ck	0	NW	.....	0	0	Fair	
San Francisco, California	29.76	755.9	29.83	757.7	49	9.4	71	NW	12	5.4	.....	1c	0	Calm	.....	0.37	9.4	Clear	
Santa Fé, New Mexico	23.09	586.5	29.63	752.6	23	— 5.0	47	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.08	764.0	30.18	766.6	50	10.0	86	Calm	0	0	.....	8c	Fog	W	Calm	0.03	0.8	Fair	
Shreveport, Louisiana	29.69	754.1	29.91	759.7	63	17.2	83	SE	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.10	764.5	30.14	765.5	56	13.3	94	Calm	0	0	.....	1k	Fog	S	.....	0	0	Clear	
Socorro, New Mexico	25.26	641.3	29.32	744.7	29	— 1.7	45	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois	29.46	748.3	30.17	766.3	29	— 1.7	83	N	9	4.0	.....	.....	10s	.....	NE	0.07	1.8	Cloudy	
Springfield, Massachusetts	29.99	761.7	30.12	765.0	42	5.6	74	S	2	0.9	.....	.....	10s	.....	Calm	Inap.	Inap.	Threatening	
Stockton, Texas	26.86	682.2	29.86	758.4	45	7.2	24	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	30.08	764.0	30.14	765.5	45	7.2	92	SW	9	4.0	.....	.....	10s	.....	SW	0	0	Cloudy	
Toledo, Ohio	29.43	747.5	30.14	765.5	33	0.6	100	N	8	3.6	.....	.....	10n	.....	.....	0.01	0.3	Light snow	
Tucson, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon	29.54	750.3	30.05	763.3	26.0	— 3.3	94	SE	2	0.9	.....	.....	10s	.....	.....	0	0	Cloudy	
Uvalde, Texas	28.97	735.8	29.78	756.4	62	16.7	94	E	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Vicksburg, Mississippi	29.78	756.4	30.04	763.0	58	14.4	94	S	11	4.9	.....	.....	10s	.....	SE	0	0	Cloudy	
Virginia City, Montana	23.76	603.5	29.24	742.7	1	—17.2	71	Calm	0	0	.....	.....	10s	.....	Calm	0.02	0.5	Threatening	
Visalia, California	29.38	746.2	29.75	755.6	48	8.9	88	E	3	1.3	.....	.....	10s	.....	Calm	0.09	2.3	Cloudy	
Washington, D. C	29.99	761.7	30.01	764.8	44	6.7	76	NW	2	0.9	.....	8k	Fog	W	.....	0	0	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	31	— 0.6	89	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, North Carolina	30.05	763.3	30.13	765.3	48	8.9	92	Calm	0	0	.....	5c	0	Calm	.....	0	0	Fair	
Winnemucca, Nevada	25.18	639.6	29.54	750.3	27	— 2.8	88	SW	18	8.0	.....	.....	10n	Calm	.....	0.92	23.4	Light snow	
Wood's Holl, Massachusetts	30.08	764.0	30.12	765.0	50	10.0	86	SW	12	5.4	.....	0	5s	.....	Calm	0	0	Fair	
Yankton, Dakota	28.84	732.5	30.27	768.8	7	—13.9	77	NW	3	1.3	.....	.....	10s	.....	Calm	0.07	1.8	Cloudy	
Yuma, Arizona	29.66	753.4	29.83	757.7	50	10.0	86	NE	7	3.1	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I	30.02	762.5	30.07	763.8	70	21.1	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I	30.15	765.8	30.16	766.1	73	22.8	95	Calm	0	0	.....	2c	8cs	Calm	.....	.....	.....	Fair	James Gall.
Navassa, W. I	29.93	760.2	30.01	762.2	78	25.6	66	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.97	761.2	29.97	761.2	81	27.2	83	E	.....	.....	2	.....	10n	.....	.....	0.310	7.87	Raining	C. J. Hering.
Santiago de Cuba, W. I	30.02	762.5	30.04	763.0	73	22.8	76	N	9.6	4.3	.....	0	0	.....	.....	0	0	.....	Robert Mason.
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	30.33	770.4	30.39	771.9	—22.0	—30.0	.....	N	17	7.6	.....	3k	4s	N	N	0	0	Cloudy	J. Fortescue & W. Wood
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,289 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,835.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1.856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 m.m.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4,800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 m., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.14‡	765.5‡			60	15.6	100	NNW	3	1.3			2		SW	0	0			Fair	
Navy Yard, Portsmouth, N.H	29.96‡	761.0‡			41	5.0	74	SW	2	0.9			10			0	0			Overcast	
Naval Hospital, Yokohama, Japan	29.73‡	755.1‡			47	8.3	66	WSW			4		0			0	0			Clear	
Adams, Mare I'd., Navy Yard, Cal.	29.88‡	758.9‡			50	10.0	93	NE			3		5		NE					Fair	
Alaska, Arica, Peru *	29.90‡	759.4‡			67	19.4	79	Calm			0		10							Overcast	
Colorado, New York, N. Y.	30.11‡	764.8‡			47	8.3	77	Calm	0	0			8			0	0			Hazy	
Constitution, N. 37° 00′, W. 76° 15′	30.15‡	765.8‡			49	9.4	93	S			2		1		Calm					Clear	
Enterprise, Beirut, Syria	29.97‡	761.2‡			76	24.4	49	SW			5		6?		SW			Smooth		Cloudy?	
Franklin, Off Navy Yard, Norfolk, Va.	30.14‡	765.5‡			46	7.8	84	Calm	0	0			2		NW	0	0			Fair	
Independence, Mare I'd, Navy Yard, Cal.	29.83‡	757.7‡			56	13.3	87	W	6	2.7			2		W	0.04	1.0			Clear	
Kearsarge, Port Royal, S. C.	30.15‡	765.8‡			56	13.3	87	NNE			0-1		2		N	0	0	Smooth		Foggy	
Lackawana, N. 27° 00′ W. 153° 20′	30.16‡	766.1‡			72	22.2	71	ESE			4		10		SSE			Mod'ate	E	Cloudy	
Marion, Navy Yard, Brooklyn, N.Y.	30.08‡	764.0‡			48	8.9	78	Calm			0		8		Calm					Cloudy	
Michigan, Erie, Pa.	30.14‡	765.5‡			39	3.9	83	ENE			2		10							Overcast	
Monocacy, Shanghai, China	30.40‡	772.1‡			38	3.3	83	SW			1		5		W					Misty	
New Hampshire, Port Royal, S. C.	30.25‡	768.3‡			54	12.2	93	Calm	0	0			0			0	0			Foggy	
Nipsic, Norfolk, Va.	30.12‡	765.0‡			60	15.6	34	SE			1		2							Foggy	
Onward, Callao, Peru †.	29.93‡	760.2‡			65	18.3	84	S			1		5					Long smooth	W	Hazy	
Palos, Tientsin, China	30.23‡	767.8‡			33	0.6	70	WSW			0-1		0							Clear	
Passaic, Washington, D. C.	30.12‡	765.0‡			43	6.1	92	NE			1		8							Cloudy	
Pensacola, Callao, Peru	29.91‡	759.7‡			65	18.3	89	SSE			1		8					Smooth		Hazy	
Powhatan, Navy Yard, Brooklyn, N.Y.	30.08‡	764.0‡			52	11.1	60	Calm			0		10		Calm	0	0			Cloudy	
Quinnebaug, Genoa, Italy	30.27‡	768.8‡			34	1.1	61	NNE			4		0							Clear	
Ranger, N. 32° 24′, W. 168° 10′	29.54‡	750.3‡			64	17.8	94	NW			2		10					Long		Cloudy	
Richmond, Min river, China	30.30‡	769.6‡			53	11.7	61	NNE			3		0					Smooth		Clear	
Rio Bravo, Brownsville, Texas	29.98‡	761.5‡			72	22.2	95	SE	1	0.4			2		Calm	0	0			Fair	
Santee, Annapolis, Md	30.12‡	765.0‡			47	8.3	100	SE			3		8		W	0	0			Hazy	
Shenandoah, S. 26° 07′, W. 43° 26′	29.79‡	756.7‡			76	24.4	86	W			1		5					Smooth		Fair	
St. Louis, League Island, Pa.	30.14‡	765.5‡			39	3.9	100	Calm	0	0			10		WSW	0	0			Foggy	
Tuscarora, Acapulco, Mexico	29.84‡	757.9‡			78	25.6	91	Calm			0		2		Calm	0	0	Smooth		Fair	
Vandalia, Navy Yard, Brooklyn, N.Y.	30.06‡	763.5‡			52	11.1	79						8							Misty	
Wabash, Boston, Mass.	30.07‡	763.8‡			44	6.7	84	SW	6	2.7			10			0	0			Overcast	
Wachusett, S. 21° —′, W 39° —′	30.41‡	772.4‡			99	37.2	91	N			6		10		N			Smooth	N	Overcast	
Wyoming, Gibraltar, Mediterranean	30.23‡	767.8‡			60	15.6	71	NE			2-4		10		NE			Smooth	NE	Cloudy	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.			CHARACTER.	DIRECTION FROM—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S. S. Samaria																			Capt. T. Roberts.

NOTE—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitebury.
S. S. Costa Rica																			W. House & R. Lawless.
S. S. Dakota, Capt. H. G. Morse																			Capt. Connolly.
S. S. Georgia																			F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin																			Capt. A. Fuller.
S. S. Wilmington																			
S. S. Zealandia, Sydney, New South Wales		29.83‡	757.7‡				S		3				W						R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The orginals give the barometer as read off; wind-force by the scale 0 to to 12; for the Brittanic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer N. 33° 01′, E. 136° 37′...†.		29.93‡	760.2‡	57	13.9	58	NW			6		5		N		Rough	NW	Squally	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson N. 38° 57′, W. 129° 42′...†.		30.20†	767.1‡	55	12.8		NW			6		ks		W	Slight	Rough	SW	D. clouds	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undutsch.
S. S. Leipzig, Capt. F. Pfeiffer, N. 47° 50′, W. 20° 22′		30.08‡	764.0‡	57.0	13.9	75	SE			6		10		SE	1 h'r	Long	SE	Drizzling	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 42° 48′, W. 59° 49′		30.14‡	765.5‡				S			4		8		W		3	S	Cloudy	Capt G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa		30.16‡	766.1‡	43	6.1		WSW			1		4		WNW	0			Fair	Capt. R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.
RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents.																			
S. S. Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES—Miscellaneous.																			
Furnished by the co-operation of the Observers named.																			
Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Barkentine "Carrie Heckle" N. 38° 20', W. 63° 00'...*		30 17‡	766.3‡	65	18.3		ENE			4		8		E	0	Rough	SSE	Fair	B. F. Woodbury.
Brigantine "George" of Halifax. N. 22° 46', W. 68° 20'...†		29.98‡	761.5‡	79	26.1		NNW			4		2				Mod'te	E	Fine	N. B. Foss.
Schooner Harry and Fred																			Capt. George Gardner.
Haytian																			
§ Iron Cross																			Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from, sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; do not distinguish between upper and lower clouds; sea-swell in general terms, as published. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. *The error of the barometer is not known. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time. *Instrumental error not known.

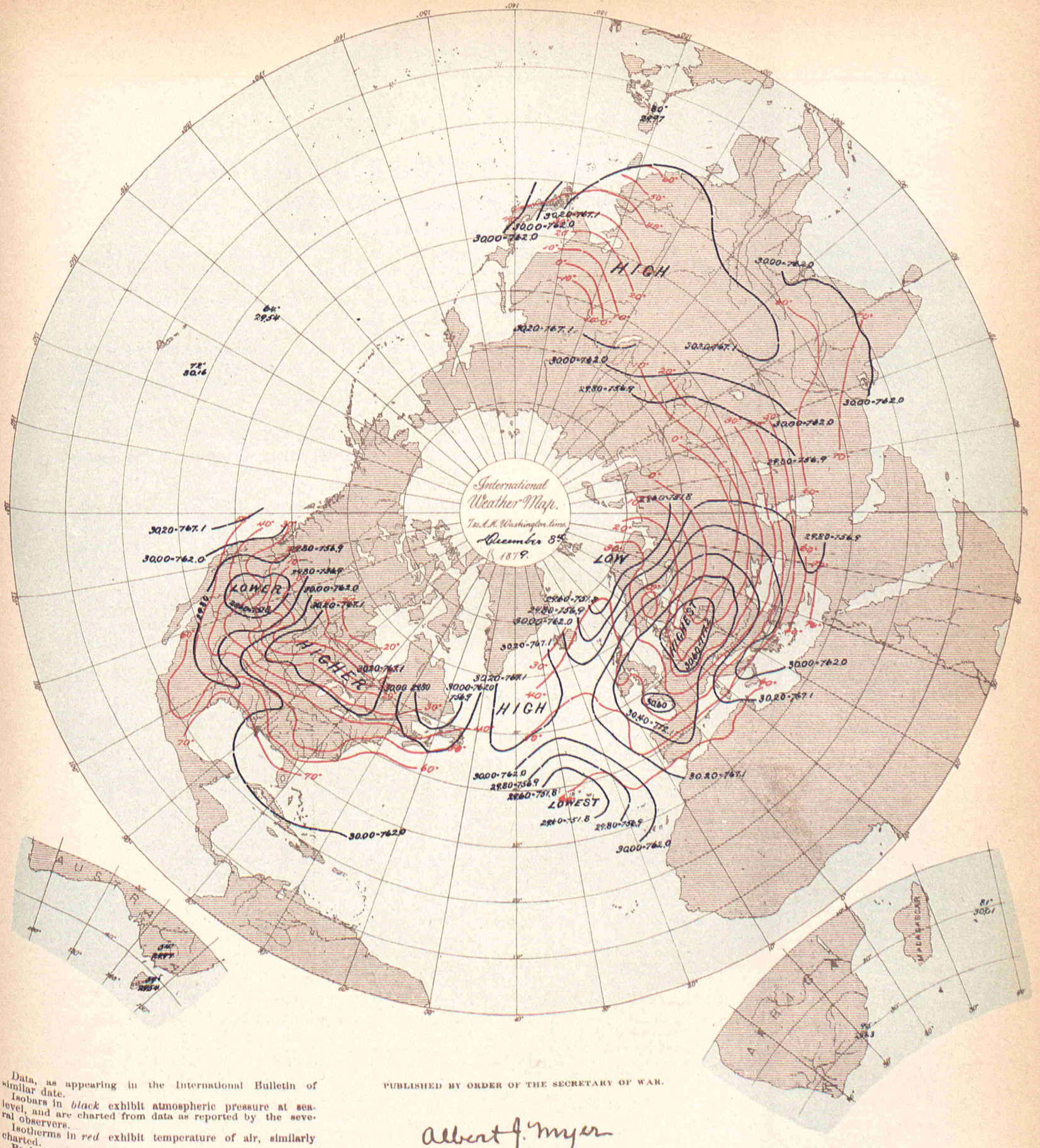
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg'd,) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASS'G'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 9, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE TOWN, C. G. H. mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.14	765.6	66.6	19.2	80	S	.....	.....	1	.....	5	.....	.....	0.177	4.5	Cloudy	
Nemours	.....	.....	30.27	768.9	59.7	15.4	80	E	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	Kesxuche.
Algiers	.....	.....	30.31	769.9	52.2	11.2	41	NW	.....	.....	5	.....	8	.....	.....	0.059	1.5	Very cloudy	Tourilliere.
La Calle	.....	.....	30.19	766.8	46.8	8.2	86	NNW	.....	.....	6	.....	10	.....	.....	1.256	31.9	Raining	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.24	768.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Herbin.
Tebessa	.....	.....	30.23	767.8	41.9	5.5	44	NNW	.....	.....	6	.....	8	.....	.....	0.012	0.3	Very cloudy	Watrin.
Geriville	.....	.....	.....	.....	49.1	9.5	58	Calm	.....	.....	0	.....	0	.....	.....	0	0	Clear.	Brugniuax.
Laghouat	.....	.....	30.31	769.8	49.3	9.6	86	NW	.....	.....	1	.....	2	.....	.....	0	0	Fair	Bertrand.
Biskra	.....	.....	30.28	769.0	57.6	14.2	84	N	.....	.....	4	.....	2	.....	.....	0	0	Fair	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount of cloudiness by the scale 0–4; no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.91	759.6	30.52	775.2	13.1	—10.5	93	N	.....	.....	3	.....	10	.....	.....	0.091	2.3	Snowing	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.88	759 0	30.78	781.7	— 7.6	—22.0	100	NE	0	0	.....	.....	10	.....	.....	0	0	.....	Dr. Wierzbicki.
Eperies	29.58	751.2	30.56	776.1	11.8	—11.2	79	N	.....	.....	1	.....	10cs;hz	.....	.....	0	0	.....	Julius Mikolik.
Gratz	29.22	742.1	30.61	777.0	9.7	—12.4	61	ESE	.....	.....	3	.....	0	.....	.....	0.004	0.1	.....	Andreas Rospini.
Hermannstadt	28.90	734.1	30.46	773.7	20 5	— 6.4	69	ESE	.....	.....	4	.....	1	.....	.....	0	0	.....	Prof. A. Gottschling
Kremsmünster	29.14	740.1	30.66	778.7	5.5	—14.7	94	Calm	.....	.....	0	.....	0	.....	.....	0.079	2.0	.....	Prof. C. Wagner.
Lemberg	29.50	749.3	30.62	777.8	5.0	—15.0	91	SW	.....	.....	1	.....	9	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	30.07	763.8	30.19	766.9	24.4	— 4.2	91	NNE	.....	.....	6	.....	5	.....	.....	0	0	.....	I.R.Hydrographic Office
Szathmar	30.04	762.9	30.55	776.0	14.4	— 9.8	94	NE	.....	.....	2	.....	0	.....	.....	0	0	.....	Pet. Pancsics, S. J.
Szegedin	30.15	765.9	30.47	773.8	12.0	—11.1	.....	N	.....	.....	2	.....	8	.....	.....	0	0	.....	Karl Stancel.
Trieste	30.13	765.3	30.23	767.9	20.3	— 6.5	60	ENE	.....	.....	8	.....	3	.....	.....	0	0	.....	P. Busin.
Vienna	29.85	758.2	30.61	777.5	8.2	—13.2	60	N	.....	.....	1	.....	0	.....	.....	0	0	.....	I.R.Central Met. Ob'sy
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

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BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.17	766.3	30.27	768.8	38.9	3.8		WNW	19	8.5			4			0.060	1.52	Blue sky	W. Boswell.
Ardrossan	30.33	770.4	30.35	770.9	44	6.7		WSW			6		8					Overcast	Wm. McNeil & G. Carrick.
Armagh, (Observatory)	30.21	767.3	30.46	773.7	35.0	1.7		SSW	12	5.4			7					D. clouds	S. Call.
Bidston (Liverpool Obs)			30.47	773.9	39.2	4.0		SSW	7	3.1			10					Overcast	John Hartnup.
Bolton (Sharples)	29.91	759.7	30.44	773.2	33.2	0.7		W	6	2.7			10					Overcast	Thomas Mackereth.
Bradford, Yorkshire	30.05	763.3	30.44	773.2	35.8	2.1		NW			2		10			0	0	Overcast	J McLandsborough.
Bridgetown, Barbadoes	29.90	759.4	29.93	760.2	82	27.8		NE			2		3					D. clouds	Pvt. G. Surgener, A.H.C.
Cambridge (Observatory)	30.45	773.4	30.55	776.0	33.0	0.6		S			1		10					Overcast	H. Todd.
Cardington			30.54	775.7	31.6	— 0.2		S			0–1		8					Overcast	John McLaren.
Chatham (School M. E.)	30.47	773.9	30.61	777.5	34.2	1.2		S			2		4					D. clouds	J. Carmell, Sapper, R.E.
Donaghadee	30.40	772.1	30.43	772.9	39	3.9		W			2		5					D. clouds	J. Mac Gowan.
Dover	30.55	776.0	30.59	777.0	33	0.6		SW			4		4					⅛ clouded	J. Costello.
Falmouth (Observatory)	30.33	770.4	30.57	776.5	44.0	6.7		SE			1		10					Overcast	The Staff.
Fort Napier, Natal	27.55	699.8	29.76	755.9	68.0	20.0		NE			1		10					Overcast	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone																			
Galway (Queen's College)			30.42	772.7	41	5.0		Calm			0		8					Gloomy	Prof. A. H. Curtis.
Gibraltar, Mediterranean																			Sergt. Wm. Allen, A. H.
Glasgow, (Observatory)	30.11	764.8	30.32	770.1	41.3	5.2		SSW			2		10					Gloomy	D. G. Maclean. [C.
Great Yarmouth	30.56	776.2	30.57	776.5	31	0.6		SW			2		4					Misty	G. T. Watson.
Greenwich (Royal Obs'y)	30.40	772.1	30.58	776.7	35.1	1.7		SW			1		8			Blank	Blank	D. clouds	The Staff, for G.B.Airy.
Guernsey	30.36	771.1	30.59	777.0	35	1.7		SSE			3		5					Misty	Dr. S.E Hoskins, F.R.S.
Helston	30.65	778.5	30.78	781.8	43	6.1		SE			2		2k			0.15	3.8	Gloomy	M. P. Moyle.
Holyhead	30.38	771.6	30.45	773.4	45	7.2		W			2		10					Overcast	John Tilston.
Jersey	30.36	771.1	30.67	779.0	29.5	— 1.4		S			3		10					Gloomy	J. Fisher.
Kew (Observatory)	30.55	776.0	30.59	777.0	32.5	0.3		SSW	9	4.0			10					Misty	The Met'g'l Office.
Leicester (Museum)	30.25	768.3	30.52	775.2	31.4	— 0.3		SW			1		10					Overcast	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	29.93	760.2	30.00	762.0	49.8	9.9		NW			3		8kn					Overcast	A. King.
Nairn	30.21	767.3	30.30	769.6	39	3.9		W			1		10					Overcast	W. D. Penny.
Nassau, Bahamas			30.13	765.3	74.0	23.3		NE			1		4					D. clouds	C. S. Duncombe.
Nottingham (Observatory)	30.32	770.1	30.53	775.4	32.3	0.2		SSW			2		10k		WNW	0	0	Overcast	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.97	761.2	30.52	775.2	33.0	0.6		SW			2		10					Foggy	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)			30.58	776.7	27	— 2.8		Calm			0		8					Foggy	H. E. Bellamy.
Plymouth	30.49	774.4	30.57	776.5	37.6	3.1		NE			1		10					Overcast	John Merrifield.
Prince Town																			W. H. Tooker.
*Roche's Point	30.45	773.4	30.52	775.2	40	4.4		NNW			2							Dense fog	Wm. Kennedy.
St. Ann's Head	30.36	771.1	30.53	775.4	45	7.2		SSW			3		10					Showery	John C. Walker.
Sandwick Manse, Orkneys			30.33	770.4	36.3	2.4		N	23	10.3			4					D. clouds	Rev. C. Clouston, L.L.D.
Scutari Cemetery, Turkey	30.06	763.5	30.13	765.3	38.8	3.8		NE			3		10					Raining	Serg't W. H. Lane.
Sheffield	30.21	767.3	30.50	774.7	36.4	2.4		SW			1		10			0.07	1.8	Overcast	W. F. Cooper.
Silloth Rectory	30.37	771.4	30.40	772.1	37.5	3.1	94	SW			3		10			0	0	Overcast	Francis Redford, A. M.
Stonyhurst (Observatory)			30.44	773.2	35.6	2.0		WSW	6	2.7			10					Misty	Rev. S. J. Perry.
Stratfield, Turgiss	30.38	771.6	30.62	777.7	30.4	— 0.9		SE			0–1		9					Foggy	Rev. C. H. Griffith, F.M.S.
Truro (Royal Institution)	30.48	774.2	30.56	776.2	45	7.2		SE			4		10					Gloomy	W. Newcombe.
Valencia Observatory)	30.47	773.9	30.49	774.4	48.2	9.0		SSE	13	5.8			10					D. clouds	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)																			The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.36	644.1			90	32.2		W					1						Robert Burnet.
Constable, Cape Colony	26.74	679.2			67	19.4		SW					0						Francis Abbott, F.R.A.S.
Hobart Town, Tasmania			29.82	757.4	59.0	15.0	82	S			1		10kn			0.06	1.5	Covered	Andrew Gibb.
Leith (Restalrig Park) Sc't'l'd			30.33	770.4	41.1	5.1		W			4		10k			0.03	0.8	Overcast	C. Meldrum.
Mauritius (Observatory)	29.77	756.1	29.96	760.9	80.2	26.8	60	NE	10.5	4.7	1		4		ESE	0	0	Fine	R. L. J. Ellery.
Melbourne (Observatory)	29.67	753.6	29.76	755.9	66.0	18.9	58	NE	7	3.1			9			0	0	Dull	J. Youngclause.
Monach Lt-house, Hebrides			30.40	772.1	44	6.7		NNW			4		10			0.1	3.		
North Unst, Shetland Is			30.20	767.1				N			6	8	10	N		0	0		

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters; Prince Town, 1,400 feet, or 427 meters; Colesberg Bridge and Constable, unknown.

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. 0—10.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. Alert, Off Kosmos Is., Patagonia			29.77‡	756.1‡	50.5	10.3		NNE			1	8			Showery	Capt. J. P Maclear, R.N.
H. M. Sloop Gannet, S. 18° 28′, W. 76° 21′			29.93‡	760.2‡	70	21.1		Calm			0	2			Blue sky	Commander E. Bourke, R. N.
H. M. S. Magpie, N. Saddle I'd., near Shanghai, China			30.21‡	767.3‡	46.5	8.1		WNW			3	10			Misty	Capt. R. H. Napier, R.N.
Brig Alliance, N. 47° 40′, W. 31° 05′			29.78‡	756.4‡	55.5	13.1		NE			7	6			D. clouds	Capt. W. Scott.
Barque Belle-Isle, N. 26° 35′, W. 74° 20′			30.18	766.6	75	23.9		ENE			5	8	3	NE	Showery	Capt. A. J. Brown
City of Cashmere, N. 12° 15′, W. 124° 00′			29.90‡	759.4‡	75.4	24.1		ENE			5	7			Squally	Capt. W. M. Grieve.
Barque Fedalma, N. 15° 20′, W. 61° 25′			29.97	761.2	81	27.2		Calm			0	6	0		D. clouds	Capt. H. L. Fox.
S. S. Iron Cross, N. 24° 10′, W. 82° 25′			30.13	765.3	76	24.4		E			5	4	4	E	D. clouds	Capt. W. Randall.
S. S. Peruvian, N. 52° 40′, W. 37° 00′			30.06	763.5	49	9.4		ESE			4	8	4	SE	D. clouds	Capt. W. H. Smith.
S. S. Strathleven, S. 38° 00′, E. 135° 05′			29.64‡	752.8‡	55.5	13.1		SSW			6	6			Showery	Capt. C. W. Pearson.
Light House Tender Richmond, N. 25° 55′, W. 78° 20′			30.19	766.8	76	24.4		E			4	0	2		Blue sky	Capt. W. H. Stewart.
S. S. Gordon Castle																Capt. Wm. Waring.
German Brig "W. von Freeden"																Capt. H. V. Freeden.
S. S Ethiopia																Capt. Campbell.
S. S. Sunbeam																Capt. C. M. Dobson.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12: the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer, corrected for instrum'tal error and temperature. Inches.	Barometer, corrected for instrum'tal error and temperature. Millimeters.	Barometer, reduced to sea-level. Inches.	Barometer, reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.18	665.0	29.90	759.4	68.9	20.5	85	SE	.....	.....	3	1ck	8s	.....	E	0	0	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish ples.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.36	771.2	30.41	772.4	27.0	—2.8	87	W	.....	.....	4	.....	10	.....	.....	.....	.....	.....	.....
Faröe	30.38	771.6	30.40	772.1	35.1	1.7	77	WSW	.....	.....	4	.....	10	.....	.....	.....	.....	.....	.....
Godthaab (Greenland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stykkisholm (Iceland)	30.18	766.5	30.22	767.6	36.0	2.2	89	SW	.....	.....	2	.....	8	.....	.....	.....	.....	.....	.....
Thorshavn (Faröe)	30.32	770.2	30.36	771.1	32.0	0.0	69	NW	.....	.....	2	.....	5	.....	.....	.....	.....	.....	.....
Vestervig	30.13	765.4	30.24	768.2	35.8	2.1	77	WSW	.....	.....	6	.....	10	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	30.12	765.0	30.67	779.0	14.0	—10	81	W	.....	.....	1	.....	0	.....	.....	0.035	0.9	Clear.	Collignon, Director.
Amiens, Normal School	30.47	773.8	30.59	776.9	10.4	—12	70	S	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Vaillant, Director.
Arras, Engin'r school	30.43	772.8	30.69	779.4	13.8	—10.1	84	W	.....	.....	1	.....	.....	.....	.....	0	0	.....	Klein, Commandant.
Avignon, Normal School	30.32	770.0	30.39	772.0	24.6	— 4.1	63	NNW	.....	.....	6	.....	0	.....	.....	0	0	Very clear...	Giraud, Director.
Bar-sur-Seine	30.04	763.1	30.68	779.2	8.1	—13.3	.....	N	.....	.....	1	.....	0	.....	.....	0	0	Clear.	C. Saillard, Director.
Beauvais, Normal School	30.44	773.1	30.74	780.8	6.4	—14.2	100	SE	.....	.....	1	.....	0	.....	.....	0.04	1.	Clear.	Frère Eugene Marie.
Besançon, Normal School	29.65	753.0	30.65	778.6	7.7	—13.5	.....	E	.....	.....	1	.....	0	.....	.....	0	0	Clear.	A. Carré, Director.
Bourg-en-Bresse, N. School	29.83	752.5	30.54	775.6	14.0	—10	94	N	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Marlot, Diretor.
Bourges, Normal School	29.90	761.0	30.57	776.5	15.8	— 9	94	NNW	.....	.....	3	.....	1	.....	NNW	0	0	Clear.	M. Gence, Director.
Brest, Naval Observatory	30.35	770.8	30.59	777.0	37.0	2.8	75	ESE	.....	.....	2	.....	0	.....	.....	0.079	2.00	.....	Ch. de Rermaree, Dir.
Caen, Normal School	30.54	775.8	30.63	777.9	36.3	2.4	87	S	.....	.....	1	.....	.....	.....	.....	0	0	.....	M. Bletrin, Director.
Carcassonne, N. School	30.07	763.8	30.52	775.1	30.9	— 0.6	73	NW	.....	.....	2	.....	10	NW	NW	0.020	0.5	Covered.....	September, Director.
Châlons-sur-Marne, N. Sch'	30.35	771.0	30.71	780.1	12.2	—11.0	.....	W	.....	.....	1	.....	0	.....	.....	.....	.....	Clear.	Jadot, Director.
Chartres, Normal School	30.11	764.8	30.75	781.0	14.0	—10	44	N	.....	.....	1	.....	1	.....	.....	0	0	.....	Vergier, Director.
Clermont-Fd, Puy de D. Obs	29.10	739.0	30.58	776.8	20.3	— 6.5	76	N	.....	.....	1	.....	0	.....	.....	0.150	3.8	.....	Alluard, Director.
Commercy, Normal School	29.71	754.7	30.67	779.1	11.3	—11.5	.....	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Dr. Coullet, Director.
Commune de Gréasque*	29.11	739.3	30.25	768.3	24.4	— 4.2	81	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.68	753.9	30.53	775.4	18.0	— 7.8	.....	SE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.40	772.1	30.63	778.0	28.8	— 1.8	68	ENE	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Mouillot, Director.
Le Mans, Normal School	30.36	771.2	30.70	779.8	14.4	— 9.8	87	N	.....	.....	2	.....	0	.....	.....	0.059	1.5	Clear.	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.53	750.1	30.52	775.2	18.5	— 7.5	73	NW	.....	.....	3	.....	0	.....	.....	0	0	Clear	A. Baudry, Director
Lorient, Naval Observatory	30.54	775.6	30.65	778.4	27.7	— 2.4	83	SE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.80	758.5	30.54	775.8	18.3	— 7.6	78	N	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Ch. André, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	29.98	761.5	30.26	768.6	29.1	— 1.6	84	NW	.....	.....	3-4	.....	1	.....	SW	0	0	.....	E. Stephan, Director.
Mirecourt, Normal School	29.48	748.7	30.65	778.4	11.1	—11.6	.....	N	.....	.....	1	.....	.....	.....	N	0	0	.....	Barbier, Director.
Mont-Louis	24.92	633.0	30.21	768.0	23.0	— 5.0	65	N	13.0	5.8	.....	.....	0	.....	.....	0	0	.....	M. Cave.
Nice	30.22	767.5	30.25	768.3	42.8	6.0	56	W	.....	.....	1	.....	2	NE	W	0	0	Slightly c'd'y	M. Boissière, Director.
Nismes, Normal School	30.16	766.1	30.36	771.2	31.6	— 0.2	.....	N	.....	.....	3	.....	0	.....	.....	0	0	Clear	M. Boyer, Director.
Paris, Montsouris Obs'y	30.40	772.1	.....	.....	9.5	—12.5	85	WNW	.....	.....	1	.....	0	.....	.....	0.110	2.8	Foggy.....	Marié Davy, Director.
Perpignan	30.23	767.9	30.34	770.7	38.5	3.6	41	N	26.2	11.7	.....	.....	0	.....	.....	0	0	.....	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.52	571.9	.....	.....	12.6	—10.8	.....	.....	.....	.....	.....	.....	.....	.....	E	0	0	.....	Gen'l de Nansouty.
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Privas, Normal School	29.28	743.8	30.44	773.2	22.6	— 5.2	.....	N	.....	.....	1	.....	1	.....	N	0	0	Clear.	M. Tallieu
Puy de Dome (Summit) Obs	25.23	640.8	.....	.....	3.0	—16.1	100	ENE	.....	.....	2	.....	0	.....	.....	0.669	17.0	Clear.	Alluard, Director.
Rochefort, Naval Obs'y	30.60	777.2	30.63	778.0	28.4	— 2.0	94	E	.....	.....	2	.....	2	E	E	0	0	¼ covered...	Lt E. Decante, Director
Rouen, Normal School	30.60	777.3	30.69	779.5	15.3	— 9.3	84	SSE	.....	.....	1	.....	0	.....	.....	0.059	1.5	Clear.	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.60	777.3	30.63	778.1	23.5	— 4.7	71	SE	.....	.....	2	.....	0	.....	.....	0.015	0.38	Misty.....	Lt. Hereouet, Director
Saint Maur (near Paris)	30.52	775.3	30.69	779.5	12.2	—11.0	92	NE	.....	.....	1	.....	0	.....	.....	0.055	1.4	.....	E. Renou, Director.
Tarbes, Normal School	29.39	746.4	30.55	775.9	30.2	— 1	61	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.78	756.4	30.51	775.0	29.1	— 1.6	.....	NNW	.....	.....	2	.....	10	.....	.....	0	0	Covered	M. Julier Mercadier.
Tours	30.43	773.0	30.63	778.0	15.8	— 9.0	.....	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Cousin-Marquet.
Versailles, Observatory	30.17	766.2	30.66	778.7	12.6	—10.8	72	N	.....	.....	1	.....	0	.....	.....	0.120	3.04	Very clear...	Dr. A. Berigny, Director
Villefranche-sur-Saone, N. S	29.78	756.3	30.55	776.0	23.9	— 4.5	44	NNE	.....	.....	3	.....	0	.....	.....	0	0	Clear.	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.92	760.0	29.95	760.7	75.2	24	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.84	72.	.....	L'Abbé Marchési
Zi-Ka-Wei (near Shanghai	30.22	767.5	30.24	768.2	38.5	3.5	93	W	4.7	2.1	.....	.....	10	.....	.....	0.087	2.2	Covered	Marc Dechevrens.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in gene al terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity Miles per hour.	Wind. Velocity Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.75	755.6	30.61	777.4	8.6—13.0		72	NW			2		8ks			0	0	Foggy	Prof. Dr. Hoh.
Berlin	30.44	773.1	30.63	778.1	7.5—13.6		90	SE			1		4			0	0		Prof. Dr. Arndt.
Breslau	30.13	765.3	30.67	779.1	— 4.7—-20.4		100	ESE			2		4			0	0		Royal University Obs'y.
Carlsruhe	30.15	765.9	30.60	777.1	15.6— 9.1		84	NE			0		0			0	0		Albert Senz.
Cassel	30.08	764.0	30.70	779.8	3.0—16.1		80	SSE			1		10			0	0		Dr. H. Möhl.
Emden			30.57	776.5	18.1— 7.7		71	SW			2		0			0	0		Prof. Dr. Prestel.
Frankfort on the Main	30.32	770.1	30.71	780.0	18.3— 7.6		55	NNE			3		2			0.177	4.5		Physical Society.
Friedrichshafen	29.02	737.1	30.60	777.2	14.0—10.0		55	NE			5		5	NE		0	0		Chief Telegrapher Wilhelm.
Hamburg	30.54	775.8	30.62	777.6	13.3—10.4		86	SW			2		0			0	0		Capt. P. F. A. Hegerman.
Kiel	30.52	775.3	30.54	775.7	18.7— 7.4		66	SW			1		7			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.37	771.3	30.46	773.6	17.6— 8.0		82	SW			5		10			0	0		Prof. E. Luther.
Köslin			30.56	776.2	15.8— 9.9			W			2		4			0	0		H. Müller.
Leipsic Observatory	30.24	768.0	30.72	780.2	2.5—16.4		95	SSE			1		7			0.024	0.6	Hazy	Prof. Dr. Bruhns, Privy Counselor
Magdeburg	30.45	773.4	30.68	779.3	12.7— 10.7		80	Calm			0		10s	S		0	0	Dense fog	Dr. Assmann.
Memel	30.25	768.3	30.30	769.5	34.5 1.4		69	W			6–7		10kn						Reinbrecht & Issermann.
Munich (München)	28.62	726.9	30.51	775.0	6.3—14.3		87	NW			1		6			0.028	0.7		Dr. C. Lang.
Neufahrwasser	30.48	774.3	30.50	774.7	21.6— 5.8		85	SW			4		8			0	0		A. Lothes.
Neustadt (Palatinate)	30.07	763.8	30.61	777.4	18.9— 7.3			WSW			1		0			0	0		Reallehrer Dicknether.
Posen	30.36	771.2	30.69	779.5	6.8—14.0		66	WSW			2		9			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	30.05	763.2	30.67	778.9	13.8—10.1		93	NNE			3		0			0	0		Imp. University Observatory.
Stuttgart	29.58	751.4	30.63	777.9	13.1—10.5		84	NE			1		0			0.008	0.2		Prof. Dr. Schoder.
Weissenburg (Bavaria)	28.98	736.2	30.57	776.5	9.0—12.8		69	NE			1		0			0	0	Foggy	Reallehrer J. Hopfner
Wustrow	30.54	775.6	30.56	776.2	22.6— 5.2		90	SW			5		8s			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.51	749.6	29.91	759.8	48.6	9.2		NE			1.0		10					Raining	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	30.00	761.9	30.05	763.3	71.8	22.1	84	NW	25	11.2			0			0	0	Blue sky	
Deesa	29.56	750.9	30.05	763.2	74.7	23.7	24	NNW					0			0	0	Blue sky	
Bombay	29.89	759.1	29.92	760.0	76.0	24.4	62	NNW	19	8.5			0			0	0	Blue sky	
Poona (Yerrowda)	28.05	712.4	29.92	760.0	75.5	24.2	27	NNW	5	2.2			0			0	0	Blue sky	
Belgaum	27.36	695.1	29.92	760.1	72.0	22.2	37	NE	5	2.2			0			0	0	Blue sky	
Lahore	29.32	744.8	30.11	764.8	54.7	12.6	44	Calm	0.4	0.2			2			0	0	Blue sky	
Roorkee	29.11	739.4	30.05	763.2	62.4	16.9	35	W	0.8	0.4			0			0	0	Blue sky	
Agra	29.47	748.5	30.06	763.5	61.3	16.3	46	N	2.1	0.9			0			0	0	Blue sky	
Nagpur	28.90	733.9	29.97	761.1	67.9	19.9	30	E	2.4	1.1			0			0	0		
Jubbulpore	28.58	725.8	29.97	761.3	69.0	21.1	26	Calm	1.4	0.6			0			0	0	Blue sky	
Lucknow	29.63	752.5	30.02	762.5	62.3	16.8	54	Calm	0.3	0.1			0			0	0	Blue sky	
Allahabad	29.69	754.2	30.02	762.6	58.9	14.9	75	Calm	0.8	0.4			0			0	0	Blue sky	
Patna	29.82	757.5	30.01	762.3	66.0	18.9	66	Calm	0.2	0.1			0			0	0	Blue sky	
Hazaribagh	27.92	709.0	30.00	762.0	62.0	16.7	56	NE	3.1	1.4			0			0	0	Blue sky	
Cuttack	29.87	758.8	29.96	760.9	72.1	22.3	65	ENE	2.0	0.9			10			0	0	Overcast	
Calcutta (Alipore)	29.94	760.6	29.97	761.1	70.0	21.1	68	N	3.0	1.3			10			0	0	Overcast	
Goalpara	29.58	751.3	29.98	761.5	69.1	20.6	68	E	5.6	2.5			0			0	0	Blue sky	
Chittagong	29.90	759.4	29.99	761.8	73.8	23.2	90	Calm	2.6	1.2			10			0	0	Misty	
Sibsagar	29.67	753.7	30.02	762.5	67.4	19.7	77	ESE	1.0	0.4			3			0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,846.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	29.89	759.3	30.33	770.3	23.2	— 4.9	55	E	4.3	1.9	.....	.....	2	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.76	755.8	30.31	769.8	22.6	— 5.2	80	WNW	.....	.....	2	.....	1	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	30.22	767.6	30.33	770.4	23.0	— 5.0	67	N	6.9	3.1	.....	.....	9	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.37	745.9	30.32	770.2	25.3	— 3.7	75	ESE	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	30.09	764.2	30.29	769.3	29.3	— 1.5	61	N	5.6	2.5	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.24	717.2	30.24	768.2	20.5	— 6.4	50	NE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.15	765.7	30.20	767.0	27.7	— 2.4	75	N	25.5	11.4	.....	.....	10	N	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.96	760.9	30.23	767.7	27.5	— 2.5	59	NE	.....	.....	6	.....	2	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	30.11	764.9	30.20	767.1	29.8	— 1.2	86	ENE	17.4	7.8	.....	.....	1	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.83	757.7	30.01	762.3	36.1	2.3	55	N	20.6	9.2	.....	.....	10	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.61	752.2	29.87	758.8	40.1	4.5	82	WNW	19.9	8.9	.....	.....	9	NW	.....	0.165	4.2	.....	Prof. C. De Giorgi.
Cosenza	28.99	736.3	29.89	759.2	37.8	3.2	80	SE	1.3	0.6	.....	.....	9	.....	.....	0.705	17.9	.....	Prof. D. Conti.
Cagliari	29.85	758.2	30.05	763.2	37.9	3.3	75	NW	.....	.....	2	.....	4	.....	.....	0.169	4.3	.....	Prof. A. Pacinotti.
Palermo	29.76	756.0	30.02	762.5	42.8	6.0	60	WNW	7.4	3.3	.....	.....	9	W	.....	0.866	22.0	.....	Prof. G. Ciacciatore.
Syracuse	29.92	759.9	29.99	761.7	47.5	8.6	33	WNW	13.7	6.1	.....	.....	3	WNW	.....	0	0	.....	Prof. V.G. Guiliano.
SUB-SERIES.																			
Naples, S. R.	27.41	747.1	29.97	761.1	36.7	2.6	67	NE	6.3	2.8	.....	.....	2	.....	.....	0.051	1.3	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.10	764.5	30.12	765.0	42.7	5.9	81	NE	3.6	1.6	.....	.....	10s;ks	.....	.....	0	0	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.94	760.5	30.15	765.8	45.2	7.3	84	N	0.5	0.2	.....	.....	2s	.....	.....	0.045	1.15	Foggy	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.98	761.5	30.05	763.3	40.5	4.7	70	WNW	4.4	2.0	.....	0	0	.....	.....	0	0	Clear	The Staff.
Wakayama	30.05	763.3	30.10	764.5	41.4	5.2	81	E	0.7	0.3	.....	.....	0s	.....	.....	0	0	Fair	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima																			R. Banda, C. E.
Guadalajara	25.07	636.7	30.27	768.9	41.4	5.2	52	SW	.....	.....	1	.....	5	.....	.....	0	0	½ clouded	Prof. L. Perez.
Leon	24.43	620.6	30.23	767.8	50.9	10.5	80	N	.....	.....	1	3c	0	.....	.....	0	0	Clear	Prof. M. Leal.
Mazatlan	29.72	755.0	29.98	761.6	68.0	20.0	83	N	.....	.....	1	3c	0	.....	.....	0	0	Clear	I. Guerrero, C. E.
Mexico, Central Observatory	23.08	586.2	30.16	766.1	40.6	9.8	76	Calm	0	0	.....	0	0	.....	.....	0	0	Very clear	The Staff.
Pabellon (Aguascalientes)					47.3	8.5	71	SW	.....	.....	1	3c	0	SW	.....	0	0	Clear	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.40	594.4	30.27	768.8	44.8	7.1	42	N	0.4	0.2	.....	0	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.20	614.6	30.26	768.6	50.7	10.4	61	SE	.....	.....	1	4	0	W	.....	0	0	Fair	G. Barroeta, M. D.
Tlacotalpam	29.91	759.8	29.93	760.1	72.1	22.3	91	W	.....	.....	1	0	0	.....	.....	6	0	Foggy	Prof. M. M. Cházaro.
Vera-Cruz																			Prof. J. Rossell
Zacatecas	22.52	572.0	30.19	766.7	51.8	11.0	61	Calm	0	0	.....	2cs	1s	W	W	0	0	Clear	J. C. Castrillon

NOTE.—The elevation of Guadalajara is 1,563.3 m., or 5,148.7 ft.; Leon, 1,708.6 m., or 5,601.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column; the instrumental correction —0.88 mm., or —0.035 inch, has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.68	779.2	30.68	779.2	20.1	— 6.6	.....	SSW	.....	.....	4	.....	.....	.....	.....	0.039	1.0	.....	
Groningen	30.55	776.0	30.61	777.4	31.3	— 0.4	.....	SSW	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Helder	30.55	776.0	30.55	776.0	26.6	— 3.0	.....	S	.....	.....	4	.....	.....	.....	.....	0.047	1.2	.....	
Hellevoetsluis	30.65	778.6	30.65	778.6	20.3	— 6.5	80	SSW	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	
Utrecht	30.61	777.5	30.66	778.7	16.3	— 8.7	88	SSW	.....	.....	2	.....	0	.....	.....	0	0	Clear	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.15	765.8	30.21	767.2	34.9	1.6	71	N	28.2	12.6	.....	.....	6	.....	.....	0	0	.....	
Brönö	29.58	751.2	29.61	752.2	30.2	— 1.0	90	WNW	36	16	.....	.....	8	.....	.....	0.386	9.8	.....	
Christiana	29.75	755.6	29.91	759.6	24.4	— 4.2	100	NW	0	0	.....	.....	8	.....	.....	0	0	.....	
Tromsö	28.87	733.4	28.92	734.5	26.2	— 3.2	98	SW	13	6	.....	.....	10	.....	.....	0.224	5.5	Snowing	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	28.81	731.8	29.00	736.7	61.2	16.2	90	S	10.5	4.7	.....	.....	6	.....	.....	0.610	15.5	.....	Dr. J. A. Sampaio.
Campo Major	29.29	744.0	30.34	770.5	44.2	6.8	44	ENE	17.4	7.8	.....	.....	9	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	29.87	758.8	29.96	761.0	71.6	22.0	82	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.91	759.6	30.28	769.1	48.7	9.3	61	ENE	16.1	7.2	.....	.....	3	W	.....	0.004	0.1	.....	The Staff.
Ponta Delgada (Azores)	29.26	743.3	29.34	745.1	64.0	17.8	78	S	40.0	21.9	.....	.....	3	.....	.....	0.689	17.5	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias				A. G. da Silva Costa, Com'd't.
D. Fernando				A. M. de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.				J. C. M. Cabrate, 1st Lt.
Mindello				J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos				H. de C. C. e Athayde.
Rio Duro				J. T. d'Oliveria, Com'd't.
Rio Lima. Capt. S. C. da Silva Costa.				A. D. da Fonseca Sarurent o
Fogo, Cape Verd Islands				F. Teixeira da Silva, Comd't.
Sá da Bandeira				
Sado, Capt. J. A de Brito Capello.				
St. Paul de Loando				
Tejo, Capt. J. M. T. Guimaraes.				
Macao, China	1	NNE	Blue sky	J. G. Felgo, 2nd Lieut.

Fogo, Cape Verd Islands	.....	.....	.....	.....	80.6	27.0	.....	W	.....	.....	2	.....	2	.....	W	2	.....	D. clouds	A. D. da Fonseca Sarurent o
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Comd't.
Sado, Capt. J. A de Brito Capello.																			
St. Paul de Loando	.....	.....	29.87	758.6	78.6	25.9	.....	W	.....	.....	4	.....	8	.....	W	.....	.....	D. clouds	Luiz Aprá, Q. M.
Tejo, Capt. J. M. T. Guimaraes.																			
Macao, China	.....	.....	30.24	768.0	68.0	20.0	.....	NE	.....	.....	3	.....	0	.....	.....	1	NNE	Blue sky	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sá da Bandeirá gives the barometer reduced tofreezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	29.06	738.1	29.08	738.6	29.8	— 1.2	92	SW	18	8	.....	.....	10	.....	.....	.....	.....	Snow-drift	Capt. Sseliwerstow.
Astrakhan	30.35	770.8	30.26	768.7	14.0	—10.0	80	W	13	6	.....	.....	28	.....	.....	Blank	Blank	.....	Capt. Wisganow.
Barnaul	28.91	734.2	29.58	751.2	40.5	4.7	78	SW	31	14	.....	.....	10	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Dorpat	29.71	754.5	29.96	760.9	31.6	— 0.2	89	SW	9	4	.....	.....	10n	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	28.61	726.6	29.65	753.2	2.7	—16.3	83	W	7	3	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	29.53	750.1	29.83	757.6	6.4	—14.2	93	SSW	2	1	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.68	753.9	30.38	771.7	11.5	—11.4	85	NW	9	4	.....	.....	10ks;n	.....	.....	.....	.....	.....	Physical Cabinet.
Krotkowo*	29.41	747.1	29.94	760.4	2.5	—16.4	71	SW	2	1	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	30.06	763.5	30.28	769.2	14.0	—10.0	74	W	12	6	.....	.....	10	.....	.....	Blank	Blank	.....	Meteorological Obs
Moscow	29.37	745.9	29.95	760.7	24.4	— 4.2	86	SE	7.8	3.5	.....	.....	10s	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	27.50	698.5	29.99	761.8	4.6	—15.2	81	Calm	0	0	.....	.....	10	.....	.....	Blank	Blank	Light clouds	Meteorological Obs.
Nikolaiev	30.42	772.6	30.49	774.4	12.6	—10.8	72	N	9	4	.....	.....	0	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	29.89	759.1	30.13	765.3	33.8	1.0	58	NNW	9	4	.....	.....	9ks	.....	.....	.....	.....	.....	.....
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	30.00	762.0	30.14	765.6	30.4	— 0.9	61	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	29.75	755.7	29.77	756.1	30.7	— 0.7	88	SW	20	9	.....	.....	10n	.....	.....	.....	.....	.....	Central Physical Obs.
Tashkend	28.36	720.3	29.92	759.9	59.0	15.0	52	.....	.....	.....	.....	.....	10	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.76	730.6	30.23	767.7	42.1	5.6	52	NW	9	4	.....	.....	3k	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	30.17	766.3	30.66	778.7	— 5.4	—20.8	86	WSW	9	4	.....	7c	.....	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.91	759.6	30.36	771.1	20.1	— 6.6	85	WSW	7	3	.....	.....	10	.....	.....	.....	.....	Heavy clouds	Astronomical Obs.
Yenisiesk	29.51	749.6	29.84	757.9	—12.1	—24.5	80	NW	2	1	.....	.....	3	.....	.....	.....	.....	.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	30.21	767.3	30.32	770.1	42.4	5.8	34	W	3.5	1.58	.....	.....	0	.....	.....	0	0	Clear.	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.38	771.7	30.44	773.2	44.1	6.7	55	SE	2.4	1.05	.....	0	0	.....	.....	0	0	Clear.	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.35	694.7	.....	.....	34.9	1.6	67	NE	4.0	1.79	.....	0	1	.....	.....	0	0	Almost clear	Domingo Martin y Perez
Madrid, Royal Observatory	28.08	713.3	30.43	772.8	37.9	3.3	95	N	5.9	2.64	.....	3	3	NW	.....	0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	30.21	767.4	30.37	771.3	51.8	11.0	40	S	3.2	1.44	.....	1	2	NW	.....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.34	745.3	30.26	768.7	46.2	7.9	53	NW	1.8	0.8	.....	.....	10	.....	.....	0	0	Covered	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.06	763.6	30.13	765.3	67.9	19.9	87	ENE	1.1	0.5	.....	0	2k;ks	.....	.....	0	0	Clear.	Benito Vines S. J.
Manilla, Phillippine Islands	29.88	758.9	29.93	760.2	79.0	26.1	74	ESE	0.7	0.3	.....	0	1s	.....	.....	0	0	Fine	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.14	765.5	30 24	768.1	58.8	14.9	65	ESE	21.3	9.5	.....	0	3	.....	E	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.91	759.6	30.00	761.9	72.7	22.6	92	SW	2.2	1.00	.....	4ck	2k	SW	SW	0.069	1.75	Cloudy	Enrique Gadea, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.32	744.6	29.36	745.6	23.0	— 5.0		W			2		0			0	0		
Umea	29.61	752.2	29.67	753.5	27.3	— 2.6	70	NW			2		0			0	0		
Hernosand	29.66	753.2	29.71	754.5	31.6	— 0.2	74	NW			2		8			0	0		
Stockholm	29.74	755.3	29.91	759.8	33.4	0.8	82	W			4		1			0	0		
Wisby	29.98	761.6	30.04	763.1	34.5	1.4	82	W			7		10			0	0		
Sub-Series.																			
Upsala	29.76	755.8	29.84	758.0	31.6	— 0.2	79	WSW	16.3	7.3			0			0.083	2.11		Nils Ekholm.
Naval Series.																			
Corvette Saga																			Capt. M. von Krusenstierna.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.96	735.6	30.50	774.8	18.0	— 7.8	72	NE			8		8			0	0	Cloudy	The Observatory.
Zurich	28.80	731.5	30.58	776.8	14.4	— 9.8	75	E			2		4			0	0	Clear	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +8.4 mm.; Thermometer, —10.9 Cent.; Relative Humidity, —7 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople			30.19	766.8	39.4	4.1	80	ENE	34	15.0			10		N	0.181	4.6		The Observatory.
Fao, Persian Gulf																			
Valona			29.75	755.7	37.6	3.1		NE			1		10			1.02	2.6	Covered.	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.89	759.2	30.01	762.2	68.4	20.2	66	W			1	Sck				0	0	D. clouds.	Prof. C. V. A. van Dyck.

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B.																			Hon. J. Ferguson.
Brockville, Ontario																			W. R. Bigg.
Chatham, N. B.	30.49	774.4	30.56	776.2	12.3	—10.9	90	W	1	0.4		10c	0	NW		0	0	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	30.39	771.9	30.43	772.9	23.2	— 4.9	84	NW	6	2.7			10s					Light snow.	H. J. Cundall, C. E.
Cornwall, Ontario	30.35	770.9	30.56	776.2	16.5	— 8.6	86	E			2	0	0			0	0	Clear.	James Smith, M. A.
Dalhousie, N. B.	30.36	771.1	30.55	776.0	12.5	—10.8		W			2	0	0			0	0	Clear.	H. A. Johnson.
Father Point, Quebec	30.59	777.0	30.61	777.5	12.7	—10.7	81	NW	14	6.3		0	5s			0	0	Fair.	J. McWilliams.
Fredericton, N. B.	30.49	774.4	30.56	776.2	14.7	— 9.6	70	NW	5	2.2		1c	0			0	0	Clear.	Prof. Harrison.
Port Garry, Manitoba	29.28	743.7	30.20	767.1	2.4	—16.4	100	E	6	2.7			10n			0.05	1.3	Light snow.	James Stewart.
Granton, Ontario	29.18	741.1	30.35	770.9	29	— 1.7		SE			2		10n			0	0	Cloudy	James Grant.
Halifax, N. S.	30.33	770.4	30.47	773.9	23.6	— 4.7	89	N	7	3.1		5ckjes	0			0	0	Fair.	A. Allison.
Hamilton, Ontario	30.05	763.3	30.44	773.2	32.7	0.4	87	W			1	10cs	0	W		0	0	Cloudy	Geo. Dickson, B. A.
Heart's Content, N. F.																			E. Weedon.
Kingston, Ontario	30.17	766.3	30.54	775.7	17.6	— 8.0	92	NE	8	3.6		10cs	0	W		0	0	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S.	30.20	768.6	30.29	769.4	25.7	— 3.5	92	N	12	5.4			10n			0	0	Overcast	C. H. Rigby.
Montreal, Quebec	30.39	771.9	30.61	777.5	14.0	—10.0	80	N	12	5.4		0	0			0	0	Clear.	C. H. McLeod, C. E.
Moose Factory, Ontario	30.58	776.7	30.62	777.7	—16.5	—26.9	100	Calm			0	0	0			0	0	Clear.	J. R. Nesson.
Norwood	29.74	755.4	30.50	774.7	17.6	— 8.0		NE			3	8k	0	NW		0	0	Fair.	Rev. T. F. Fotherinyham, M. A.
Parry Sound, Ontario																			Rev. R. Mosley.
Peterboro, Ontario	29.71	754.6	30.52	775.2	19.0	— 7.2	45	NE			2	2k	0			0	0	Fine	J. F. Jeffers, M. A.
Port Dover, Ontario	29.65	753.1	30.38	771.6	32.0	0.0	90	NE	7	3.1			10n		NE	0	0	Threatening	H. Morgan.
Port Hastings, N. S.																			Peter Grant.
Port Stanley, Ontario	29.66	753.4	30.34	770.6	32.2	0.1	84	E	10	4.5			10n		E	0	0	Cloudy	M. Payne.
Quebec, Quebec	30.26	768.6	30.62	777.7	9	—12.8	78	W			1		10s					Light snow.	Capt. Ashe, R. N.
Rockliffe, Ontario																			W. H. McIntyre.
St. Andrews, N. B.																			Dr. Gove.
St. John, N. B.	30.34	770.6	30.52	775.2	18	— 7.8	84	NW	8	3.6		0	0			0	0	Clear.	G. Murdock, C. E.
Saugeen, Ontario	29.64	752.8	30.40	772.1	26.0	— 3.3	89	E	11	4.9			10ks			0.01	0.3	Overcast	K. Stewart.
Stayner, Ontario																			R. J. Cole.
Stratford, Ontario	29.02	737.1	30.37	771.4	28.0	— 2.2	94	SE	14	6.3			10s			0	0	Cloudy	C. J. MacGregor, M. A.
Sydney, C. B.	30.32	770.1	30.36	771.1	27.7	— 2.4	69	NW	10	4.5			10ks			0	0	Cloudy	T. C. Hill, C. E.
Toronto, Ontario	30.07	763.8	30.47	773.9	30.8	— 0.7	78	E	19	8.5		0	10ks		E	0	0	Cloudy	Magnetic Observatory.
Windsor, N. S.	30.34	770.6	30.44	773.2	24.0	— 4.4	93	N	9	4.0		1c	2s			0	0	Fair	Prof. John E. Oram, M.A.
Woodstock, Ontario	29.24	742.7	30.37	771.4	29.5	— 1.4	91	NE	17	7.6			10ks		E	0.93	23.6	Overcast	Prof. J. Montgomery.
Yarmouth, N. S.	30.40	772.1	30.47	773.9	28.3	— 2.1	78	N	4	1.8		5ck	0	NW		0	0	Fair	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.88	758.9	30.14	765.5	32.0	0.0	89	N					10			Inap.	Inap.	Overcast	John Delany.
St. Pierre, M. F., l'Hopital Maritime			30.10	764.4	28.4	— 2		NW			3								The Commandant.

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of BVT. BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrumental error and temperature. Inches.	Millimeters.	BAROMETER. Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0-10.	CLOUDS. Amount. Up'er 0-10.	Lo'er 0-10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER.
Albany, New York	30.31	769.9	30.56	776.2	26	— 3.3	75	N	12	5.4	.....	0	0	.....	.....	0	0	Clear.	
Alpena, Michigan	29.64	752.8	30.33	770.4	30	— 1.1	89	SE.	20	8.9	.....	.....	10s	.....	SE	0	0	Cloudy	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	29.04	737.6	30.21	767.3	51	10.6	93	SE	6	2.7	.....	5k	5s	SE	Calm	0	0	Cloudy	
Atlantic City, New Jersey	30.38	771.6	30.40	772.1	46	7.8	84	NE	18	8.0	.....	.....	10s	.....	NE	0	0	Threatening	
Augusta, Georgia	30.13	765.3	30.33	770.4	49	9.4	85	SE	2	0.9	.....	2cs	5s	Calm	Calm	0	0	Fair	
Baltimore, Maryland	30.38	771.6	30.43	772.9	43	6.1	66	NE	7	3.1	.....	2ck	0	W	.....	0	0	Clear.	
Barnegat, New Jersey	30.39	771.9	30.41	772.4	44	6.7	84	NE	22	9.8	.....	5k	5s	E	E	Inap.	Inap.	Cloudy	
Bismarck, Dakota	28.07	713.0	29.93	760.2	3	—16.1	100	NE	9	4.0	.....	.....	10n	.....	Calm	0.14	3.6	Light snow	
Boerne, Texas	28.40	721.3	29.67	753.6	66	18.9	95	SW	12	5.4	.....	.....	10s	.....	SE	Inap.	Inap.	Cloudy	
Boise City, Idaho	27.20	690.9	30.16	766.1	18	— 7.8	84	SE	4	1.8	.....	0	5s	.....	W	0.06	1.5	Fair	
Boston, Massachusetts	30.34	770.6	30.50	774.7	23	— 5.0	69	N	9	4.0	.....	0	0	.....	.....	0.08	2.0	Clear.	
Brackettville, Texas	28.68	728.5	29.70	754.4	67	19.4	100	SE	8	3.6	.....	.....	10n	.....	Calm	0.01	0.3	Light rain	
Breckenridge, Minnesota	28.84	732.5	29.88	758.9	20	— 6.7	100	E	14	6.3	.....	.....	10n	.....	Calm	0.08	2.0	Light snow	
Brownsville, Texas	29.82	757.4	29.87	758.7	75	23.9	86	S	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Buffalo, New York	29.68	753.9	30.42	772.7	32	0.0	79	E	12	5.4	.....	.....	10s;sme	.....	Calm	Inap.	Inap.	Cloudy	
Burkes, Arizona	.....	.....	.....	.....	38	3.3	63	SW	.....	.....	1	2c	8s	Calm	Calm	0	0	Cloudy	
Burlington, Vermont	30.28	769.1	30.60	777.2	21	— 6.1	71	N	6	2.7	.....	0	0	.....	.....	Inap	Inap.	Clear.	
Cairo, Illinois	29.63	752.6	30.02	762.5	56	13.3	87	S	5	2.2	.....	.....	10s	.....	S	0.03	0.8	Cloudy	
Campo, California	27.40	696.0	29.97	761.2	32	0.0	89	E	1	0.4	.....	.....	10s	.....	SW	0.40	10.2	Cloudy	
Cape Hatteras, N. Carolina	30.30	769.6	30.31	769.6	56	13.3	94	N	5	2.2	.....	2cs	0	Calm	.....	0	0	Clear.	
Cape Henry, Virginia	30.30	769.6	30.32	770.1	52	11.1	86	NE	17	7.6	.....	.....	Fog	.....	Calm	Inap.	Inap.	Foggy	
Cape Lookout, N. Carolina	30.28	769.1	30.30	769.6	56	13.3	94	NE	9	4.0	.....	8c	0	W	.....	0	0	Cloudy	
Cape May, New Jersey	30.36	771.1	30.39	771.9	43	6.1	92	NE	13	5.8	.....	0	5ks	.....	Calm	0	0	Fair	
Castroville, Texas	29.07	738.4	29.74	755.4	69	20.6	95	SE	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Cedar Keys, Florida	30.21	767.3	30.23	767.8	65	18.3	94	E	9	4.0	.....	0	Fog	.....	Calm	0	0	Dense fog	
Charleston, South Carolina	30.21	767.3	30.27	768.8	54	12.2	80	NE	4	1.8	.....	0	5s	.....	NE	0	0	Fair	
Charlotte, North Carolina	29.42	747.3	30.25	768.3	49	9.4	85	SW	1	0.4	.....	10cs	Sm'e	Calm	Calm	0	0	Smoky	
Chattanooga, Tennessee	29.40	746.7	30.21	767.3	51	10.6	93	NE	3	1.3	.....	.....	10s;sme	.....	Calm	0	0	Cloudy	
Cheyenne, Wyoming	23.64	600.4	29.58	751.3	11	—11.7	60	N	18	8.0	.....	.....	10s	.....	NW	0	0	Cloudy	
Chicago, Illinois	29.29	744.0	29.99	761.7	39	3.9	82	E	12	5.4	.....	.....	10n	.....	Calm	0.49	12.4	Light rain	
Cincinnati, Ohio	29.51	749.5	30.18	766.6	46	7.8	84	SE	6	2.7	.....	.....	10n	.....	Calm	0.02	0.5	Light rain	
Cleveland, Ohio	29.52	749.8	30.27	768.8	35	1.7	90	E	10	4.5	.....	.....	10s	.....	SE	0.10	2.5	Threatening	
Coleman City, Texas	28.00	711.2	29.61	752.1	59	15.0	88	SE	6	2.7	.....	.....	10s	.....	SW	0	0	Cloudy	
Columbus, Ohio	29.36	745.7	30.22	767.6	40	4.4	82	NW	7	3.1	.....	.....	Fog	.....	Calm	0	0	Foggy	
Concho, Texas	27.89	708.4	29.57	751.1	47	8.3	77	S	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Corsicana, Texas	29.38	746.2	29.84	757.9	66	15.6	100	SE	4	1.8	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Davenport, Iowa	29.26	743.2	29.92	760.0	36	2.2	90	E	6	2.7	.....	.....	10s	.....	Calm	0.19	4.8	Cloudy	
Dayton, Washington T'y	.....	.....	.....	.....	24	— 4.4	74	E	.....	.....	1	10k	0	W	.....	0.03	0.8	Cloudy	
Deadwood, Dakota	25.04	636.0	.....	.....	8	—13.3	55	Calm	0	0	.....	.....	10s	.....	Calm	0.07	1.8	Cloudy	
Decatur, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Denison, Texas	29.03	737.3	29.83	757.7	47	8.3	92	E	5	2.2	.....	.....	Fog	.....	Calm	0	0	Dense fog	
Denver, Colorado	24.40	619.8	29.62	752.3	22	— 5.6	86	N	8	3.6	.....	.....	10n	.....	Calm	0.05	1.3	Light snow	
Des Moines, Iowa	28.89	733.8	29.78	756.4	35	1.7	90	SE	6	2.7	.....	.....	10n	.....	Calm	0.04	1.0	Sleeting	
Detroit, Michigan	29.55	750.6	30.25	768 3	34	1.1	79	E	12	5.4	.....	.....	10s	.....	E	Inap.	Inap.	Cloudy	
Dodge City, Kansas	26.99	685.5	29.30	744.2	28	— 2.2	77	S	14	6.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Dubuque, Iowa	29.29	741.7	29.91	759.7	33	0.6	89	E	6	2.7	.....	.....	10n	.....	Calm	0.46	11.7	Rain & hail	
Duluth, Minnesota	29.38	746.2	30.09	764.3	27	— 2.8	88	E	12	5.4	.....	.....	10n	.....	NE	0.11	2.8	Heavy snow	
Eagle Pass, Texas	29.06	738.1	29.78	756.4	59	15.0	100	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Eastport, Maine	30.43	772.9	30.50	774.7	20	— 6.7	70	N	12	5.4	.....	0	0	.....	.....	0	0	Clear.	
Edinburg, Texas	.....	.....	.....	.....	74	23.3	95	S	.....	.....	4	.....	10s	.....	S	0	0	Cloudy	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.60	751.8	30.34	770.6	39	3.9	73	NE	3	1.3	.....	.....	10s	.....	NE	0	0	Cloudy	
Escanaba, Michigan	29.56	750.8	30.25	768.3	30	— 1.1	78	E	13	5.8	.....	.....	10s	.....	SE	0	0	Cloudy	
Florence, Arizona	28.43	722.1	30.03	762.7	47	8.3	85	S	4	1.8	.....	10cs	0	Calm	.....	0	0	Cloudy	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.91	708.9	29.92	760.0	4	—15.6	74	NE	7	3.1	.....	.....	10n	.....	Calm	0.16	4.1	Light snow	
Fort Custer, Montana	26.72	678.7	.....	.....	4	—15.6	75	SE	4	1.8	.....	.....	10n	.....	Calm	0.39	9.9	Light snow	
Fort Davis, Texas	25.02	635.5	29.98	761.5	49	9.4	31	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Fort Gibson, Indian Ter	29.29	744.0	29.83	757.7	45	7.2	92	Calm	0	0	.....	.....	10s	.....	Calm	0.06	1.5	Cloudy	
Fort Grant, Arizona	25.08	637.0	29.88	758.9	41	5.0	58	W	6	2.7	.....	1k	0	W	.....	0	0	Clear.	
Fort Griffin, Texas	28.52	724.4	29.75	755.6	60	15.6	77	SE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Keogh, Montana	27.36	694.9	.....	.....	2	—16.7	73	NE	28	12.5	.....	.....	10n	.....	NE	0.40	10.2	Light snow	
Fort McKavett, Texas	27.46	697.5	29.31	744.5	61	16.1	88	S	12	5.4	.....	.....	10ks	.....	S	0	0	Cloudy	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.59	726.2	29.71	754.6	39	3.9	91	SE	4	1.8	.....	.....	Fog	.....	Calm	0	0	Foggy	
Fort Stevenson, Dakota	28.08	713.2	.....	.....	2	—16.7	86	NE	12	5.4	.....	.....	10n	.....	NE	0.13	3.3	Light snow	
Fort Verde, Arizona	.....	.....	.....	.....	39	3.9	73	NW	.....	.....	2	.....	10s	.....	NW	Inap.	Inap.	Cloudy	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	27.98	710.7	29.47	748.5	67	19.4	84	S	10	4.5	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Galveston, Texas	29.92	760.0	29.96	761.0	69	20.6	95	SE	7	3.1	.....	0	2s	.....	Calm	0	0	Clear.	
Graham, Texas	28.71	729.2	29.74	755.4	53	11.7	85	S	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Grand Haven, Michigan	29.41	747.0	30.08	764.0	32	0.0	100	SE	22	9.8	.....	.....	10n	.....	Calm	0.02	0.5	Light snow	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	28.85	732.8	29.78	756.4	47	8.3	92	SE	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Indianapolis, Indiana	29.25	742.9	30.05	763.3	43	6.1	92	E	8	3.6	.....	.....	10s	.....	E	0	0	Cloudy	
Indianola, Texas	29.91	759.7	29.94	760.5	70	21.1	95	S	10	4.5	.....	0	1s	.....	S	0	0	Clear.	
Jacksboro, Texas	28.85	732.8	29.76	755.9	55	12.8	81	S	2	0.9	.....	.....	Fog	.....	S	0	0	Foggy	
Jacksonville, Florida	30.22	767.6	30.25	768.3	58	14.4	88	N	2	0.9	.....	5cs	0	Calm	.....	0	0	Fair	
Keokuk, Iowa	29.20	741.7	29.83	757.7	36	2.2	90	SE	8	3.6	.....	.....	10s	.....	Calm	0.18	4.6	Threatening	
Key West, Florida	30.10	764.5	30.13	765.3	71	21.7	80	E	6	2.7	.....	1k	0	E	.....	0	0	Clear.	
Kittyhawk, North Carolina	30.38	771.6	30.40	772.1	59	15.0	94	SE	8	3.6	.....	2c	Fog	Calm	Calm	0	0	Fair	
Knoxville, Tennessee	29.20	741.7	30.22	767.6	50	10.0	86	SE	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
La Crosse, Wisconsin	29.18	741.1	29.94	760.5	32	0.0	89	SE	1	0.4	.....	.....	10n	.....	Calm	0.15	3.8	Light snow	
La Mesilla, New Mexico	25.87	657.1	30.02	762.5	44	6.7	52	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Laredo, Texas	29.42	747.3	29.75	755.6	75	23.9	72	S	9	4.0	.....	0	0	.....	.....	0	0	Clear.	
Leavenworth, Kansas	28.89	733.8	29.74	755.4	40	4.4	91	S	7	3.1	.....	.....	10n	.....	.....	0.07	1.8	Light rain	
Lewiston, Idaho	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Little Rock, Arkansas	29.62	752.3	29.98	761.5	57	13.9	94	E	3	1.3	.....	.....	10n	.....	SW	0.04	1.0	Light rain	
Los Angeles, California	29.69	754.1	30.04	763.0	46.5	8.1	77	NW	4	1.8	.....	0	0	.....	.....	0.14	3.6	Clear.	
Louisville, Kentucky	29.54	750.3	30.11	764.8	48	8.9	93	Calm	0	0	.....	.....	10n	.....	Calm	0.10	2.5	Light rain	
Lynchburg, Virginia	29.68	753.9	30.39	771.9	45	7.2	84	Calm	0	0	.....	8ck	0	W	.....	0	0	Fair	
Madison, Wisconsin	28.95	735.3	29.95	760.7	36	2.2	90	E	18	8.0	.....	.....	10n	.....	Calm	0.10	2.5	Sleeting	
Marquette, Michigan	29.53	750.0	30.27	768.8	28	— 2.2	77	SE	12	5.4	.....	.....	10s	.....	SE	0	0	Cloudy	
Mason, Texas	28.19	716.0	29.90	759.4	59	15.0	82	SE	1	0.4	.....	0	8s	.....	S	0	0	Cloudy	
Memphis, Tennessee	29.68	753.9	30.02	762.5	63	17.2	94	SE	12	5.4	.....	.....	10s	.....	S	0.84	21.3	Cloudy	
Milwaukee, Wisconsin	29.27	743.4	30.02	762.5	36	2.2	90	SE	36	16.1	.....	.....	10n	.....	SE	0.07	1.8	Light rain	

UNITED STATES SERIES—CONTINUED.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Mobile, Alabama	30.08	764.0	30.13	765.3	60	15.6	100	Calm	0	0	.....	0	5s; sm'c	.....	Calm	0	0	Smoky	
Montgomery, Alabama	29.95	760.7	30.19	766.8	58	14.4	96	SE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Morgantown, West Virginia	29.25	742.9	30.27	768.8	44	6.7	84	NE	3	1.3	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Mt. Washington, N. H.	23.89	606.8	30.25	768.3	15	— 9.4	65	NW	15	6.7	.....	0	0	.....	.....	0	0	Clear	
Nashville, Tennessee	29.58	751.3	30.12	765.0	60	15.6	94	SE	2	0.9	.....	.....	10ks	.....	SW	0.17	4.3	Cloudy	
New Haven, Connecticut	30.35	770.9	30.47	773.9	35	1.7	70	N	14	6.3	.....	5k	0	N	.....	0	0	Fair	
New London, Connecticut	30.41	772.4	30.46	773.7	40	4.4	65	N	7	3.1	.....	.....	10s	.....	N	Inap.	Inap.	Cloudy	
New Orleans, Louisiana	30.02	762 5	30.08	764.0	66	18.9	94	S	5	2.2	.....	.....	10s;Fog	.....	S;Calm	0.23	5.8	Cloudy	
Newport, Rhode Island	30.41	772.4	30.46	773.7	38	3.3	81	N	8	3.6	.....	5ck	0	N	.....	0	0	Fair	
New River, North Carolina	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
New York, New York	30.26	768.6	30.45	773.4	41	5.0	56	NE	9	4.0	.....	Haze	Haze	.....	.....	0	0	Hazy	
Norfolk, Virginia	30.27	768.8	30.33	770.4	48	8.9	93	NE	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
North Platte, Nebraska	29.73	678.9	30.36	771.1	23	— 5.0	86	NW	4	1.8	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy	
Olympia, Washington Ter.	29.82	757.4	29.86	758.4	36.5	2.5	90	S	5	2.2	.....	5cs	0	Calm	.....	0.16	4.1	Fair	
Omaha, Nebraska	28.56	725.4	29.67	753.6	35	1.7	90	SE	2	0.9	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Oswego, New York	30.18	766.6	30.52	775.2	28	— 2.2	77	NE	6	2.7	.....	5k	0	NE	.....	0	0	Fair	
Pembina, Dakota	29.17	740.9	30.09	764.3	2	—16.7	100	N	8	3.6	.....	.....	10n	.....	Calm	0.06	1.5	Light snow.	
Pensacola, Florida	30.14	765.5	30.17	766.3	65	18.3	100	E	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Philadelphia, Pennsylvania	30.37	771.4	30.43	772.9	39	3.9	82	NE	15	6.7	.....	0	0	.....	.....	0	0	Clear	
Phœnix, Arizona	28.74	730.0	30.56	776.2	50	10.0	65	W	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Pike's Peak, Colorado	17.20	436.9	29.41	747.0	2	—16.7	100	SW	10	4.5	.....	.....	10n	.....	Calm	0.71	18.0	Light snow.	
Pilot Point, Texas	29.05	737.9	29.87	758.7	50	10.0	93	S	.....	.....	.....	.....	Fog	.....	.....	0	0	Foggy	
Pioche, Nevada	.....	.....	.....	.....	14	—10.0	46	N	7	3.1	.....	0	0	.....	.....	0.04	1.0	Clear	
Pittsburg, Pennsylvania	29.46	748.3	30.29	769.4	43	6.1	83	E	7	3.1	.....	.....	10s	.....	E	0	0	Cloudy	
Port Huron, Michigan	29.59	751.6	30.29	769.4	32	0.0	79	E	12	5.4	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
Portland, Maine	30.46	773.7	30.52	775.2	30	— 1.1	68	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Portland, Oregon	29.88	758.9	29.96	761.0	39.3	4.1	84	SE	7	3.1	.....	.....	10s	.....	.....	0.02	0.5	Threatening	
Portsmouth, North Carolina	.....	.....	.....	.....	56	13.3	87	N	10	4.5	.....	5cs	0	Calm	.....	0	0	Fair	
Prescott, Arizona	24.51	622.5	29.87	758.7	36	2.2	39	N	.....	.....	1	2cs	0	Calm	.....	0	0	Fair	
Punta Rassa, Florida	30.16	766.1	30.18	766.6	67	19.4	84	NE	7	3.1	.....	2c;ck	0	Calm;E	.....	0	0	Clear	
Red Bluff, California	29.82	757.4	30.19	766.8	38	3.3	81	NW	3	1.3	.....	.....	10s	.....	.....	0	0	Cloudy	
Rio Grande City, Texas	29.69	754.1	29.90	759.4	71	21.7	90	SE	8	3.6	.....	.....	10s	.....	SE	0	0	Cloudy	
Rochester, New York	29.81	757.2	30.47	773.9	31	— 0.6	79	SE	8	3.6	.....	.....	10s	.....	SE	0	0	Cloudy	
Roseburg, Oregon	29.46	748.3	30.04	763.0	38.5	3.6	91	E	1	0.4	.....	.....	10n	.....	Calm	0.15	3.8	Light rain	
Sacramento, California	30.11	764.8	30.19	766.8	37	2.8	81	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.35	745.5	29.93	760.2	44	6.7	92	S	12	5.4	.....	.....	10s	.....	.....	0.07	1.8	Threatening	
St. Paul, Minnesota	29.02	737.1	29.87	758.7	30	— 1.1	89	E	21	9.4	.....	.....	10n	.....	E	0.01	0.3	Light snow.	
Salt Lake City, Utah	25.53	648.4	29.86	758.4	22	— 5.6	58	Calm	0	0	.....	.....	10s	.....	Calm	0.16	4.1	Threatening	
San Antonio, Texas	29.10	739.1	29.66	753.4	72	22.2	90	S	4	1.8	.....	.....	10s	.....	S	Inap.	Inap.	Cloudy	
San Diego, California	29.98	761.5	30.06	763.5	52	11.1	79	E	6	2.7	.....	0	2ks	.....	W	0.23	5.8	Fair	
Sandusky, Ohio	29.56	750.8	30.26	768.6	39	3.9	82	E	16	7.2	.....	.....	10s	.....	Calm	0.18	4.6	Cloudy	
Sandy Hook, New Jersey	30.41	772.4	30.44	773.2	41	5.0	74	NE	20	8.9	.....	0	0	.....	.....	0	0	Clear	
San Francisco, California	30.13	765.3	30.20	767.1	45	7.2	76	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Santa Fé, New Mexico	22.94	582.7	29.48	748.8	30	— 1.1	78	SE	16	7.2	.....	.....	10s	.....	S	0	0	Cloudy	
Savannah, Georgia	30.18	766.6	30.28	769.1	51	10.6	93	W	4	1.8	.....	0	5s	.....	S	0	0	Fair	
Shreveport, Louisiana	29.72	754.9	29.93	760.2	68	20.0	84	S	8	3.6	.....	.....	10s	.....	SW	0.63	16.0	Cloudy	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.26	768.6	30.29	769.4	52	11.1	93	N	2	0.9	.....	8k	2s	Calm	Calm	0	0	Cloudy	
Socorro, New Mexico	25.17	639.3	29.24	742.7	42	5.6	50	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois	29.26	743.2	29.94	760.5	43	6.1	92	S	12	5.4	.....	.....	10m	.....	SE	0.22	5.6	Light rain	
Springfield, Massachusetts	30.38	771.6	30.52	775.2	33	0.6	61	N	7	3.1	.....	0	0	.....	.....	0.05	1.3	Clear	
Stockton, Texas	26.94	684.3	29.94	760.5	40	4.4	19	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	30.44	773.2	30.49	774.4	37	2.8	71	NE	18	8.0	.....	0	0	.....	.....	0.02	0.5	Clear	
Toledo, Ohio	29.50	749.3	30.20	767.1	39	3.9	82	SE	9	4.0	.....	.....	8ks	.....	SE	0	0	Cloudy	
Tucson, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon	29.04	752.8	30.16	766.1	29.0	— 1.7	89	E	6	2.7	.....	.....	10s	.....	.....	Inap.	Inap.	Cloudy	
Uvalde, Texas	28.94	735.1	29.74	755.4	69	20.6	85	E	3	1.3	.....	.....	10s	.....	E	0	0	Cloudy	
Vicksburg, Mississippi	29.78	756.4	30.04	763.0	69	20.6	85	S	9	4.0	.....	.....	10s	.....	SW	0	0	Cloudy	
Virginia City, Montana	24.05	610.9	29.53	750.0	1	—17.2	71	Calm	0	0	.....	2cs	Haze	Calm	Calm	0	0	Clear	
Visalia, California	29.74	755.4	30.13	765.3	31	— 0.6	89	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	30.29	769.4	30.41	772.4	41	5.0	82	NE	10	4.5	.....	1ck	2s;fog	W	W	0	0	Fair	
Wickenburg, Arizona	.....	.....	.....	.....	40	4.4	48	N	.....	.....	1	5c	0	W	.....	0	0	Fair	
Wilmington, North Carolina	30.21	767.3	30.29	769.4	51	10.6	86	E	2	0.9	.....	8c	0	Calm	.....	0	0	Fair	
Winnemucca, Nevada	25.63	651.0	29.99	761.7	12	—11.1	80	SW	8	3.6	.....	.....	8s	.....	SW	0.07	1.8	Cloudy	
Wood's Holl, Massachusetts	30.42	772.7	30.46	773.7	42	5.6	58	NE	12	5.4	.....	.....	8s	.....	.....	0	0	Cloudy	
Yankton, Dakota	28.48	723.4	29.81	757.2	27	— 2.8	76	SE	3	1.3	.....	.....	10s	.....	W	0.02	0.5	Cloudy	
Yuma, Arizona	29.82	757.4	29.99	761.7	46	7.8	84	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	30.04	763.0	30.09	764.3	71	21.7	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.18	766.6	30.18	766.8	74	23.3	95	Calm	0	0	.....	8c	2cs	Calm	.....	.....	.....	Fair	James Gall.
Navassa, W. I.	29 93	760.2	30.01	762.2	77	25.0	67	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.96	761.0	29.96	761.0	78	25.6	91	E	.....	.....	3	.....	10n	.....	.....	0.900	22.86	Raining	C. J. Hering.
Santiago de Cuba, W. I.	30.02	762.5	30.05	763.3	72	22.2	81	N	3.6	1.6	.....	4cs	0	NE	.....	0	0	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	30.49	774.4	30.54	775.7	—24.5	—31.4	.....	N	16	7.2	.....	.....	10n	.....	NW	0.13	3.3	Snowing	J. Fortescue & W. Wood
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.19‡	766.8‡	.....	.....	66	18.9	100	ENE	5	2.2	.....	.....	2	.....	SE	0	0	.....	.....	Fair	.....
Navy Yard, Portsmouth, N.H	30.32‡	770.1‡	.....	.....	28	—2.2	77	N	2	0.9	.....	.....	0	.....	.....	0	0	.....	.....	Clear	.....
Naval Hospital, Yokohama, Japan	30.00‡	762.0‡	.....	.....	43	6.1	68	NE	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Clear	.....
Adams, Mare I'd., Navy Yard, Cal.	30.24‡	768.1‡	.....	.....	50	10.0	86	WSW	.....	.....	1	.....	10	.....	WSW	.....	.....	.....	.....	Cloudy	.....
Alaska, Arica, Peru	29.91‡	759.7‡	.....	.....	71	21.7	71	Calm	.....	.....	0	.....	2	.....	.....	.....	.....	.....	.....	Hazy	.....
Colorado, New York, . Y	30.41‡	772.4‡	.....	.....	38	3.3	81	NE	1.3	0.6	.....	.....	0	.....	.....	0	0	.....	.....	Clear	.....
Constitution, N. 36° 58′, W. 76° 02′	30.37‡	771.4‡	.....	.....	49	9.4	??	NE	.....	.....	4	.....	10	.....	NE	.....	.....	Light	E	Foggy	.....
Enterprise, Beireut, Syria	30.06‡	763.5‡	.....	.....	72	22.2	62	WSW	.....	.....	1	.....	8	.....	WSW	.....	.....	Smooth	.....	Cloudy	.....
Franklin, Off Navy Yard, Norfolk, Va.	30.34‡	770.6‡	.....	.....	49	9.4	93	ENE	9.6	4.3	.....	.....	10	.....	Calm	0	0	.....	.....	Cloudy	.....
Independence, Mare I'd, Navy Yard, Cal.	30.37‡	771.4‡	.....	.....	56	13.3	75	Calm	0	0	.....	.....	1	.....	Calm	0	0	.....	.....	Clear	.....
Kearsarge, N. 31° —′, W. 79° —′	30.25‡	768.3‡	.....	.....	74	23.3	76	S	.....	.....	0–1	.....	8	.....	S	0	0	Smooth	.....	D. clouds	.....
Lackawana, N. 25° 40′ W. 154° 40′ †	30.12‡	765.0‡	.....	.....	74	23.3	76	SE	.....	.....	2–3	.....	0	.....	.....	.....	.....	Mod'ate	SE	Clear	.....
Marion, Navy Yard, Brooklyn, N.Y.	30.44‡	773.2‡	.....	.....	41	5.0	75	NE	.....	.....	3	.....	2	.....	Calm	.....	.....	.....	.....	Clear	.....
Michigan, Erie, Pa	29.95‡	742.9‡	.....	.....	39	3.9	83	E	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....	Overcast	.....
Monocacy, Shanghai, China	30.22‡	767.6‡	.....	.....	40	4.4	91	W	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Misty	.....
New Hampshire, Port Royal, S. C	30.27‡	768.8‡	.....	.....	55	12.8	93	N	4	1.8	.....	.....	8	.....	Calm	0	0	.....	.....	Cloudy	.....
Nipsic, Norfolk, Va	30.36‡	771.1‡	.....	.....	52	11.1	86	NNE	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Blue sky	.....
Onward, Callao, Peru †.	29.93‡	760.2‡	.....	.....	65	18.3	89	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Long smooth	W	Misty	.....
Palos, Tientsin, China	30.11‡	764.8‡	.....	.....	30	—1.1	??	WNW	.....	.....	0–1	.....	0	.....	.....	.....	.....	.....	.....	Clear	.....
Passaic, Washington, D. C	30.40‡	772.1‡	.....	.....	40	4.4	82	NE	.....	.....	1	.....	5	.....	.....	.....	.....	.....	.....	Fair	.....
Pensacola, Callao, Peru	29.92‡	760.0‡	.....	.....	65	18.3	89	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Smooth	.....	Hazy	.....
Powhatan, Navy Yard, Brooklyn, N.Y.	30.44‡	773.2‡	.....	.....	40	4.4	82	NE	.....	.....	3	.....	0	.....	.....	0	0	.....	.....	Clear	.....
Quinnebaug, Genoa, Italy	30.27‡	768.8‡	.....	.....	32	0.0	.....	N	.....	.....	4	.....	2	.....	NE	.....	.....	.....	.....	Fair	.....
Ranger, N. 32° 13′, W. 166° 36′	29.39‡	744.7‡	.....	.....	60	15.6	94	SW	.....	.....	6	.....	10	.....	SW	.....	.....	Long	SE	Cloudy	.....
Richmond, Min river, China	30.16‡	766.1‡	.....	.....	59	15.0	82	NNE	.....	.....	2	.....	0	.....	.....	.....	.....	Smooth	.....	Clear	.....
Rio Bravo, Brownsville, Texas †	29.99‡	761.7‡	.....	.....	72	22.2	95	SSE	2	0.9	.....	.....	2	.....	SSE	0	0	.....	.....	Fair	.....
Santee, Annapolis, Md	30.23‡	767.8‡	.....	.....	42	5.6	83	NE	.....	.....	1	.....	2	.....	W	0	0	.....	.....	Clear	.....
Shenandoah, S. 27° 02′, W. 44° 57′	29.98†	761.5‡	.....	.....	75	23.9	81	SSE	.....	.....	4	.....	8	.....	.....	.....	.....	Long	SSE	Cloudy	.....
St. Louis, League Island, Pa	30.39‡	771.9‡	.....	.....	43	6.1	83	NE	8	3.6	.....	.....	2	.....	.....	0	0	.....	.....	Clear	.....
Tuscarora, Acapulco, Mexico	29.88‡	758.9‡	.....	.....	76	24.4	95	NE	.....	.....	1	.....	2	.....	Calm	0	0	Smooth	.....	Fair	.....
Vandalia, Navy Yard, Brooklyn, N.Y	30.43‡	772.9‡	.....	.....	42	5.6	83	NE	.....	.....	2	.....	2	.....	NE	.....	.....	.....	.....	Clear	.....
Wabash, Boston, Mass	30.43‡	772.9‡	.....	.....	32	0.0	69	N	10	4.5	.....	.....	0	.....	.....	0	0	.....	.....	Clear	.....
Wachusett, S. 22° —′, W. 41° —′ †	30.41‡	772.4‡	.....	.....	78	25.6	91	NNE	.....	.....	2	.....	2	.....	NNE	.....	.....	Mod'ate	NE	Fair	.....
Wyoming, Gibraltar, Mediterranean	30.28‡	769.1‡	.....	.....	58	14.4	76	ENE	.....	.....	3–5	.....	10	.....	E	.....	.....	Smooth	E	Cloudy	.....

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.			CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.					
											Up'er	Lo'er	Upper.	Lower.				
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		Character.	Direction from—	
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																		
S. S. Samaria																		Capt. T. Roberts.
NOTE—†Aneroid. *The error of the barometer is not known.																		
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																		
S. S. China																		Capt. Cobb.
S. S. City of New York																		Capt. Seabury.
S. S. City of Panama																		Capt. Berry.
S. S. City of Peking																		Capt. Dearborn.
S. S. City of Sydney																		L. B. Walls.
S. S. City of Tokio, Capt. Maury																		Capt. R. Searle.
S. S. Colima																		Capt. Whitebury.
S. S. Costa Rica																		W. House & R. Lawless.
S. S. Dakota, Capt. H. G. Morse																		Capt. Connolly.
S. S. Georgia																		F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin																		Capt. A. Fuller.
S. S. Wilmington																		
S. S. Zealandia, Sydney, New South Wales		29·87‡	758·7‡				NW		1				W				Clear	R. C. Ghest, 1st Officer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																		
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																		
S. S. Adriatic																		Capt. J. W. Kennedy.
S. S. Baltic																		Capt. H. Perry.
S. S. Britannic																		Capt. B. Gleadell.
S. S. Celtic																		Capt. C. W. Kennedy.
S. S. Germanic																		
NOTE.—The orginals give the barometer as read off; wind-force by the scale 0 to to 12; for the Brittanic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																		
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																		
S. S. Belgic, Capt. L. Meyer Yokohama, Japan†		29·96‡	761·0‡	49	9.4	100	N		2		5		N		Smooth		D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson N. 39° 43′, W. 133° 27′...†		30.21‡	767.3‡	55	12.8	....	W		5		ks		W	0	Rough	W	Squally	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J Metcalf																		J. G. Cameron.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																		
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES Furnished by the co-operation of A. Schumacher & Co., Agents																		
S. S. Baltimore																		Capt. H. Andressen.
S. S. Berlin																		Capt. T. H. Lamke.
S. S. Braunschweig																		Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Pfeiffer, N. 48° 40′, W. 22° 30′		29.90‡	759.4‡	53.0	11.7	90	ESE		8		10		ESE	5 h'rs	Heavy	SE	Drizzling	S. Rislus, 3rd Officer.
S. S. Nürnberg																		Capt. A. Jaeger.
S. S. Ohio, N. 41° 33′, W. 64° 18′		30 39‡	771.0‡				NE		5		10		W		3	SW	Raining	Capt G. Meyer
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness by the scale 0 to 4, do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																		

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.			Force.	Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	OBSERVER.
							Direction.	Velocity.			Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
	True course toward.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa.		30.44‡	773.2‡	42	5.6		NNE			5		1		N	0			Clear	Capt. R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer
S. S. Pennsylvania																			Capt. Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from, sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents.

S. S. Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

NOTE.—The originals give the barometer as read off; do not distinguish between upper and lower clouds; sea-swell in general terms, as published. ‡Corrections for temperature, instrumental error and elevation applied at this office.

ALLAN LINE MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. *The error of the barometer is not known. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES—Miscellaneous.

Furnished by the co-operation of the Observers named.

Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Barkentine "Carrie Heckle" N. 37° 30', W. 61° 50'...*		30 11‡	764.8‡	68	20.0		NE					8		E	0	Rough	NE;SE	Fair	B. F. Woodbury.
Brigantine "George" of Halifax. N. 24° 16', W. 69° 30'...†		30.04‡	763.0‡	80	26.7		NE			5		2		NE		Rough	NE	Clear	N. B. Foss.
Schooner Harry and Fred																			Capt. George Gardner.
Haytian																			
§ Iron Cross																			Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time. *Instrumental error not known.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters *c, k, s, n, d, f, p, hz, fg,* and *sm'e* are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.,) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 10, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:38 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE TOWN, C. G. H. mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.03	762.8	67.8	19.9	84	E	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	
Nemours	.....	.....	30.00	767.1	57.6	14.2	86	E	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	Kesxuche.
Algiers	.....	.....	30.26	768.7	52.2	11.2	50	ENE	.....	.....	1	.....	0	.....	.....	Inap.	Inap.	Clear	Touriliere.
La Calle	.....	.....	30.17	766.4	49.5	9.7	84	NNW	.....	.....	5	.....	8	.....	.....	0.220	5.6	Very cloudy	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.24	768.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Herbin.
Tebessa	.....	.....	30.25	768.3	37.2	2.9	72	N	.....	.....	5	.....	10	.....	.....	.....	.....	Snowing	Watrin.
Geriville	.....	.....	.....	.....	47.7	8.7	55	Calm	.....	.....	0	.....	0	.....	.....	0	0	Clear	Brugniuax.
Laghouat	.....	.....	30.30	769.5	44.2	6.8	28	SSE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	30.27	768.8	54.3	12.4	69	NW	.....	.....	6	.....	0	.....	.....	0	0	Clear	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0-4; no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4.462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.76	756.0	30.37	771.3	18.1	— 7.7	83	Calm	.....	.....	0	.....	3	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.59	751.6	30.46	773.6	3.6	—15.8	81	WSW	0.2	0.1	.....	.....	7	.....	.....	0	0	.....	Dr. Wierzbicki.
Eperies	29.93	745.0	30.29	769.3	18.3	— 7.6	89	Calm	.....	.....	0	.....	2cs	.....	.....	0	0	.....	Julius Mikolik.
Gratz	29.02	737.1	30.39	771.8	16.6	— 8.6	62	S	.....	.....	2	.....	0	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.71	729.2	30.28	769.1	14.2	— 9.9	87	E	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. A. Gottschling
Kremsmünster	29.02	737.1	30.56	776.1	—0.4	—18.0	89	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	29.22	742.1	30.30	769.7	11.5	—11.4	97	SW	.....	.....	1	.....	9	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	30.02	762.6	30.14	765.6	32.4	0.2	46	NNE	.....	.....	3	.....	6	.....	.....	0	0	.....	I.R.Hydrographic Office
Szathmar	29.84	757.9	30.35	771.0	14.0	—10.0	94	S	.....	.....	2	.....	0	.....	.....	0	0	.....	Pet. Pancsics, S. J.
Szegedin	29.99	761.7	30.39	769.6	12.2	—11.0	.....	N	.....	.....	1	.....	0	.....	.....	0	0	.....	Karl Stancel.
Trieste	30.10	764.5	30.20	767.1	27.1	— 2.7	85	NE	.....	.....	2	.....	0	.....	.....	0	0	.....	P. Busin.
Vienna	29.63	752.5	30.37	771.4	12.2	—11.0	89	W	.....	.....	5	.....	0	.....	.....	0	0	.....	I.R.Central Met. Ob'sy.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 337 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C., as Second-Class Matter

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.41	772.4	30.52	775.2	32.0	0.0		WSW	7	3.1			2			0	0	Blue sky	W. Boswell.
Ardrossan	30.50	774.7	30.52	775.2	36	2.2		E			1		3					Misty	Wm. McNeil & G. Carrick.
Armagh, (Observatory)	30.29	769.4	30.54	775.7	28.9	— 1.7		SW	3	1.3								Dense fog	S. Call.
Bidston (Liverpool Obs)			30.52	775.2	38.0	3 3		SSE	7	3.1			9					Misty	John Hartnup.
Bolton (Sharples)	29.95	760.7	30.49	774.4	37.3	2.9		NE	6	2.7			10					Overcast	Thomas M. Ckereth.
Bradford, Yorkshire	30.10	764.5	30.50	774.7	38.7	3.7		NW			1		6			0.07	1.8	D. clouds	J McLandsborough.
Bridgetown, Barbadoes	29.88	758.9	29.91	759.7	80	26.7		NE			2		2					D. clouds	Pvt. G. Surgener, A.H.C.
Cambridge (Observatory)	30.39	771.9	30.48	774.2	37.0	2.8		NNW			1		7					Drizzling	H. Todd.
Cardington			30.48	774.2	36.6	2.6		NE			0–1		9					Foggy	John McLaren.
Chatham (School M. E.)	30.34	770.6	30.48	774.2	35.2	1.8		W			0		10					Overcast	J. Carmell, Sapper, R.E.
Donaghadee	30.47	773.9	30.51	774.9	42	5.6		SE			2		10					Raining	J. Mac Gowan.
Dover	30.39	771.9	30.42	772.7	38	3.3		N			4		10					Misty	J. Costello.
Falmouth (Observatory)	30.28	769.1	30.52	775.2	43.6	6.4		SSW			1		9					Overcast	The Staff.
Fort Napier, Natal	27.61	701.3	29.83	757.7	63.6	17.6		NE			1		10					Overcast	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone																			
Galway (Queen's College)			30.43	772 9	30.5	— 0.8		NNE			1		Fog					Foggy	Prof. A. H. Curtis.
Gibraltar, Mediterranean																			Sergt. Wm. Allen, A. H.
Glasgow, (Observatory)	30.31	769.9	30.52	775.2	30.9	— 0.6		E			1		0					Foggy	D. G. Maclean. [C.
Great Yarmouth	30.45	773.4	30.45	773.4	38	3.3		NNE			3		4					D. clouds	G. T. Watson.
Greenwich (Royal Obs'y)	30.30	769.6	30.48	774.2	35.5	1.9		NE			1		10					Raining	The Staff, for G.B.Airy.
Guernsey	30.26	768.6	30.49	774.4	40	4.4		SW			2		5					D. clouds	Dr. S.E Hoskins, F.R.S.
Helston	30.62	777.7	30.74	780.8	43	6.1		SE			2	2c				0	0	Very fine	M. P. Moyle.
Holyhead	30.43	772.9	30.49	774.4	44	6.7		SSW			1		10					Overcast	John Tilston.
Jersey	30.24	768.1	30.55	776.0	35.0	1.7		WSW			2		9					Gloomy	J. Fisher.
Kew (Observatory)	30.44	773.2	30.48	774.2	36.1	2.3		NNE	7	3.1			10					Foggy	The Met'g'l Office.
Leicester (Museum)	30.18	766.6	30.44	773.2	36.5	2.5		NE			1		10					Overcast	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	29.88	758.9	29.96	761.0	46.4	8.1		NW			2		8kn			Blank	Blank	Overcast	A. King.
Nairn	30.40	772.1	30.50	774.7	31	— 0.6		Calm			0		5					⅛ clouded	W. D. Penny.
Nassau, Bahamas			30.10	764.5	74.5	23.6		NE			1		4					D. clouds	C. S. Duncombe.
Nottingham (Observatory)	30.32	770.1	30.52	775.2	37.3	2.9		N			1		8k		NNW	0.130	3.30	D. clouds	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.96	761.0	30.51	774.9	36.6	2.6		NE			1		9					Misty	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)			30.50	774.7	36	2.2		N			1		10					Misty	H. E. Bellamy.
Plymouth	30.42	772.7	30.50	774.7	39.5	4.2		Calm			0		10					Misty	John Merrifield.
Prince Town																			W. H. Tooker.
*Roche's Point	30.41	772.4	30.48	774.2	43	6.1		SSE			2		5					⅛ clouded	Wm. Kennedy.
St. Ann's Head	30.31	769.9	30.48	774.2	47	8.3		Calm			0		4					Misty	John C. Walker.
Sandwick Manse, Orkneys			30.47	773.9	39.9	4.4		W	10	4.5			3					Showery	Rev. C. Clouston, L.L.D.
Scutari Cemetery, Turkey	29.77	756.1	29.83	757.7	47.8	8.8		WSW			2		6			Blank	Blank	D. clouds	Serg't W. H. Layne.
Sheffield	30.24	768.1	30.53	775.4	38.9	3.8		NNW			1		9			0	0	Overcast	W. F. Cooper.
Silloth Rectory	30.48	774.2	30.51	774.9	33.4	0.8	88	E			3		2			0	0	D. clouds	Francis Redford, A. M.
Stonyhurst (Observatory)			30.50	774.7	37.0	2.8		NNE	2	0.9			10					Overcast	Rev. S. J. Perry.
Stratfield, Turgiss	30.26	768.6	30.49	774.4	40.8	4.9		Calm			0		10					Foggy	Rev. C. H. Griffith, F.M.S.
Truro (Royal Institution)	30.46	773.7	30.54	775.7	41	5.0		NW			2		8					Gloomy	W. Newcombe.
Valencia Observatory)	30.40	772.1	30.42	772.7	46.2	7.9		SE	24	10.7			8					D. clouds	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)																			The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.42	645.7			90	32.2		WNW					0						Robert Burnet.
Constable, Cape Colony	26.70	678.2			76	24.4		W					0						Francis Abbott, F.R.A.S.
Hobart Town, Tasmania			29.72	754.9	57.0	13.9	82	SW			3		10k			0.02	0.5	Hazy	Andrew Gibb.
Leith (Restalrig Park) Sc'tl'd			30.56	750.8	33.0	0.6		W			3		0			0	0		C. Meldrum.
Mauritius (Observatory)	29.76	755.9	29.94	760.5	80.8	27.1	55	NE	12.5	5.6		0	3		NNE	0	0	Fine	R. L. J. Ellery.
Melbourne (Observatory)	29.88	758.9	29.97	761.2	58.2	14.6	80	SSW	18	8.0			9			0	0	Dull	J. Youngclause.
Monach Lt-house, Hebrides			30.37	771.4	42	5.6		SE			4	5	5	S		0	0		
North Unst, Shetland Is			30.30	769.6				W			7	4	6	W		0	0		

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters; Prince Town, 1,400 feet, or 427 meters; Colesberg Bridge and Constable, unknown.

BRITISH MARINE SERIES. VESSELS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. Alert, Tom Bay, Patagonia			29.84‡	757.9‡	54	12.2		NNE			2		8					D. clouds	Capt. J.P Maclear, R.N.
H. M. Sloop Gannet, S. 18° 28′, W. 70° 21′			29.91‡	759.7‡	69	20.6		Calm			0		9					Overcast	Commander E. Bourke, R. N.
H. M. S. Magpie, Raffles I'd., near Shanghai, China			30.30‡	769.6‡	49.5	9.7		NNW			3		8					Misty	Capt. R. H. Napier, R.N.
Brig Alliance, N. 47° 30′, W. 31° 00′			29.45‡	748.0‡	57.6	14.2		NW			3		8					D. clouds	Capt. W. Scott.
Barque Belle-Isle, N. 25° 25′, W. 74° 20′			30.23	767.8	74	23.3		ENE			5		8			3	NE	Showery	Capt. A. J. Brown
City of Cashmere, N. 9° 54′, W. 124° 18′			29.88‡	758.9‡	76.6	24.8		E			4		9					Showery	Capt. W. M. Grieve.
Barque Fedalma, N. 16° 10′, W. 62° 10′			29.96	761.0	81	27.2		NE			4		4			0		D. clouds	Capt. H. L. Fox.
S. S. Iron Cross, N. 24° 10′, W. 81° 10′			30.08	764.0	76	24.4		ENE			6		6			5	ESE	Squally	Capt. W. Randall.
S. S. Peruvian, N. 50° 40′, W. 44° 35′			29.56	750.8	49	9.4		N			5		8			6	Confused	Raining	Capt. W. H. Smith.
S. S. Strathleven, S. 37° 15′, E. 131° 10′			30.00‡	762.0‡	59.5	15.3		WNW			2		7					D. clouds	Capt. C. W. Pearson.
Light House Tender Richmond, Off Stirrups Cay, Bahama Is.			30.16	766.1	76	24.4		E			4		4			4	E	D. clouds	Capt. W. H. Stewart.
S. S. Gordon Castle																			Capt. Wm. Waring.
German Brig "W. von Freeden"																			Capt. H. V. Freeden.
S. S Ethiopia																			Capt. Campbell.
S. S. Sunbeam																			Capt. O M. Dobson.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.16	664.4	29.88	758.9	66.6	19.2	81	SE			1		9s		NE	Inap.	Inap.		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,787 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.08	764.0	30.13	765.2	28.6	—1.9	80	NNW			6		0					Snowing	
Faröe	30.27	768.9	30.29	769.4	27.1	—2.7	89	NNW			2		1						
Godthaab (Greenland)																			
Stykkisholm (Iceland)	30.05	763.3	30.10	764.4	36.3	2.4	93	SW			4		8					Raining	
Thorshavn (Faröe)	30.27	768.9	30.31	769.8	42.1	5.6	82	WNW			2		7					Raining	
Vestervig	30.16	766.0	30.27	768.8	31.3	—0.4	100	Calm			0		2						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.99	761.8	30.54	775.8	23.0	— 5	90	W			1		10			0	0	Foggy	Collignon, Director.
Amiens, Normal School	30.20	767.0	30.32	770.1	31.3	— 0.4	89	S			1		10		Calm	0	0	Covered	Vaillant, Director.
Arras, Engin'r School	30.15	765.9	30.43	772.9	26.8	— 2.9	94	WSW			1		10					Snowing	Klein, Commandant.
Avignon, Normal School	30.25	768.3	30.33	770.3	25.9	— 3.4	65	NNW			6		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.92	760.0	30.56	776.1	7.7	—13.5		S			1		10			0	0	Covered	C. Saillard, Director.
Beauvais, Normal School	30.21	767.3	30.50	774.8	22.8	— 5.1	71	W			2		10			0	0	Covered	Frère Eugene Marie.
Besançon, Normal School	29.59	751.5	30.58	776.8	11.1	—11.6		SE			1		0			0	0	Clear	A. Carré, Director.
Bourg-en-Bresse, N. School	29.63	752.5	30.53	775.5	8.6	—13.	100	N			1		0			0	0	Clear	Mariot, Diretor.
Bourges, Normal School	29.96	760.9	30.57	776.5	29.5	— 1.4	82	N			3		1		N	0	0	Clear	M. Gence, Director.
Brest, Naval Observatory	30.32	770.2	30.57	776.4	37.4	3.0	50	ESE			1		0			0	0		Ch. de Rermaree, Dir.
Caen, Normal School	30.38	771.6	30.46	773.7	33.1	0.6	92	SSW			0–1					0	0		M. Bietrin, Director.
Carcassonne, N. School	29.92	760.0	30.36	771.2	30.9	— 0.6	73	W			2		0			0	0	Clear	September, Director.
Châlons-sur-Marne, N. Sch'l	30.15	765.8	30.50	774.8	14.5	— 9.7		Calm			0		10					Covered	Jadot, Director.
Chartres, Normal School	29.91	759.6	30.52	775.3	19.4	— 7	63	W			1		10			0	0	Covered	Vergier, Director.
Clermont-Fd, Puy de D. Obs	29.63	737.4	30.51	775.0	10.0	—12.2	92	NW			1		0			0	0	Misty	Alluard, Director.
Commercy, Normal School	29.58	751.2	30.53	775.4	3.2	—16		NW			1		10			0	0	Misty	Dr. Coullet, Director.
Commune de Gréasque*	29.99	758.9	30.23	767.9	34.5	1.4	76	NW			1		0			0	0		L. Kina, Director.
Grenoble, Normal School	29.68	753.8	30.52	775.1	19.0	— 7.2		E			1		0			0	0	Clear	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.28	769.2	30.52	775.2	27.7	— 2.4	67	NE			1		0			0	0	Clear	Mouillot, Director.
Le Mans, Normal School	30.24	768.2	30.59	776.9	15.4	— 9.2	75	ENE			1		10			0	0	Covered	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.56	750.7	30.55	775.9	9.5	—12.5	70	W			1		0			0	0	Clear	A. Baudry, Director
Lorient, Naval Observatory	30.44	773.3	30.56	776.1	26.2	— 3.2	69	NE			1		0			0	0	Clear	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.86	758.4	30.54	775.8	15.8	— 9.0	69	NNE			1		1s			0	0	Clear	Ch. André, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.92	760.0	30.20	767.1	36.7	2.6	50	WNW			0–1		0			0	0	Clear	E. Stephan, Director.
Mirecourt, Normal School	29.35	745.4	30.52	775.3	7.5	—13.6		N			1		n		N	0	0		Barbier, Director.
Mont-Louis	24.96	634.0	30.28	769.0	33.4	0.8	36	NW	13.0	5.8			0			0	0		M. Cave.
Nice	30.18	766.6	30.21	767.4	48.9	6.6	39	W			2		1		NW	W	0	0	Clear	M. Boissière, Director.
Nismes, Normal School	30.16	766.0	30.37	771.5	26.6	— 3		N			3		0				0	0	Clear	M. Boyer, Director.
Paris, Montsouris Obs'y	30.24	768.0			13.1	—10.5	97	S			1		10			Inap.	Inap.	Snow-flakes	Marié Davy, Director.
Perpignan	30.17	766.3	30.28	769.1	44.8	7.1	8	N	9.4	4.2			0			0	0		Dr. Fines.
Pic du Midi (Plantade) H. P.	22.52	571.9			21.2	— 6.0									N	0	0		Gen'l de Nansouty
Pic du Midi (Summit) H. P.																			M. Baylac.
Privas, Normal School	29.23	742.4	30.30	771.8	22.1	— 5.5		N			1		0			0	0	Clear	M. Tallieu
Puy de Dome (Summit) Obs	25.23	640.8			11.7	—11.3	47	NE			3		2			0	0	Rain at distance	Alluard, Director.
Rochefort, Naval Obs'y	30.47	773.8	30.50	774.6	36.1	2.3	87	NE			1		0			0	0	Clear	Lt E. Decante, Director
Rouen, Normal School	30.41	772.3	30.49	774.5	20.8	— 6.2	74	SE			1		10			0	0	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.50	774.8	30.53	775.5	27.3	— 2.6	62	SE			1		5		SE	SE	0	0	Cloudy	Lt. Hercouet, Director
Saint Maur (near Paris)	30.37	771.4	30.54	775.6	13.3	—10.4	96	S			1		10					Snowing	E. Renou, Director.
Tarbes, Normal School	29.20	741.7	30.34	770.6	37.4	3	53	SW			2		0			0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.68	753.8	30.41	772.4	25.7	— 3.5	95	N			1		0			0	0	Clear	M. Juher Mercadier.
Tours	30.35	770.8	30.54	775.8	12.2	—11.0		E			1		1		NNE	0	0	Almost clear	Cousin-Marquet.
Versailles, Observatory	29.98	761.5	30.47	774.0	20.5	— 6.4	68	WSW			1		10			0	0	Covered	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.73	755.1	30.51	774.0	19.4	— 7	86	NNW			1		0			0	0	Clear	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.91	759.6	29.93	760.3	77.4	25.2										0.59	15.		L'Abbé Marchésl
Zi-Ka-Wei (near Shanghai	30.29	769.4	30.32	770.0	36.5	2.5	93	Calm	0	0			0			0	0	Clear	Marc Dechevrens.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fal as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in gene al terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,089.07 ft.; Mont-Louis, 1,686.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.56	750.9	30.42	772.6	8.6	—13.0	80	N			2		7s			0	0	Foggy	Prof. Dr. Hoh.
Berlin	30.05	763.2	30.24	768.0	18.5	— 7.5	72	SW			1		10			0.028	0.7		Prof. Dr. Arndt.
Breslau	29.79	756.7	30.33	770.3	8.8	—12.9	81	SSE			2		4			0	0		Royal University Obs'y.
Carlsruhe	30.03	762.8	30.52	775.1	6.4	—14.2	94	S			0		10	NE		0.012	0.3	Snowing	Albert Senz.
Cassel	29.84	757.8	30.45	773.5	10.4	—12.0	85	S			5		10			0	0		Dr. H. Möhl.
Emden			30.37	771.3	32.9	0.5	86	NW			2		8			0	0		Prof. Dr. Prestel.
Frankfort on the Main	30.15	765.9	30.55	775.9	7.5	—13.6		SW			1		10			Inap.	Inap.	Snowing	Physical Society.
Friedrichshafen	28.95	735.2	30.53	775.4	11.5	—11.4	75	SE			3		10	E		0	0		Chief Telegrapher Wilhelm.
Hamburg	30.21	767.3	30.28	769.1	25.9	— 3.4	82	NW			2		0			Inap.	Inap.		Capt. P. F. A. Hegerman.
Kiel	30.24	768.2	30.26	768.6	29.1	— 1.6	74	NW			2		0?			0.022	0.56	Snowing	Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.04	762.9	30.13	765.2	17.6	— 8.0	82	SW			4		10			0.004	0.1	Snowing	Prof. E. Luther.
Köslin			30.12	765.1	18.9	— 7.3		SW			4		4			0	0		H. Müller.
Leipsic Observatory	29.91	759.8	30.38	771.6	14.0	—10.0	100	SW			4		10					Snowing	Prof. Dr. Bruhns, Privy Counselor
Magdeburg	30.06	763.4	30.28	769.2	23.0	— 5.0	84	W			5		4ks	WNW		0.059	1.5		Dr. Assmann.
Memel	29.97	761.1	30.01	762.3	34.2	1.2	92	SW			6		10m					Snowing	Reinbrecht & Issermann.
Munich (München)	28.50	723.8	30.38	771.7	9.5	—12.5	88	S			2		9			0.008	0.2		Dr. C. Lang.
Neufahrwasser	30.12	765.1	30.14	765.5	21.9	— 5.6	75	SW			2		8			0	0		A. Lothes.
Neustadt (Palatinate)	29.91	759.6	30.44	773.2	4.6	—15.2		W			2		4	W		0.059	1.5		Reallehrer Dicknether.
Posen	29.97	761.3	30.29	769.3	17.6	— 8.0	85	SW			1		10			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	29.95	760.8	30.58	776.6	6.1	—14.4	96	Calm			0		10					Snowing	Imp. University Observatory.
Stuttgart	29.46	748.2	30.51	774.9	7.2	—13.8	85	NE			1		10			0.043	1.1		Prof. Dr. Schoder.
Weissenburg (Bavaria)	28.85	732.7	30.43	772.9	9.1	—12.7	77	W			1		9ks		W	0	0	Foggy	Reallehrer J. Hopfner.
Wustrow	30.14	765.5	30.16	766.1	30.9	— 0.6	92	NNW			5		8s			0	0		E. Schütz, Director.
German Naval Series.																			

NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.51	749.6	29.92	759.9	43.3	6.3		W			1.5		10					Raining	Dr. J. F. J. Schmidt

NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	30.04	763.0	30.09	764.4	72.2	22.3	41	W	10	4.5		0				0	0	Blue sky!	
Deesa	29.59	751.5	30.07	763.8	73.7	23.2	9	NNE				0				0	0	Blue sky	
Bombay	29.89	759.2	29.93	760.2	73.9	23.3	49	NNW	30	13.4		0				0	0	Blue sky	
Poona (Yerrowda)	28.06	712.6	29.94	760.5	71.8	22.1	18	NE	12	5.4		0				0	0	Blue sky	
Belgaum	27.37	695.2	29.95	760.6	68.6	20.3	41	ENE	3	1.3		0				0	0	Blue sky	
Lahore	29.30	744.2	30.09	764.2	54.7	12.6	44	Calm	0.5	0.2		0				0	0	Blue sky	
Roorkee	29.11	739.3	30.05	763.3	59.8	15.4	44	W	0.9	0.4		0				0	0	Blue sky	
Agra	29.47	748.6	30.07	763.7	59.8	15.4	49	W	3.4	1.5		0				0	0		
Nagpur	28.91	734.2	29.98	761.5	66.7	19.3	39	NE	3.5	1.6		0				0	0	Blue sky	
Jubbulpore	28.59	726.3	30.00	762.0	67.2	19.6	39	Calm	1.8	0.8		0				0	0	Blue sky	
Lucknow	29.64	752.8	30.03	762.8	61.4	16.3	38	Calm	0.1	0.04		0				0	0	Blue sky	
Allahabad	29.72	754.9	30.05	763.3	58.9	14.9	70	Calm	0.3	0.1		0				0	0	Blue sky	
Patna	29.83	757.7	30.02	762.5	67.2	19.6	60	W	0.3	0.1		0				0	0	Blue sky	
Hazaribagh	27.93	709.3	30.01	762.3	61.8	16.6	64	N	2.1	0.9		1				0	0		
Cuttack	29.90	759.4	29.98	761.6	65.8	18.8	89	ENE	4.0	1.8		10				0.51	13.0	Drizzling	
Calcutta (Alipore)	30.02	762.5	30.04	763.0	62.5	16.9	93	NNW	5.0	2.2		10						Drizzling	
Goalpara	29.57	751.0	29.97	761.2	67.5	19.7	77	SSE	6.1	2.7		10			W	0	0	Overcast	
Chittagong	29.91	759.7	30.00	762.1	71.0	21.7	94	Calm	1.9	0.8		10				0.10	2.5		
Sibsagar	29.66	753.4	30.01	762.2	65.9	18.8	79	ENE	1.1	0.5		4				0	0	Blue sky	

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,361 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	29.78	756.3	30.21	767.3	28.6	— 1.9	52	Calm	0	0			0			0	0		Prof. Giovanni Clodig.
Milan	29.72	754.8	30.27	768.8	20.3	— 6.5	81	WNW			2		1			0	0		Prof. Schiaparelli.
Padua	30.11	764.7	30.22	767.6	27.5	— 2.5	42	N	1.3	0.6			0			0	0		Prof. Dott. Lorenzoni.
Moncalieri	29.31	744.5	30.27	768.8	21.2	— 6.0	69	ENE	1.3	0.6			0			0	0		Prof. P. F. Denza.
Genoa	30.02	762.5	30.22	767.6	34.2	1.2	55	E	6.3	2.8			2	N		0	0		Prof. G. M. Garibaldi.
Mondovi	28.18	715.7	30.18	766.6	19.6	— 6.9	50	NW			2		0			0	0		Prof. D. C. Bruno.
Pesaro	30.11	764.7	30.16	766.0	27.1	— 2.7	66	W	16.8	7.5			10			0	0		Prof. Luigi Guidi.
Florence	29.94	760.4	30.21	767.2	30.2	— 1.0	76	N			6		10			0	0		Cav. F. Meucci.
Leghorn	30.06	763.5	30.15	765.7	33.6	0.9	38	NE	11.9	5.3			9			0	0		Prof. P. Monte.
Rome	29.82	757.4	30.00	762.0	37.6	3.1	52	N	16.1	7.2			6			0	0		Prof. P. S. Ferrari.
Lecce	29.62	752.4	29.88	759.0	36.9	2.7	89	WNW	19.2	8.6			9	NW		0.346	8.8		Prof. C. De Giorgi.
Cosenza	29.02	737.1	29.93	760.1	37.6	3.1	81	SE	0	0			5			0.157	4.0		Prof. D. Conti.
Cagliari	29.89	759.3	30.09	764.3	40.8	4.9	45	NW			4		3	N		0	0		Prof. A. Pacinotti.
Palermo	29.72	755.0	29.98	761.5	39.7	4.3	74	WNW	4.3	1.9			9	WNW		0.701	17.8		Prof. G. Ciacciatore.
Syracuse	29.88	759.0	29.95	760.8	47.3	8.5	51	W	7.4	3.3			3	WNW		0	0		Prof. V.G. Guiliano.
SUB-SERIES.																			
Naples, S. R.	29.44	747.7	29.98	761.6	40.1	4.5	49	NE	3.8	1.7			1			0	0		Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.15	765.8	30.17	766.3	43.1	6.2	78	NNE	7.2	3.2			3s			0	0	Clear.	K. Sasaki.
Nagasaki, I. M. Obs'y	29.98	761.5	30.19	766.8	43.8	6.6	83	NW	0.8	0.4			0			0	0	Clear.	S. Takehayashi.
Tokei, (Yeddo) Observatory	30.00	762.0	30.07	763.8	39.6	4.2	87	NW	4.4	2.0		0	0			0	0	Clear.	The Staff.
Wakayama	30.07	763.8	30.13	765.3	43.6	6.4	83	E	5.1	2.7		ck	7s			0	0	Cloudy	

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima																			R. Banda, C. E.
Guadalajara	25.02	635.5	30.19	766.7	43.7	6.5	59	SW			1	3		Calm		0	0	Clear.	Prof. L. Perez.
Leon	24.43	620.4	30.17	766.3	54.0	12.2	78	NW			1	3c	2k	NW		0	0	½ clouded.	Prof. M. Leal.
Mazatlan	29.69	754.2	29.96	760.9	64.8	18.2	86	N			3	6cs	0	SW		0	0	Fair.	I. Guerrero, C. E.
Mexico, Central Observatory	23.05	585.4	30.15	765.7	48.2	9.0	72	Calm	0	0		0	0			0	0	Very clear.	The Staff.
Pabellon (Aguascalientes)					45.5	7.5	70	SW			1	5c	0	SW		0	0	½ clouded.	M. V. de Leon, M. E.
Puebla (Catholic Institute)	28.37	593.7	30.28	769.1	43.7	6.5	36	Calm	0	0		0	0			0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.14	613.1	30.10	766.1	52.5	11.4	60	SW			1	5	1	W	E	0	0	Almost cloudy.	G. Barroeta, M. D.
Tlacotalpam	29.84	757.9	29.85	758.2	71.8	22.1	91	SW			1	0	0			0	0	Very foggy.	Prof. M. M. Chazaro.
Vera-Cruz																			Prof. J. Rossell
Zacatecas	22.52	571.9	30.19	766.7	51.1	10.6	58	Calm	0	0		2cs	0	SW		0	0	Clear.	J. C. Castrillon

NOTE.—The elevation of Guadalajara is 1,563.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column; the instrumental correction —0.88 mm., or —0.035 inch, has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.43	773.0	30.43	773.0	36.7	2.6		E			1					0	0		
Groningen	30.31	769.8	30.36	771.2	36.1	2.3		N			2					0.079	2.0		
Hâder	30.39	771.8	30.39	771.8	33.6	0.9		N			1					0.079	2.0		
Hellevoetsluis	30.40	772.2	30.40	772.2	36.3	2.4	87	NE			2								
Utrecht	30.36	771.2	30.41	772.4	34.3	1.3	81	WNW			2		2			0.016	0.4	Sl'ly cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.38	771.6	30.43	773.0	28.8	— 1.8	80	SW	11.0	4.9	.....	.....	10	.....	.....	0.512	13.0	.....	
Brönö	29.50	749.2	29.54	750.2	34.2	1.2	96	SW	27	12	.....	.....	10	.....	.....	0.106	2.7	Rain & snow	
Christiana	29.98	761.6	30.14	765.6	24.8	— 4.0	100	NE	0	0	.....	.....	10	.....	.....	0	0	Foggy	
Tromsö	29.46	748.2	29.50	749.3	23.7	— 4.6	79	ENE	4	2	.....	.....	10	.....	.....	0	0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	29.28	743.4	29.48	748.7	59.7	15.4	89	W	17.4	7.8	.....	.....	3	.....	.....	0.236	6.0	.....	Dr. J. A. Sampaio.
Campo Major	29.15	740.4	30.18	766.7	46.0	7.8	39	ENE	13.7	6.1	.....	.....	8	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	29.79	756.7	29.88	758.9	68.9	20.5	86	W	5.6	2.5	.....	.....	6	.....	.....	0.024	0.6	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.79	756.7	30.17	766.2	46.8	8.2	63	NNE	12.5	5.6	.....	.....	9	W	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	29.45	747.9	29.52	749.7	62.6	17.0	83	WNW	11.2	5.0	.....	.....	3	.....	.....	0.476	12.1	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.																Sea or swell: Height scale 0-9	Sea or swell: Direction from—		
Bartholomew Dias																			A. G. da Silva Costa, Com'd't.
D. Fernando																			A. M. de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.																			J. C. M. Cabrate, 1st Lt.
Mindello																			J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos																			H. de C. C. e Athayde.
Rio Duro																			J. T. d'Oliveria, Com'd't.
Rio Lima. Capt. S. C. da Silva Costa.																			
Fogo, Cape Verd Islands					79.9	26.6	.....	Calm	.....	.....	0	.....	0	.....	.....	0	.....	Blue sky	A. D. de Fonseca Sarurento
Sá da Bandeira																			F. Teixeira da Silva, Coind't.
Sado, Capt. J. A de Brito Capello, St. Paul de Loando	.....	.....	29.84	757.8	81.0	27.2	.....	W	.....	.....	3	.....	2	.....	W	.....	.....	D. clouds	Luiz Aprá, Q. M.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	.....	.....	30.30	769.5	66.6	19.2	.....	NNE	.....	.....	2	.....	0	.....	.....	1	.....	Blue sky	J. G. Felgo, 2nd Lieut.

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds: no humidity; duration of rain-fall in hours. The Sá da Bandeirá gives the barometer reduced tofreezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	29.20	741.7	29.22	742.2	19.0	— 7.2	98	WSW	13	6	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sselliwerstow.
Astrakhan	30.52	775.1	30.43	773.0	14.7	— 9.6	78	SW	4	2	.....	.....	0	.....	.....	Blank	Blank	.....	Capt. Wisganow.
Barnaul	29.17	740.9	29.74	755.3	17.1	— 8.3	97	SW	2	1	.....	.....	8	.....	.....	.....	.....	Snowing.	Meteorological Obs.
Dorpat	29.65	753.1	29.91	759.6	26.2	— 3.2	89	WSW	7	3	.....	.....	0	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	28.59	726.1	29.63	752.5	6.3	—14.3	75	W	31	14	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk																			
Kasan	29.50	749.3	29.78	756.5	24.1	— 4.4	87	SW	18	8	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch																			Lagorio.
Kief	29.49	749.0	30.19	766.8	15.8	— 9.0	85	NW	13	6	.....	c;ck	3ks	.....	.....	.....	.....	.....	Physica Cabinet.
Krotkowo*	29.48	748.7	29.98	761.5	21.7	— 5.7	71	W	4	2	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fujanow.
Lugan	30.06	763.4	30.28	769.1	16.2	— 8.8	78	S	4	2	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs
Moscow	29.30	744.3	29.88	759.0	26.2	— 3.2	85	S	13	6	.....	.....	10s	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	27.47	697.7	29.89	759.1	16.9	— 8.4	82	SE	9	4	.....	.....	10	.....	.....	Blank	Blank	Light clouds	Meteorological Obs.
Nikolaiev	30.14	765.5	30.21	767.3	19.0	— 7.2	87	NE	4	2	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	30.30	769.6	30.54	775.8	37.0	2.8	74	.....	.....	.....	.....	.....	1ks	.....	.....	.....	.....	.....	
Orenberg																			
Pekin (China)	30.01	762.3	30.15	765.9	33.8	1.0	70	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	29.70	754.4	29.72	754.8	23.2	— 4.9	93	W	13	6	.....	.....	0	.....	.....	.....	.....	.....	Central Physical Obs.
Tashkend	28.88	733.5	30.57	776.4	29.1	— 1.6	92	.....	.....	.....	.....	.....	10	.....	.....	.....	.....	Snowing	Teich, A. M
Tiflis	28.99	736.4	30.48	774.1	39.4	4.1	72	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock																			
Warsaw	29.85	758.1	30.32	770.2	1.6	—16.9	80	SW	4	2	.....	8c;ck	.....	.....	.....	.....	.....	.....	Astronomica Obs'n
Wilna	29.68	753.8	30.13	765.4	16.3	— 8.7	76	S	4	2	.....	.....	10	.....	.....	.....	.....	Heavy clouds	Astronomical Obs.
Yenisiesk	29.44	747.7	29.76	756.0	—13.7	—25.4	81	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Marks.

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 465 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 60 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	30.17	766.3	30.28	769.1	43.2	6.2	63	NE	1.5	0.69	.....	.....	2ck	.....	.....	0	0	Light mist	Antonio Rave, Direcor.
Bilbao, Met. Obs'y	30.27	768.8	30.33	770.3	38.5	3.6	71	SE	1.4	0.65	.....	0	0	.....	.....	0	0	Clear.	Prof. Manuel de Navean
Burgos, Met. Obs'y	27.21	691.2	.....	.....	38.5	3.6	51	E	2.3	1.03	.....	0	7	.....	.....	0	0	Cloudy	Domingo Martin y Perez
Madrid, Royal Observatory	27.96	710.2	30.29	769.4	39.0	3.9	64	N	6.0	2.67	.....	1	0	WNW	.....	0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	30.14	765.5	30.29	769.4	50.2	10.1	55	WSW	1.6	0.72	.....	0	0	.....	.....	0	0	Clear.	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.19	741.3	30.09	764.2	54.1	12.3	38	NE	4.3	1.9	.....	.....	7	.....	.....	0	0	Cloudy	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.00	762.0	30.07	763.7	69.2	20.7	90	E	2.7	1.2	.....	3c	0	WSW	.....	0	0	Fair.	Benito Vines S. J.
Manilla, Phillippine Islands	29.84	757.8	29.89	759.1	80.6	27.0	83	N	1.6	0.7	.....	0	0	.....	.....	0	0	Fine	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.00	762.1	30.10	764.6	58.3	14.6	65	ESE	24.4	10.9	.....	3	3	W	E	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.90	759.5	29.99	761.8	74.5	23.6	92	SE	0	0	.....	4kn	3kn	SE	SE	0.295	7.50	Cloudy	Enrique Gadea, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is mensured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rübenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.61	752.2	29.65	753.2	15.4	— 9.2	.....	W	.....	.....	2	.....	10	.....	.....	0	0	.....	
Umea	29.71	754.6	29.76	755.9	23.7	— 4.6	86	N	.....	.....	2	.....	10	.....	.....	0.008	0.2	.....	
Hernosand	29.78	756.6	29.84	757.8	28.8	— 1.8	68	WNW	.....	.....	2	.....	8	.....	.....	0	0	.....	
Stockholm	29.83	757.6	30.00	762.1	19.4	— 7.0	89	W	.....	.....	2	.....	2	.....	.....	0.102	2.6	.....	
Wisby	29.91	759.6	29.97	761.1	31.3	— 0.4	81	NNE	.....	.....	6	.....	3	.....	.....	0.087	2.2	.....	
Sub-Series.																			
Upsala	29.89	759.2	29.98	761.4	18.1	— 7.7	92	WNW	2.5	1.1	.....	.....	1	.....	.....	0.004	0.09	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.96	735.6	30.03	777.9	16.2	— 8.8	82	ENE	.....	.....	3	.....	9	.....	.....	0	0	Covered.....	The Observatory.
Zurich	28.75	730.2	30.55	775.9	10.0	—12.2	82	NW	.....	.....	1	.....	5	.....	.....	0	0	Foggy.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +8.3 mm.; Thermometer, —11.8 Cent.; Relative Humidity, +3 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.86	758.5	47.8	8.8	72	WNW	7	3.0	.....	.....	6	.....	SW	0.193	4.9	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.82	757.4	41.5	5.3	.....	NE	.....	.....	1	.....	10	.....	.....	1.30	33.	Covered.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.82	757.4	29.94	760.4	75.4	23.0	67	WSW	.....	.....	1	7c	.....	.....	.....	0	0	D. clouds.....	Prof. C. V. A. van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B.	30.50	777.0	30.60	778.7	16.6	— 8.6	92	Calm	0	0	.....	2k	8ks	N	.....	0	0	Cloudy.....	G. A. Blair.
Charlottetown, P. E. Island	30.56	776.2	30.61	777.5	24.8	— 4.0	77	N	6	2.7	.....	0	7s	.....	.....	0	0	Fair.....	H. J. Cundall, C. E.
Cornwall, Ontario	29.84	757.9	30.04	763.0	33.0	0.6	86	SE	.....	.....	1	.....	10s	.....	.....	0.05	1.3	Overcast....	James Smith, M. A.
Dalhousie, N. B.	30.46	773.7	30.65	778.5	10.5	—11.9	.....	W	.....	.....	1	.....	10s	.....	.....	0	0	Overcast.....	H. A. Johnson.
Father Point, Quebec	30.48	774.2	30.50	774.7	14.6	— 9.7	82	SE	12	5.4	.....	.....	10s	.....	.....	0	0	Cloudy.....	J. McWilliams.
Fredericton, N. B.	30.57	776.5	30.64	778.2	17.0	— 8.3	77	NW	.....	.....	2	10cs	0	W	.....	Inap.	Inap.	Overcast.....	Prof. Harrison.
Fort Garry, Manitoba	28.96	735.6	29.89	759.2	— 3.4	—19.7	100	N	30	13.4	.....	.....	10n	.....	.....	0.36	9.1	Light snow.	James Stewart.
Granton, Ontario	28.60	726.4	29.69	754.1	46	7.8	.....	S	.....	.....	4	.....	10n	.....	.....	1.06	26.9	Light rain...	James Grant.
Halifax, N. S.	30.49	774.4	30.63	778.0	22.6	— 5.2	89	N	4	1.8	.....	5ck	0	.....	.....	0	0	Fair.....	A. Allison.
Hamilton, Ontario	29.39	746.5	29.70	755.9	48.7	9.3	96	SE	.....	.....	1	.....	10s	.....	SE	0.81	20.6	Raining.....	Geo. Dickson, B. A.
Heart's Content, N. F.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.60	751.8	29.94	760.5	39.7	4.3	88	S	18	8.0	.....	.....	10ks	.....	.....	0.42	10.7	Cloudy.....	S. Woods, M. A.
Little Grace Bay, N. S.	30.53	775.4	30.59	777.0	27.2	— 2.7	88	N	8	3.6	.....	7k	0	N	.....	0	0	Fair.....	C. H. Rigby.
Montreal, Quebec	29.95	760.7	30.16	766.1	33.0	0.6	80	S	22	9.8	.....	5k	5ks;n	S	.....	0.68	17.3	Heavy rain..	C. H. McLeod, C. E.
Moose Factory, Ontario	29.76	755.9	29.80	756.9	13.8	—10.1	94	NE	.....	.....	4	.....	10n	.....	.....	0.10	2.5	Snowing.....	J. R. Nesson.
Norwood	29.18	741.1	29.87	758.7	40.5	4.7	.....	SE	.....	.....	4	.....	10s	.....	.....	.....	.....	Raining	Rev. T. F. Fotheringham, M. A.
Parry Sound, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Peterboro, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. R. Mosley.
Port Dover, Ontario	29.09	738.9	29.78	756.4	46.9	8.3	92	SW	8	3.6	.....	.....	10n	.....	SW	0.44	11.2	Light rain...	J. F. Jeffers, M. A.
Port Hastings, N. S.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. Morgan.
Port Stanley, Ontario	29.11	739.4	29.76	755.9	45.5	7.5	93	E	10	4.5	.....	.....	10n	.....	SW	1.27	32.3	Cloudy.....	Peter Grant.
Quebec, Quebec	30.01	762.2	30.36	771.1	19	— 7.2	92	E	.....	.....	6	.....	10n	.....	.....	0.02	0.5	Cloudy.....	M. Payne.
Rockliffe, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Ashe, R. N.
St. Andrews, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. McIntyre.
St. John, N. B.	30.42	772.7	30.60	777.2	18	— 7.8	92	NE	8	3.6	.....	.....	10ks	.....	.....	0	0	Overcast.....	Dr. Gove.
Saugeen, Ontario	28.90	734.0	29.61	752.1	48.3	9.1	91	S	28	12.5	.....	.....	10ks	.....	.....	0.19	4.8	Heavy rain..	G. Murdock, C. E.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	K. Stewart.
Stratford, Ontario	28.48	722.1	29.70	754.4	45.5	7.5	95	SW	15	6.7	.....	.....	10n	.....	.....	.....	.....	.....	R. J. Cole.
Sydney, C. B.	30.58	776.4	30.57	776.5	25.0	— 3.9	75	NW	6	2.7	.....	0	6ks	.....	NW	1.057	26.85	Light rain...	C. J. MacGregor, M. A.
Toronto, Ontario	29.43	747.5	29.82	757.4	42.7	5.9	95	E	10	4.5	.....	.....	10n	.....	S	0	0	Fair.....	T. C. Hill, C. E.
Windsor, N. S.	30.59	774.7	30.60	777.2	26.0	— 6.7	100	NE	8	3.6	.....	.....	10n	.....	.....	0.68	17.3	Light rain...	Magnetic Observatory.
Woodstock, Ontario	28.64	727.4	29.70	754.4	47.1	8.4	92	SE	1	0.4	.....	0	8ks	.....	.....	0	0	Cloudy.....	Prof. John E. Oram, M. A.
Yarmouth, N. S.	30.51	774.9	30.58	776.7	28.5	— 1.9	92	E	28	12.5	.....	.....	10n	.....	S	0.57	14.5	Overcast.....	Prof. J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	30.11	764.8	30.38	771.6	23	— 5.0	86	N	.....	.....	.....	.....	10	.....	.....	Inap.	Inap.	Overcast.....	Lt. F. E. Wilmot, R. N.
St. Pierre, N. F., l'Hopital Maritime	.....	.....	30.35	770.8	25.0	— 5	.....	N	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Commandant.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of BVT. BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0-10.	CLOUDS. Amount. Up'er 0-10.	CLOUDS. Amount. Lo'er 0-10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER	OBSERVER.
Albany, New York	30.09	764.3	30.33	770.4	36	2.2	71	S	16	7.2	.....	.....	10s	.....	S	0	0	Cloudy	
Alpena, Michigan	28.86	733.0	29.49	749.0	38	3.3	91	E	10	4.5	.....	.....	10n	.....	Calm	0.60	15.2	Light rain	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	28.91	734.3	30.05	763.3	59	15.0	94	SE	14	6.3	.....	.....	Fog	.....	Calm	0	0	Foggy	
Atlantic City, New Jersey	30.28	769.1	30.29	769.4	49	9.4	93	SE	10	4.5	.....	.....	10s	.....	Calm	0	0	Threatening	
Augusta, Georgia	29.98	761.5	30.18	766.6	56	13.3	87	Calm	0	0	.....	5ck	5s	S	S	0	0	Cloudy	
Baltimore, Maryland	30.22	767.6	30.27	768.8	48	8.9	93	E	5	2.2	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Barnegat, New Jersey	30.27	768.8	30.29	769.4	49	9.4	93	E	14	6.3	.....	.....	10s	.....	SW	0	0	Cloudy	
Bismarck, Dakota	28.00	711.2	29.85	758.2	- 1	—18.3	100	N	32	14.3	.....	.....	10s	.....	Calm	0.06	1.5	Cloudy	
Boerne, Texas	28.48	723.4	29.80	756.9	53	11.7	67	N	20	8.9	.....	.....	10s	.....	N	0	0	Cloudy	
Boise City, Idaho	27.16	68 8	30.12	765.0	28	— 2.2	93	NW	8	3.6	.....	.....	10s	.....	Calm	0.14	3.6	Cloudy	
Boston, Massachusetts	30.31	769.9	30.47	773 9	33	0.6	89	W	1	0.4	.....	.....	Fog	.....	Calm	0	0	Foggy	
Brackettville, Texas	28.78	731.0	29.83	757.7	54	12.2	21	N	10	4.5	.....	0	0	.....	.....	0.02	0.5	Clear.	
Breckenridge, Minnesota	28.45	722.6	29.51	749.5	4	—15.6	100	NW	27	12.1	.....	.....	10s	.....	Calm	0.12	3.0	Cloudy	
Brownsville, Texas	29.75	755.6	29.80	756.9	75	23.9	90	S	12	5.4	.....	0	0	.....	.....	0	0	Clear.	
Buffalo, New York	29.10	739.1	29.79	756.7	50	10.0	58	S	13	5.8	.....	.....	10s	.....	SW	0.11	2.8	Cloudy	
Burkes, Arizona	.....	.....	.....	.....	31	— 0.6	28	Calm	.....	.....	0	5c	2s	Calm	Calm	0	0	Cloudy	
Burlington, Vermont	29.93	760.2	30.23	767.8	35	1.7	70	S	22	9.8	.....	.....	10ks	.....	S	Inap.	Inap.	Cloudy	
Cairo, Illinois	29.40	746.7	29.78	756.4	60	15.6	88	SW	9	4.0	.....	.....	10s	.....	SW	1.46	37.1	Threatening	
Campo, California	27.47	697.7	30.04	763.0	25	— 3.9	87	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Cape Hatteras, N. Carolina	30.22	767.6	30.23	767.8	61	16.1	94	NE	2	0.9	.....	5cs	2ks	Calm	SW	Inap.	Inap.	Cloudy	
Cape Henry, Virginia	30.21	767.3	30.22	767.6	57	13.9	81	E	4	1.8	.....	1cs	5ks	W	SE	0	0	Cloudy	
Cape Lookout, N. Carolina	30.22	767.6	30.23	767.8	56	13.3	100	NE	6	2.7	.....	8c	Haze	W	Calm	0	0	Cloudy	
Cape May, New Jersey	30.24	768.1	30.27	768.8	51	10.6	86	E	10	4.5	.....	.....	Fog	.....	Calm	0.03	0.8	Foggy	
Castroville, Texas	29.13	739.9	29.83	757.7	60	15.6	24	N	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Cedar Keys, Florida	30.12	765.0	30.14	765.5	65	18.3	94	E	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Charleston, South Carolina	30.13	765.3	30.18	766.6	60	15.6	94	E	4	1.8	.....	.....	Fog	.....	.....	0	0	Foggy	
Charlotte, North Carolina	29.31	744.5	30.13	765.3	52	11.1	93	E	6	2.7	.....	.....	Fog	.....	Calm	0	0	Foggy	
Chattanooga, Tennessee	29.18	741.1	29.97	761.2	61	16.1	80	S	16	7.2	.....	.....	10s	.....	S	Inap.	Inap.	Cloudy	
Cheyenne, Wyoming	23.75	603.2	29.69	754.1	9	—12.8	57	W	13	5.8	.....	0	0	.....	.....	0	0	Clear.	
Chicago, Illinois	28.86	733.0	29.53	750.0	45	7.2	76	W	12	5.4	.....	.....	10s	.....	Calm	0.70	17.8	Cloudy	
Cincinnati, Ohio	29.11	739.4	29.74	755.4	62	16.7	77	S	19	8.5	.....	.....	10n	.....	S	0.72	18.3	Light rain	
Cleveland, Ohio	29.01	736.8	29.71	754.6	55	12.8	87	S	21	9.4	.....	.....	10s	.....	S	0.07	1.8	Cloudy	
Coleman City, Texas	28.22	716.8	29.96	761.0	33	0.6	42	N	24	10.7	.....	0	5s	.....	Calm	0	0	Fair	
Columbus, Ohio	28.93	734.8	29.74	755.4	55	12.8	81	S	14	6.3	.....	.....	10n	.....	Calm	0.03	0.8	Light rain	
Concho, Texas	28.13	714.5	29.87	758.7	36	2.2	29	N	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Corsicana, Texas	29.55	750.6	30.03	762.7	41	5.0	57	N	12	5.4	.....	0	8ks	.....	Calm	0.02	0.5	Cloudy	
Davenport, Iowa	29.0	736.6	29.69	754.1	31	— 0.6	79	W	18	8.0	.....	.....	10s	.....	W	0.35	8.9	Cloudy	
Dayton, Washington T'y	.....	.....	.....	.....	26	— 3.3	88	W	.....	.....	1	.....	10s	.....	Calm	0.17	4.3	Cloudy	
Deadwood, Dakota	25.11	637.8	.....	.....	11	—11.7	40	Calm	0	0	.....	0	0	.....	.....	0.04	1.0	Clear.	
Decatur, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Denison, Texas	29.25	742.9	30.08	764.0	32	0.0	69	NW	9	4.0	.....	.....	10s	.....	NW	0.09	2.3	Cloudy	
Denver, Colorado	24.55	623.6	29.77	756.1	6	—14.4	76	S	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	28.91	734.3	29.84	757.9	15	— 9.4	65	NW	12	5.4	.....	0	0	.....	.....	0.10	2.5	Clear.	
Detroit, Michigan	29.94	735.1	29.58	751.3	55	12.8	87	S	22	9.8	.....	.....	10s	.....	S	1.33	33.8	Threatening	
Dodge City, Kansas	27.37	695.2	29.87	758.7	7	—13.9	77	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Dubuque, Iowa	28.95	735.3	29.68	753.9	22	— 5.6	72	W	14	6.3	.....	.....	10s	.....	Calm	0.19	4.8	Cloudy	
Duluth, Minnesota	29.45	722.6	29.16	740.7	32	— 0.0	89	SW	2	0.9	.....	.....	10n	.....	Calm	1.21	30.7	Light snow	
Eagle Pass, Texas	29.20	741.7	29.93	760.2	56	13.3	19	N	16	7.2	.....	0	0	.....	W	0	0	Clear.	
Eastport, Maine	30.48	774.2	30.55	776.0	30	— 1.1	78	SE	15	6.7	.....	.....	10ks	.....	.....	0	0	Cloudy	
Edinburg, Texas	.....	.....	.....	.....	74	23.3	90	Calm	.....	.....	0	.....	10s	.....	SE	0	0	Cloudy	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Calm	.....	.....	.....	
Erie, Pennsylvania	29.06	738.1	29.76	755.9	52	11.1	73	S	32	14.3	.....	.....	10n	.....	.....	0.08	21.0	Light rain	
Escanaba, Michigan	28.65	727.7	29.29	744.0	38	3.3	81	SW	23	10.3	.....	.....	10s	.....	SW	0.66	16.8	Cloudy	
Florence, Arizona	28.56	725.4	30.16	766.1	30	— 1.1	78	Calm	0	0	.....	2c	0	W	SW	0	0	Fair	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	28.01	711.5	30.07	763.8	— .	—20.0	82	NW	10	4.5	.....	0	5s	.....	Calm	0.30	7.6	Fair	
Fort Custer, Montana	26.78	680.2	.....	.....	— 7	—21.7	59	SE	3	1.3	.....	0	0	.....	.....	0.07	1.8	Clear.	
Fort Davis, Texas	25.14	638.5	30.10	764.5	33	0.6	61	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Fort Gibson, Indian Ter	29.51	749.5	30.08	764.0	30	— 1.1	68	NW	16	7.2	.....	0	5s	.....	N	0.10	2.5	Fair	
Fort Grant, Arizona	25.18	639.6	29.98	761.5	32	0.0	50	E	4	1.8	.....	0	5s	.....	Calm	0	0	Fair	
Fort Griffin, Texas	28.81	731.8	30.15	765.8	32	0.0	59	N	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Fort Keogh, Montana	27.51	698.7	.....	.....	—15	—26.1	42	NW	4	1.8	.....	2cs	0	Calm	.....	0	0	Fair	
Fort McKavett, Texas	27.74	704.6	29.72	754.9	36	2.2	45	N	9	4.0	.....	0	0	.....	.....	0	0	Clear.	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.86	733.0	30.04	763.0	27	— 2.8	64	N	16	7.2	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Fort Stevenson, Dakota	28.05	712.5	.....	.....	— 1	—18.3	100	N	28	12.5	.....	.....	10n	.....	N	0.14	3.6	Light snow	
Fort Verde, Arizona	.....	.....	.....	.....	20	— 6.7	70	NW	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.18	715.8	29.78	756.3	40	4.4	56	N	10	4.5	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Galveston, Texas	29.84	757.9	29.88	758.9	70	21.1	90	S	5	2.2	.....	0	5ks	.....	SW	0	0	Fair	
Graham, Texas	29.01	736.8	30.12	765.0	30	— 1.1	57	N	6	2.7	.....	0	5s	.....	SW	0	0	Fair	
Grand Haven, Michigan	28.86	733 0	29.48	748.8	50	10.0	86	SW	11	4.9	.....	.....	10s	.....	SW	0.30	7.6	Cloudy	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.14	740.1	30.12	765.0	30	— 1.1	57	N	12	5.4	.....	.....	10s	.....	W	0	0	Cloudy	
Indianapolis, Indiana	28.84	732.5	29.58	751.3	60	15.6	88	S	10	4.5	.....	.....	10s	.....	SE	1.21	30.7	Cloudy	
Indianola, Texas	29.84	757.9	29.87	758.7	70	21.1	95	S	3	1.3	.....	.....	10s	.....	S	0	0	Cloudy	
Jacksboro, Texas	28.96	735.6	30.15	765.8	31	— 0.6	48	N	2	0.9	.....	0	8s	.....	N	0	0	Fair	
Jacksonville, Florida	30.15	765.8	30.17	766.3	57	13.9	94	NE	2	0.9	.....	.....	Fog	.....	Calm	0	0	Foggy	
Keokuk, Iowa	29.12	739.6	29.75	755.6	30	— 1.1	78	NW	19	8.5	.....	.....	10s	.....	Calm	0.12	3.0	Cloudy	
Key West, Florida	30.06	763.5	30.09	764.3	73	22.8	81	SE	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Kittyhawk, North Carolina	30.36	771.1	30.38	771.6	62	16.7	83	SW	11	4.9	.....	2k	0	NW	.....	0	0	Fair	
Knoxville, Tennessee	28.98	736.1	29.98	761.5	51.5	10.8	86	NE	3	1.3	.....	.....	10ks	.....	SW	0	0	Cloudy	
La Crosse, Wisconsin	28.80	731.5	29.54	750.3	28	— 2.2	77	SW	16	7.2	.....	.....	10s	.....	Calm	0.10	2.5	Cloudy	
La Mesilla, New Mexico	25.94	658.9	30.09	764.3	27	— 2.8	64	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.53	750.0	29.86	758.4	61	16.1	88	NW	12	5.4	.....	.....	10ks	.....	N	0	0	Cloudy	
Leavenworth, Kansas	29.09	738.9	29.99	761.7	19	— 7.2	54	NW	8	3.6	.....	1cs	0	.....	.....	0.03	0.8	Clear.	
Lewiston, Idaho	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Little Rock, Arkansas	29.53	750.6	29.92	760.0	48	8.9	85	NW	15	6.7	.....	8c	2s	W	NW	0.41	10.4	Cloudy	
Los Angeles, California	29.75	755.6	30.10	764.5	43.0	6.1	55	NE	4	1.8	.....	0	48	.....	Calm	0	0	Fair	
Louisville, Kentucky	29.23	742.4	29.77	756.1	61	16.1	94	SW	20	8.9	.....	.....	10n	.....	E	0.64	16.3	Heavy rain	
Lynchburg, Virginia	29.54	750.3	30.24	768.1	47	8.3	92	E	4	1.8	.....	.....	10n	.....	Calm	0.03	0.8	Light rain	
Madison, Wisconsin	28.51	724.1	29.49	749.0	34	1.1	79	SW	16	7.2	.....	0	8s	.....	W	0.63	16.0	Cloudy	
Marquette, Michigan	28.49	723.6	29.17	740.9	40	4.4	73	SW	28	12.5	.....	.....	10s	.....	SW	0.34	8.6	Cloudy	
Mason, Texas	28.38	720.8	30.18	766.6	43	6.1	36	N	13	5.8	.....	0	8s	.....	SW	0	0	Fair	
Memphis, Tennessee	29.46	748.3	29.79	756.7	60	15.6	100	S	4	1.8	.....	.....	10n	.....	Calm	1.11	28.2	Light rain	
Milwaukee, Wisconsin	28.76	730.5	29.48	748.8	37	2.8	71	W	34	15.2	.....	.....	10s	.....	W	0.72	18.3	Cloudy	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mobile, Alabama	29.96	761.0	30.00	762.0	64	17.8	100	S	8	3.6	.....	2c	5s	W	SW	Inap.	Inap.	Fair	
Montgomery, Alabama	29.82	757 4	30.05	763.3	61	16.1	94	SE	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Morgantown, West Virginia	28.98	736.1	29.94	760.5	61	16.1	55	SW	9	4.0	.....	.....	10s	.....	SW	0	0	Threatening	
Mt. Washington, N. H.	23.89	506.8	30.25	768.3	19	— 7.2	84	SW	48	21.5	.....	.....	10ks	.....	SW	0	0	Cloudy	
Nashville, Tennessee	29.31	744.5	29.82	757.4	64	17.8	89	SE	12	5.4	.....	.....	10n	.....	Calm	0.14	3.6	Light rain	
New Haven, Connecticut	30.26	768.6	30.38	771.6	37	2.8	81	NE	11	4.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
New London, Connecticut	30.33	770.4	30.37	771.4	39	3.9	82	E	4	1.8	.....	3ck	6s	W	4	0	0	Cloudy	
New Orleans, Louisiana	29.92	760.0	29.98	761.5	69	20.6	95	SE	8	3.6	.....	1c	5s	Calm	SE	0.31	7.9	Fair	
Newport, Rhode Island	30.38	771.6	30.44	773.2	40	4.4	82	NE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
New River, North Carolina	.....	.....	.....	.....	53	11.7	93	NE	.....	.....	1	2c	0	Calm	.....	.....	.....	Fair	
New York, New York	30.18	766.6	30.37	771.4	45	7.2	60	NE	14	6.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Norfolk, Virginia	30.17	766.3	30.23	767.8	52	11.1	93	E	4	1.8	.....	.....	10s;fg	.....	Calm	0	0	Foggy	
North Platte, Nebraska	26.94	684.3	29.74	755.4	3	—16.1	73	NW	14	6.3	.....	0	0	.....	.....	0.07	1.8	Clear	
Olympia, Washington Ter.	30.13	765.3	30.17	766.3	36.0	2.2	95	SW	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Omaha, Nebraska	28.71	729.2	29.90	759.4	7	—13.9	77	W	13	5.8	.....	0	0	.....	.....	0.01	0.3	Clear	
Oswego, New York	29.70	754.4	30.02	762.5	44	6.7	76	S	23	10.3	.....	.....	10n	.....	Calm	0.22	5.6	Light rain	
Pembina, Dakota	28.74	730.0	29.65	753.1	2	—16.7	100	NW	22	9.8	.....	.....	10n	.....	Calm	0.54	13.7	Light snow	
Pensacola, Florida	30.02	762.5	30.05	763.3	69	20.6	85	SE	12	5.4	.....	Haze	2s	Calm	S	0	0	Fair	
Philadelphia, Pennsylvania	30.25	768.3	30.30	769.6	46	7.8	92	NE	6	2.7	.....	.....	10s;fg	.....	Calm	Inap.	Inap.	Cloudy	
Phœnix, Arizona	28.88	733.5	30.79	782.1	33	0.6	61	Calm	0	0	.....	c	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.14	435.4	29.35	745.5	—20	—28.9	100	SW	30	13.4	.....	8cs	0	Calm	.....	0	0	Fair	
Pilot Point, Texas	29.32	744.7	30.19	766.8	34	1.1	43	N	.....	.....	.....	8k	2s	NW	N	0	0	Cloudy	
Pioche, Nevada	.....	.....	.....	.....	25	— 3.9	62	S	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29 13	739.9	29.93	760.2	53	11.7	73	S	6	2.7	.....	.....	10n	.....	SE	0.01	0.3	Light rain	
Port Huron, Michigan	28.94	735.1	29.58	751.3	51	10.6	93	S	18	8.0	.....	.....	10n	.....	S	0.88	22.4	Light rain	
Portland, Maine	30.43	772 9	30.48	774.2	31	— 0.6	69	N	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Portland, Oregon	30.13	765.3	30.21	767.3	38.5	3.6	91	NE	2	0.9	.....	.....	10s	.....	.....	0.18	4.6	Cloudy	
Portsmouth, North Carolina	.....	.....	.....	.....	60	15.6	94	SE	6	2.7	.....	5k	0	Calm	.....	0	0	Fair	
Prescott, Arizona	24.71	627.6	30.07	763.8	26	— 3.3	63	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.09	764.3	30.11	764.8	68	20.0	95	E	8	3.6	.....	5c	2ks	W	SE	0	0	Fair	
Red Bluff, California	29.88	758.9	30.26	768.6	38	3.3	95	N	6	2.7	.....	.....	10n	.....	.....	0.52	13.2	Light rain	
Rio Grande City, Texas	29.60	751.8	29.81	757.2	69	20.6	90	SE	4	1.8	.....	2cs	0	Calm	.....	0	0	Clear	
Rochester, New York	29.27	743.4	29.88	758.9	49	9.4	71	S	16	7.2	.....	.....	10s	.....	SW	0.16	4.1	Threatening	
Roseburg, Oregon	29.62	752.3	30.20	767.1	42	5.6	91	Calm	0	0	.....	.....	10s	.....	Calm	0.13	3.3	Cloudy	
Sacramento, California	30.12	765.0	30.20	767.1	45	7.2	92	SE	8	3.6	.....	.....	10n	.....	Calm	0.20	5.1	Light rain	
St. Louis, Missouri	29.21	741.9	29.79	756.7	41	5.0	82	W	18	8.0	.....	.....	10s	.....	W	0.54	13.7	Cloudy	
St. Paul, Minnesota	28.56	725.4	29.41	747.0	14	—10.0	64	SW	25	11.2	.....	.....	10ks	.....	SW	0.19	4.8	Cloudy	
Salt Lake City, Utah	25.44	646.2	29.77	756.1	25	— 3.9	62	Calm	0	0	.....	.....	10n	.....	Calm	0.10	2.5	Light snow	
San Antonio, Texas	29.18	741.1	29.76	755.9	60	15.6	44	NE	10	4.5	.....	.....	10s	.....	NE	0.13	3.3	Cloudy	
San Diego, California	30.07	763.8	30.15	765.8	43	6.1	92	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Sandusky, Ohio	29.02	737.1	29.67	753.6	56	13.3	81	S	27	12.1	.....	.....	10n	.....	S	0.15	3.8	Light rain	
Sandy Hook, New Jersey	30.29	769.4	30.32	770.1	47	8.3	85	E	22	9.8	.....	.....	10s	.....	E	0	0	Cloudy	
San Francisco, California	30.10	764.5	30.16	766.1	54	12.2	93	NW	12	5.4	.....	0	Fog	.....	NW	0.18	4.6	Clear	
Santa Fé, New Mexico	23.09	586.5	29.63	752.6	14	—10.0	64	N	5	2.2	.....	0	1s	.....	NW	0.02	0.5	Clear	
Savannah, Georgia	30.08	764.0	30.18	766.6	61	16.1	94	SE	3	1.3	.....	.....	10s	.....	S	0	0	Cloudy	
Shreveport, Louisiana	29.69	754.1	29.91	757.9	53	11.7	67	NW	9	4.0	.....	.....	10s	.....	Calm	0.07	1.8	Cloudy	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.18	766.6	30.22	767.6	56	13.3	94	N	6	2.7	.....	5k	0	SW	.....	0	0	Fair	
Socorro, New Mexico	25.38	644.6	29.44	747.8	18	— 7.8	53	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois	29.09	738.9	29.77	756.1	39.5	4.2	82	W	17	7.6	.....	.....	10s	.....	W	0.89	22.6	Cloudy	
Springfield, Massachusetts	30.30	769.6	30.44	773.2	34	1.1	79	NE	4	1.8	.....	.....	10s	.....	NE	Inap.	Inap.	Threatening	
Stockton, Texas	27.02	686.3	30.02	762.5	30	— 1.1	16	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass.	30.40	772.1	30.46	773.7	42	5.6	83	SE	9	4.0	.....	.....	10s	.....	SE	0	0	Cloudy	
Toledo, Ohio	28.94	735.1	29.60	751.8	56	13.3	87	SE	16	7.2	.....	.....	10n	.....	SE	1.70	43.2	Light rain	
Tucson, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon	29.91	759.7	30.44	773.2	27.5	— 2.5	88	Calm	0	0	.....	.....	10s	.....	.....	Inap.	Inap.	Cloudy	
Uvalde, Texas	29.05	737.9	29.86	758.4	57	13.9	70	N	8	3.6	.....	.....	8s	.....	NW	0	0	Cloudy	
Vicksburg, Mississippi	29.64	752.8	29.89	759.2	69	20.6	95	SW	9	4.0	.....	.....	10s	.....	SW	0.16	4.1	Cloudy	
Virginia City, Montana	24.03	610.4	29.51	749.5	7	—13.9	77	Calm	0	0	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Visalia, California	29.79	756.7	30.17	766.3	42	5.6	87	Calm	0	0	.....	0	5s	.....	Calm	0	0	Fair	
Washington, D. C.	30.13	765.3	30.24	768.1	49	9.4	85	SE	6	2.7	.....	.....	10s;fg	.....	Calm	Inap.	Inap.	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	24	— 4.4	74	N	.....	.....	1	2c	0	Calm	.....	0	0	Fair	
Wilmington, North Carolina	30.13	765.3	30.21	767.3	55	12.8	87	E	.....	.....	1	5ck	0	Calm	.....	0	0	Fair	
Winnemucca, Nevada	25.56	649.2	29.92	760.0	30	— 1.1	78	SW	11	4.9	.....	0	4s	.....	SW	0.24	6.1	Fair	
Wood's Holl, Massachusetts	30.39	771.9	30.43	772.9	47	8.3	62	SE	12	5.4	.....	.....	10ks	.....	SE	0	0	Cloudy	
Yankton, Dakota	28.51	724 1	29.92	760.0	— 3	—19.4	73	W	19	8.5	.....	.....	10s	.....	W	0.22	5.6	Cloudy	
Yuma, Arizona	29.93	760.2	30.10	764.5	38	3.3	63	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	29.99	761.7	30.04	763.0	72	22.2	85	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.14	765.5	30.15	765.8	73	22.8	95	Calm	0	0	.....	8c	2cs	Calm	.....	.....	.....	Fair	James Gall.
Navassa, W. I.	29.87	758.7	29.95	760.7	79	26.1	70	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.95	760.7	29.95	760.7	79	26.1	87	NE	.....	.....	3	.....	8ks	.....	.....	0.370	9.40	Cloudy	C. J. Hering.
Santiago de Cuba, W. I.	29.97	761.2	29.99	761.7	75	23.9	76	N	7.2	3.2	.....	4c	0	.....	.....	0	0	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	30.44	773.2	30.50	774.7	—26.5	—32.5	.....	NW	7	3.1	.....	3c	6s	NW	NW	0.28	7.1	Cloudy	J. Fortescue & W. Wood

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 m m.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3.488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105 4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 m., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.14‡	765.5‡	.....	.....	68	20.0	95	SE	10	4.5	.....	.....	2	.....	SW	0.13	3.3	.....	.....	Fair	
Navy Yard, Portsmouth, N.H.	30.39‡	771.9‡	.....	.....	29	—1.7	89	NE	2	0.9	.....	.....	10	.....	.....	0	0	.....	.....	Overcast	
Naval Hospital, Yokohama, Japan	30.04‡	763.0‡	.....	.....	41.5	5.3	87	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	.....	Clear	
Adams, Mare I'd., Navy Yard, Cal.	30.12‡	765.0‡	.....	.....	56	13.3	100	SW	.....	.....	3	.....	10	.....	SW	.....	.....	.....	.....	Cloudy	
Alaska, Arica, Peru *.	29.89‡	759.2‡	.....	.....	67	19.4	79	Calm	.....	.....	0	.....	2	.....	.....	.....	.....	.....	.....	D. clouds	
Colorado, New York, . Y.	30.31‡	769.9‡	.....	.....	42?	5.6?	??	E	1	0.4	.....	.....	10	.....	.....	0	0	.....	.....	Misty	
Constitution, N. 36° 58′, W. 76° 02′	30.23‡	767.8‡	.....	.....	54	12.2	100	ENE	.....	.....	1	.....	8	.....	SE	.....	.....	Light	SE	Hazy	
Enterprise. Beirut, Syria	29.96‡	761.0‡	.....	.....	72	22.2	67	NW	.....	.....	1	.....	3	.....	NW	.....	.....	Smooth	.....	Clear	
Franklin, Off Navy Yard, Norfolk, Va.	30.26‡	768.6‡	.....	.....	53	11.7	100	ENE	2.4	1.1	.....	.....	10	.....	SSW	0	0	.....	.....	Cloudy	
Independence, Mare I'd, Navy Yard, Cal.	30.15‡	765.8‡	.....	.....	59	15.0	82	NW	1.2	0.5	.....	.....	3	.....	NW	0.011	0.28	.....	.....	Clear	
Kearsarge, N. 28° 40′, W. 77° 40′	30.22‡	767.6‡	.....	.....	74	23.3	76	E	.....	.....	4	.....	2	.....	E	0	0	Smooth	.....	D. clouds	
Lackawana, N. 24° 00′ W. 155° 55′.†	30.12‡	765.0‡	.....	.....	74	23.3	81	ESE	.....	.....	3	.....	2	.....	SE	.....	.....	Mod'ate	SE	Fair	
Marion, Navy Yard, Brooklyn, N.Y.	30.36‡	771.1‡	.....	.....	43	6.1	92	ESE	.....	.....	2	.....	10	.....	Calm	.....	.....	.....	.....	Misty	
Michigan, Erie, Pa.	29.65‡	753.1‡	.....	.....	50	10.0	86	SSE	.....	.....	7	.....	10	.....	.....	.....	.....	.....	.....	Raining	
Monocacy, Shanghai, China.	30.29‡	769.4‡	.....	.....	40	4.4	100	WNW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Hazy	
New Hampshire, Port Royal, S. C.	30.19‡	766.8‡	.....	.....	62	16.7	94	Calm	0	0	.....	.....	8	.....	Calm	0	0	.....	.....	Cloudy	
Nipsic, Norfolk, Va.	30.25‡	768.3‡	.....	.....	55	12.8	93	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Foggy	
Onward, Callao, Peru †.	29.92‡	760.0‡	.....	.....	66	18.9	89	S	.....	.....	1	.....	10	.....	.....	.....	.....	Long smooth	W	Cloudy	
Palos, Tientsin, China.	30.17‡	766.3‡	.....	.....	38	3.3	63	S	.....	.....	0-1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Passaic, Washington, D. C.	30.26‡	768.6‡	.....	.....	50	10.0	93	NE	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....	Cloudy	
Pensacola, Callao, Peru	29.89‡	759.2‡	.....	.....	66	18.9	89	SE	.....	.....	0-1	.....	10	.....	.....	.....	.....	.....	.....	Overcast	
Powhatan, Navy Yard, Brooklyn, N.Y.	30.33‡	770.4‡	.....	.....	44	6.7	84	ENE	.....	.....	2	.....	10	.....	Calm	.....	.....	.....	.....	Cloudy	
Quinnebaug, Villafranca, France.	30.18‡	766.6‡	.....	.....	46	7.8	52	NW	.....	.....	2	.....	2	.....	N	.....	.....	.....	.....	Fair	
Ranger, N. 31° 45′, W. 164° 55′	29.85‡	758.2‡	.....	.....	67	19.4	89	S	.....	.....	1	.....	10	.....	S	.....	.....	Mod'ate	SSW	Cloudy	
Richmond, Amoy, China.	30.19‡	766.8‡	.....	.....	57	13.9	75	ESE	.....	.....	3	.....	0	.....	.....	.....	.....	Smooth	.....	Clear	
Rio Bravo, Brownsville, Texas. †	29.92‡	760.0‡	.....	.....	74	23.3	90	SSE	2	0.9	.....	.....	5	.....	S;SSE	0	0	.....	.....	Fair	
Santee, Annapolis, Md	30.28‡	769.1‡	.....	.....	48	8.9	100	SE	.....	.....	2	.....	10	.....	.....	0.27	6.9	.....	.....	Misty	
Shenandoah, S 28° 22′, W. 44° 42′	29.96‡	761.0‡	.....	.....	72	22.2	76	E	.....	.....	3	.....	8	.....	.....	.....	.....	Long	SSE	Cloudy	
St. Louis, League Island, Pa.	30.30‡	769.6‡	.....	.....	46	7.8	92	ESE	3	1.3	.....	.....	10	.....	.....	0.01	0.3	.....	.....	Misty	
Tuscarora, Acapulco. exico.	29.89+	759.2‡	.....	.....	77	25.0	86	N	.....	.....	1	.....	0	.....	.....	0	0	Smooth	.....	Clear	
Vandalia, Navy Yard, Brooklyn, N.Y.	30.38‡	771.6‡	.....	.....	45	7.2	92	NE	.....	.....	1	.....	10	.....	NE	.....	.....	.....	.....	Cloudy	
Wabash, Boston, Mass.	30.41‡	772.4‡	.....	.....	33	0.6	70	Calm	0	0	.....	.....	8	.....	.....	0.03	0.8	.....	.....	Cloudy	
Wachusett, S. 23° —′, W 42° —′	30.41‡	772.4‡	.....	.....	78	25.6	86	N	.....	.....	2	.....	5	.....	N	.....	.....	Smooth	N	Fair	
Wyoming, Gibraltar, Mediterranean	30.18‡	766.6‡	.....	.....	58	14.4	53	ENE	.....	.....	4-6	.....	10	.....	E	.....	.....	Mod'ate	E	Cloudy	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		Character.	Direction from—		
S. S. Samaria																		Capt. T. Roberts.	

NOTE—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																		Capt. Cobb.	
S. S. City of New York																		Capt. Seabury.	
S. S. City of Panama																		Capt. Berry.	
S. S. City of Peking																		Capt. Dearborn.	
S. S. City of Sydney																		L. B. Walls.	
S. S. City of Tokio, Capt. Maury																		Capt. R. Searle.	
S. S. Colima																		Capt. Whitebury.	
S. S. Costa Rica																		W. House & R. Lawless.	
S. S. Dakota, Capt. H. G. Morse																		Capt. Connolly.	
S. S. Georgia																		F. W. Hart, 1st Officer.	
S. S. Granada, Capt. Austin																		Capt. A. Fuller.	
S. S. Wilmington																		R. C. Ghest, 1st Officer.	
S. S. Zealandia, Sydney, New South Wales. †		29.78‡	756.4‡				SW			1			E				Cloudy		

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																		Capt. J. W. Kennedy.	
S. S. Baltic																		Capt. H. Perry.	
S. S. Britannic																		Capt. B. Gleadell.	
S. S. Celtic																		Capt. C. W. Kennedy.	
S. S. Germanic																			

NOTE.—The orginals give the barometer as read off; wind-force by the scale 0 to 12; for the Brittanic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer Yokohama, Japan †		30.00‡	762.0‡	48	8.9	78	S			2		2		SE		Smooth		D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson N. 39° 50′, W. 137° 56′ †		30.34‡	770 6‡	60	15.6		SW			4		11		SW	Slight	Rough	WSW	D. clouds	J. A. Thompson, C. E.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																		Capt. H. Andressen.	
S. S. Berlin																		Capt. T. H. Lamke.	
S. S. Braunschweig																		Capt. C. Undutsch.	
S. S. Leipzig, Capt. F. Pfeiffer. N. 40° 11′, W. 18° 34′		29.79‡	756.7‡				S			6		10		SSE		Cross	SSE	Drizzling	S. Rielus, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 39° 48′, W. 70° 09′		30.42‡	772.7‡				E			4		5		SE		3	ENE	Cloudy?	Capt G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa.		30.31‡	769.9‡	45	7.2		ENE			2		6		NE	Light			Fair	Capt. R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer
S. S. Pennsylvania																			Capt. Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents.																			
S. S. Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

NOTE.—The originals give the barometer as read off; do not distinguish between upper and lower clouds; sea-swell in general terms, as published. ‡Corrections for temperature, instrumental error and elevation applied at this office.

ALLAN LINE MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. *The error of the barometer is not known. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES—Miscellaneous.																			
Furnished by the co-operation of the Observers named.																			
Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Barkentine "Carrie Heckle" N. 35° 50', W. 58° 36'... *		30.23‡	767.8‡	65	18.3		NE			5		2		NE	0	Smooth	NE	Fair	B. F. Woodbury.
Brigantine "George" of Halifax. N. 27° 10', W. 70° 50'... †		30.08‡	764.0‡	80	26.7		NE			5		2		NE		Moderate	ENE	Clear	N. B. Foss.
Schooner Harry and Fred																			Capt. George Gardner.
Haytian																			
§ Iron Cross																			Capt. W. Randall.
Nordenskfold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

* NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time. *Instrumental error not known.

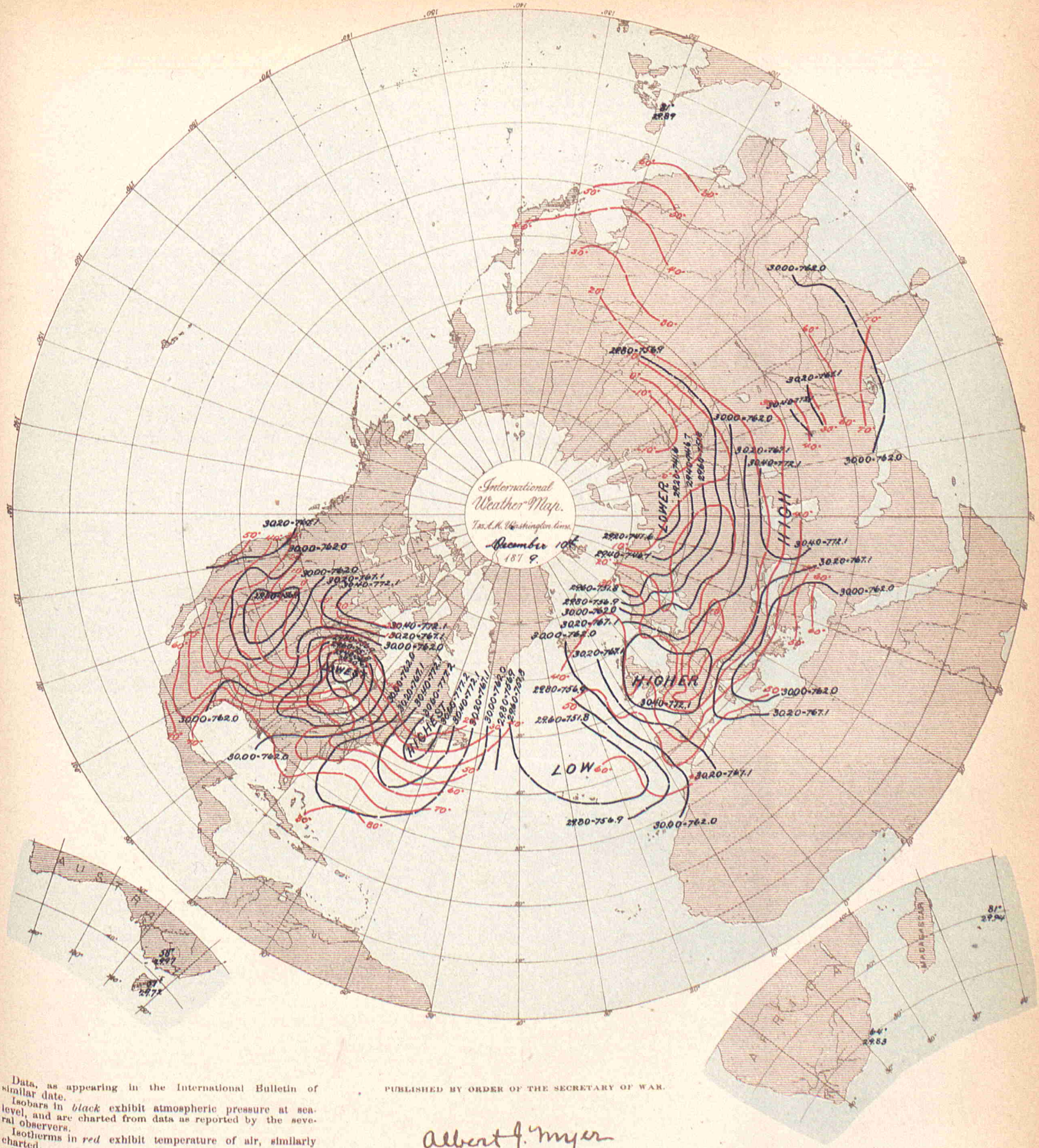
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg'd.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 11, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time
1:57 P. M. CAPE TOWN, C. G. H. mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.13	765.3	66.9	19.4	84	E	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	
Nemours	.....	.....	30.31	769.9	57.9	14.4	78	WNW	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	Kesxuche.
Algiers	.....	.....	30.32	770.0	52.5	11.4	50	NE	.....	.....	1	.....	0	.....	.....	Inap.	Inap.	Clear	Touriliere.
La Calle	.....	.....	30.24	768.2	52.7	11.5	64	WNW	.....	.....	6	.....	10	.....	.....	0.157	4.0	Covered	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.28	769.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Herbin.
Tebessa	.....	.....	30.28	769.2	42.4	5.8	39	SW	.....	.....	2	.....	0	.....	.....	0	0	Clear	Watrin.
Geriville	.....	.....	.....	.....	50.0	10.0	40	Calm	.....	.....	0	.....	0	.....	.....	0	0	Clear	Brugniuax.
Laghouat	.....	.....	30.31	769.8	47.8	8.8	30	SW	.....	.....	3	.....	0	.....	.....	6	0	Clear.	Bertrand.
Biskra	.....	.....	30.25	768.4	54.3	12.4	63	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount of cloudiness by the scale 0-4; no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.86	758.4	30.48	774.1	9.1	—12.7	88	N	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.50	749.4	30.34	770.6	16.9	— 8.4	85	W	8.9	4.0	.....	.....	9	.....	.....	0.004	0.1	.....	Dr. Wierzbicki.
Eperies	29.34	745.1	30.31	769 8	12.9	—10.6	66	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	Julius Mikolik.
Gratz	29.07	738.4	30.45	773.4	15.4	— 9.2	54	S	.....	.....	1	.....	0	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.76	730.4	30.31	769.8	19.4	— 7.0	73	E	.....	.....	2	.....	2	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	29.07	738.4	30.58	776.6	8.2	—13.2	92	Calm	.....	.....	0	.....	5	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	29.13	740 0	30.21	767.4	16.0	— 8.9	94	SW	.....	.....	1	.....	10	.....	.....	0.016	0.4	.....	Dr. T. Stanecki.
Pola	30.19	766.8	30.31	769.8	35 4	1.9	84	ENE	.....	.....	2	.....	0	.....	.....	0	0	.....	I.R.Hydrographic Office
Szathmar	29.87	758.7	30.39	771.8	10.0	—12.2	93	N	.....	.....	2	.....	0	.....	.....	0	0	.....	Pet. Pancsics, S. J.
Szegedin	30.06	763.4	30.36	771.2	15.1	— 9.4	87	Calm	.....	.....	0	.....	5	.....	.....	0	0	.....	Karl Stancel.
Trieste	30.23	767.7	30.33	770.3	34.7	1.6	72	ENE	.....	.....	1	.....	0	.....	.....	0	0	.....	P. Busin.
Vienna	29.62	752.4	30.37	771.4	18.0	— 7.8	69	W	.....	.....	6	.....	9	.....	.....	0	0	.....	I.R.Central Met. Ob'sy
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 337 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C., as Second-Class Matter

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.37	771.4	30.47	773.9	38.0	3.3		W	8	3.6			5			0	0	Blue sky	W. Boswell.
Ardrossan	30.52	775.2	30.54	775.7	36	2.2		Calm			0		8					Misty	Wm. McNeil & G. Carrick
Armagh, (Observatory)	30.32	770.1	30.58	776.7	24.7	— 4.1		SW	2	0.9			2					Foggy	S. Call.
Bidston (Liverpool Obs)			30.56	776.2	37.4	3.0		SSE	4	1.8			10					Misty	John Harroup.
Bolton (Sharples)	29.99	761.7	30.53	775.4	32.7	0.4		N	6	2.7			10					Overcast	Thomas Mackereth.
Bradford, Yorkshire	30.12	765.0	30.51	774.9	33.6	0.9		N			3		7			0	0	D. clouds	J McLandsborough.
Bridgetown, Barbadoes	29.87	758.7	29.90	759.4	78	25.6		NE			3		6						Pvt. G. Surgener, A.H.C.
Cambridge (Observatory)	30.48	774.2	30.58	776.7	32.0	0.0		S			1		1					D. clouds	H. Todd.
Cardington			30.47	773.9	30.0	— 1.1		W			0–1		2					Blue sky	John McLaren.
Chatham (School M. E.)	30.48	774.2	30.62	777.7	36.2	2.3		Calm			0		0					Blue sky	J. Carmell, Sapper, R.E.
Donaghadee	30.51	774.9	30.56	776.2	40	4.4		SW			2		8					D. clouds	J. Mac Gowan.
Dover	30.54	775.7	30.57	776.5	36	2.2		NW			2		1					¼ clouded	J. Costello.
Falmouth (Observatory)	30.33	770.4	30.57	776.5	43.5	6.4		SE			4		10					Overcast	The Staff.
Fort Napier, Natal	27.48	698.0	30.55	776.0	84.7	29.3		NE			1		0					Blue sky	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone																			
Galway (Queen's College)			30.44	773.2	36	2.2		E			1		0					Blue sky	Prof. A. H. Curtis.
Gibraltar, Mediterranean																			Sergt. Wm. Allen, A. H.
Glasgow, (Observatory)	30.31	769.9	30.52	775.2	32.0	0.0		E			1		0					Foggy	D. G. Maclean. [C.
Great Yarmouth	30.53	775.4	30.54	775.7	29	— 1.7		WNW			2		3					Misty	G. T. Watson.
Greenwich (Royal Obs'y)	30.42	772.7	30.61	777.5	32.3	0.2		SW			1		0					Foggy	The Staff, for G. B. Airy.
Guernsey	30.36	771.1	30.59	777.0	36.5	2.5		ESE			2		0					Blue sky	Dr. S. E. Hoskins, F.R.S.
Helston	30.67	779.0	30.80	782.3	42	5.6		SE			1		6k			0	0	Gloomy	M. P. Moyle.
Holyhead	30.49	774.4	30.56	776.2	42	5.6		SSW			1		10					Misty	John Tilston.
Jersey	30.33	770.4	30.64	778.2	34.8	1.6		SSE			2		0					Blue sky	J. Fisher.
Kew (Observatory)	30.57	776.5	30.61	777.5	27.4	— 2.6		NE	2	0.9								Misty	The Met'g'l Office.
Leicester (Museum)	30.30	769.6	30.57	776.5	29.0	— 1.7		SW			1		10					Misty	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	30.04	763.0	30.12	765.0	53	11.7		NW			2		3k					Blue sky	A. King.
Nairn	30.35	770.9	30.45	773.4	39	3.9		W			1		5					½ clouded	W. D. Penny.
Nassau, Bahamas			30.04	763.0	75.5	24.2		NE			1		7					D. clouds	C. S. Duncombe.
Nottingham (Observatory)	30.38	771.6	30.59	777.0	26.0	— 3.3		N			1		7k		N	0	0	D. clouds	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	30.02	762.5	30.58	776.7	33.0	0.6		WSW			1		10					Foggy	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)			30.50	774.7	25	— 3.9		Calm			0		0					Foggy	H. E. Bellamy.
Plymouth	30.49	774.4	30.57	776.5	38.6	3.7		E			1		10					Misty	John Merrifield.
Prince Town																			W. H. Tooker.
*Roche's Point	30.42	772.9	30.50	774.7	46	7.8		SSE			5		8					¾ clouded	Wm. Kennedy.
St. Ann's Head	30.40	772.1	30.57	776.5	43	6.1		SSE			1		2					Blue sky	John C. Walker.
Sandwick Manse, Orkneys			30.41	772.4	43.8	6.6		W	16	7.2			2					Showery	Rev. C. Clouston, L.L.D.
Scutari Cemetery, Turkey	30.07	763.8	30.14	765.5	37.8	3.2		NNE			2		10					Drizzling	Serg't W. H. Lane.
Sheffield	30.30	769.6	30.60	777.2	36.6	2.6		W			1		2			0	0	Blue sky	W. F. Cooper.
Silloth Rectory	30.51	774.9	30.54	775.7	27.9	— 1.2	65	Calm			0		10			0	0	Overcast	Francis Redford, A. M.
Stonyhurst (Observatory)			30.54	775.7	29.8	— 1.2		NNE	3	1.3			10					Misty	Rev. S. J. Perry.
Stratfield, Turgiss	30.39	771.9	30.62	777.7	29.2	— 1.6		NE			0–1		5					D. clouds	Rev. C. H. Griffith, F.M.S.
Truro (Royal Institution)	30.46	773.7	30.55	776.0	42	5.6		SE			4		10					Gloomy	W. Newcombe.
Valencia Observatory)	30.42	772.7	30.45	773.4	46.9	8.3		SE	24	10.7			6					D. clouds	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)																			The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.32	643.1			93	33.9		WNW					0						Robert Burnet.
Constable, Cape Colony	26.68	677.7			78.9	26.1		W					0						Francis Abbott, F.R.A.S.
Hobart Town, Tasmania			29.92	760.0	57.0	13.9	81	SW			3		7k			0.04	1.0		Andrew Gibb.
Leith (Restalrig Park) Sc'tl'd			30.52	775.7	35.5	1.9		NW			1		0			0	0		C. Meldrum.
Mauritius (Observatory)	29.78	756.4	29.96	761.1	81.3	27.4	48	NE	10.5	4.7		0	1		ENE	0.28	7.1	Fine	R. L. J. Ellery.
Melbourne (Observatory)	29.96	761.0	30.05	763.3	56.7	13.7	74	SSE	6	2.7			6			0	0	Fine	J. Youngclause.
Monach Lt-house, Hebrides			30.47	773.9	47	8.3		SSW			4		10			0	0		
North Unst, Shetland Is			30.30	769.6				NW			4	4	5	Calm		0	0		

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters; Prince Town, 1,400 feet, or 427 meters; Colesberg Bridge and Constable, unknown.

British Marine Series. Vessels.																Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
H. M. S. Alert, Tom Bay, Patagonia			29.36‡	745.7‡	51.5	10.8		WNW			2		3					D. clouds	Capt. J. P. Maclear, R.N.
H. M. Sloop Gannet, S. 18° 28′, W. 71° 21′			29.85‡	758.2‡	69	20.6		Calm			0		4					D. clouds	Commander E. Bourke, R.N.
H. M. S. Magpie, Tunghsa Lt. Vl. near Shanghai, China			30.26‡	768.6‡	48.5	9.2		ENE			1		0					Blue sky	Capt. R. H. Napier, R.N.
Brig Alliance, N. 47° 40′, W. 29° 50′			29.35‡	745.5‡	58	14.4		ESE			3		8					Misty	Capt. W. Scott.
Barque Belle-Isle, N. 30° 10′, W. 73° 05′			30.22	767.6	74	23.3		SE			5		4			2	NE	D. clouds	Capt. A. J. Brown
City of Cashmere, N. 8° 32′, W. 124° 05′			29.89‡	759.2‡	75.4	24.1		E			2		5					D. clouds	Capt. W. M. Grieve.
Barque Fedalma, N. 18° 00′, W. 63° 10′			29.94	760.5	79	26.1		NE			6					4	NE	Squally	Capt. H. L. Fox.
S. S. Iron Cross, N. 21° 50′, W. 80° 00′			30.05	763.3	78	25.6		ESE			5		4			4	ENE	Misty	Capt. W. Randall.
S. S. Peruvian, N. 47° 40′, W. 50° 50′			30.20	767.1	39	3.9		SW			3		10			4	NNW	Overcast	Capt. W. H. Smith.
S. S. Strathleven, S. 36° 30′, E. 126° 50′			29.87‡	758.7‡	61.5	16.4		NE			6		5					D. clouds	Capt. C. W. Pearson.
Light House Tender Richmond, N. 25° 20′, W. 77° 40′			30.09	764.3	76	24.4		ESE			4		3			4	E	D. clouds	Capt. W. H. Stewart.
S. S. Gordon Castle																			Capt. Wm. Waring.
German Brig "W. von Freeden"																			Capt. H. V. Freeden.
S. S. Ethiopia																			Capt. Campbell.
S. S. Sunbeam																			Capt. C. M. Dobson.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected.
‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.18	665.0	29.90	759.4	64.8	18.2	93	SE	.....	.....	1	1c	2d	.....	SE	0	0	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.98	761.5	30.03	762.7	34.9	1.6	94	NW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	
Fanöe	30.17	766.2	30.19	766.7	38.1	3.4	93	WNW	.....	.....	4	.....	9	.....	.....	.....	.....	.....	
Godthaab (Greenland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Stykkisholm (Iceland)	29.80	756.8	29.84	757.9	47.1	8.4	77	S	.....	.....	8	.....	10	.....	.....	.....	.....	Raining	
Thorshavn (Faröe)	30.27	768.9	30.31	769.8	45.1	7.3	90	W	.....	.....	2	.....	10	.....	.....	.....	.....	Raining	
Vestervig	30.01	762.3	30.12	765.1	39.9	4.4	92	NW	.....	.....	6	.....	1	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	30.07	763.7	30.62	777.7	20.3 — 6.5		89	NE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Collignon, Director.
Amiens, Normal School	30.39	771.8	30.51	774.9	25.2 — 3.8		74	S	.....	.....	1	.....	10	.....	Calm	0	0	Covered	Vaillant, Director.
Arras, Engin'r School	30.33	770.4	30.60	777.3	22.6 — 5.2		100	NW	.....	.....	2	.....	8	.....	NW	0	0	.....	Klein, Commandant.
Avignon, Normal School	30.34	770.7	30.42	772.7	28.0 — 2.2		63	NNW	.....	.....	6	.....	0	.....	.....	0	0	Very clear	Giraud, Director.
Bar-sur-Seine	30.04	762.9	30.65	778.6	18.0 — 7.8		.....	ESE	.....	.....	1	.....	10	.....	.....	0	0	Covered	C. Saillard, Director.
Beauvais, Normal School	30.35	770.8	30.64	778.2	23.9 — 4.5		95	SE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Frère Eugene Marie.
Besançon, Normal School	29.62	752.4	30.60	777.2	20.3 — 6.5		.....	NNE	.....	.....	1	.....	0	.....	.....	0	0	Clear.	A. Carré, Director.
Bourg-en-Bresse, N. School	29.71	754.5	30.62	777.7	15.8 — 9		100	N	.....	.....	3	.....	10n	N	N	0	0	Covered	Marlot, Diretor.
Bourges, Normal School	29.99	761.7	30.60	777.1	19.4 — 7		78	NE	.....	.....	3	.....	10n	.....	NE	0	0	Covered	M. Gence, Director.
Brest, Naval Observatory	30.32	770.0	30.56	776.2	42.4	5.8	58	SE	.....	.....	1	.....	0	.....	.....	0	0	.....	Ch. de Rermaree, Dir.
Caen, Normal School	30.53	775.5	30.61	777.4	36.3	2.4	96	S	.....	.....	1	.....	.....	.....	.....	0	0	.....	M. Bietrin, Director.
Carcassonne, N. School	29.99	761.7	30.43	772.9	35.4	1.9	67	WSW	.....	.....	2	.....	0	.....	.....	0	0	Clear.	September, Director.
Châlons-sur-Marne, N. Sch'l	30.34	770.7	30.69	779.6	21.6 — 5.8		.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Covered	Jadot, Director.
Chartres, Normal School	30.01	762.3	30.63	778.1	23.0 — 5		61	NE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Vergier, Director.
Clermont-Fd, Puy de D. Obs	29.11	739.3	30.59	777.0	20.8 — 6.2		97	NW	.....	.....	1	.....	0	.....	.....	0	0	Misty	Alluard, Director.
Commercy, Normal School	29.67	753.6	30.63	777.9	17.2 — 8.2		.....	NNE	.....	.....	1	.....	10	.....	.....	0	0	Misty	Dr. Coullet, Director.
Commune de Gréasque*	29.21	741.8	30.35	770.8	36.7	2.6	53	NW	.....	.....	2	.....	2	.....	SW	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.74	755.3	30.58	776.7	22.3 — 5.4		.....	E	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.37	771.3	30.60	777.2	28.4 — 2.0		75	ENE	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Mouillot, Director.
Le Mans, Normal School	30.31	769.9	30.65	778.4	24.8 — 4		63	SE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.61	752.2	30.58	776.6	12.7 —10.7		67	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear.	A. Baudry, Director
Lorient, Naval Observatory	30.49	774.4	30.60	777.2	31.3 — 0.4		81	E	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.92	760.0	30.60	777.3	18.3 — 7.6		83	N	.....	.....	1	.....	10	.....	.....	.....	.....	Snowing	Ch. André, Director
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	30.02	762.4	30.30	769.5	40.3	4.6	30	NW	.....	.....	3–4	.....	0	.....	.....	0	0	Clear.	E. Stephan, Director.
Mirecourt, Normal School	29.47	748.6	30.61	777.5	16.9 — 8.4		94	N	.....	.....	3	.....	n	.....	N	0	0	.....	Barbier, Director.
Mont-Louis	25.03	635.8	30.35	770.8	28.4 — 2.0		40	E	11.2	5.0	.....	.....	0	.....	.....	0	0	.....	M. Cave.
Nice	30.25	768.4	30.28	769.2	48.2	9.0	48	SE	.....	.....	2	.....	1	E	SE	0	0	Clear.	M. Boissière, Director.
Nismes, Normal School	30.18	766.6	30.39	772.0	29.1 — 1.6		.....	N	.....	.....	3	.....	0	.....	.....	0	0	Clear.	M. Boyer, Director.
Paris, Montsouris Obs'y	30.35	770.8	.....	.....	21.4 — 5.9		95	Calm	.....	.....	0	.....	10	.....	.....	0.016	0.4	.....	Marié Davy, Director.
Perpignan	30.28	769.2	30.39	772.0	41.0	5.0	34	N	11.2	5.0	.....	.....	1	ENE	.....	0	0	.....	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.54	572.5	.....	.....	24.6 — 4.1		.....	.....	.....	.....	.....	.....	.....	.....	W	0	0	.....	Gen'l de Nansouty
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Privas, Normal School	29.34	745.3	30.49	774.5	25.7 — 3.5		.....	N	.....	.....	1	.....	1	N	N	0	0	Clear.	M. Tallieu
Puy de Dome (Summit) Obs	25.30	642.6	.....	.....	15.1 — 9.4		81	NE	.....	.....	2	.....	2	.....	.....	0.071	1.8	Rain at distance	Alluard, Director.
Rochefort, Naval Obs'y	30.50	774.7	30.53	775.5	32.9	0.5	94	NNE	.....	.....	6	.....	2	NNE	NNE	0	0	¼ covered	Lt E. Decante, Director
Rouen, Normal School	30.56	776.2	30.65	778.4	23.7 — 4.6		97	SE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.57	776.4	30.60	777.2	33.8	1.0	65	SE	.....	.....	2	.....	0	.....	.....	0	0	Clear.	Lt. Hercouet, Director
Saint Maur (near Paris)	30.48	774.1	30.64	778.3	22.1 — 5.5		100	SW	.....	.....	1	.....	10	.....	.....	0.028	0.7	Foggy	E. Renou, Director.
Tarbes, Normal School	29.33	744.9	30.47	773.8	37.4	3	50	WSW	.....	.....	1	.....	0	.....	.....	0	0	Clear.	T. Huguet, Director.
Toulouse, Observatory	29.76	755.8	30.49	774.4	27.5 — 2.5		.....	ESE	.....	.....	1	.....	0	.....	.....	0	0	Clear.	M. Julier Mercadier.
Tours	30.41	772.3	30.60	777.3	23.0 — 5.0		.....	ENE	.....	.....	1	.....	9	.....	E	0	0	Al. covered	Cousin-Marquet.
Versailles, Observatory	30.11	764.8	30.60	777.3	22.9 — 5.4		100	NW	.....	.....	1	.....	10	.....	.....	0	0	Covered	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.90	759.4	30.68	779.3	21.2 — 6		77	NNW	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.89	759.2	29.92	759.9	79.2	26.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.87	22.	.....	L'Abbé Marchési
Zi-Ka-Wei (near Shanghai)	30.23	767.7	30.25	768.3	38.8	3.8	93	ESE	3.1	1.4	.....	.....	0	.....	.....	0	0	Clear.	Marc Dechevrens.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fal as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in gene al terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.60	751.7	30.45	773.4	15.8	— 9.0	75	SW	.....	.....	4	.....	10ks	W	.....	0.039	1.0	Snowing.....	Prof. Dr. Hoh.
Berlin	29.92	760.0	30.10	764.6	31.6	— 0.2	100	W	.....	.....	5	.....	10	.....	.....	0.173	4.4	.....	Prof. Dr. Arndt.
Breslau	29.66	753.3	30.19	766.9	23.7	— 4.6	91	SW	.....	.....	0	.....	10	.....	.....	.....	.....	Snowing	Royal University Obs'y
Carlsruhe	30.13	765.4	30.61	777.5	17.4	— 8.1	98	SW	.....	.....	2	.....	10	.....	.....	0.039	1.0	Snowing.....	Albert Senz.
Cassel	29.88	758.9	30.50	774.6	19.4	— 7.0	90	SSE	.....	.....	4	.....	10	.....	.....	0.017	0.42	Snowing.....	Dr. H. Möhl.
Emden	.....	.....	30.32	770.1	36.5	2.5	93	NW	.....	.....	2	.....	9	.....	.....	0	0	.....	Prof. Dr. Prestel.
Frankfort on the Main	30.23	767.9	30.63	777.9	18.9	— 7.3	81	SSW	.....	.....	1	.....	10	.....	.....	0.063	1.6	Snowing.....	Physical Society.
Friedrichshafen	29.05	737.9	30.63	778.1	13.3	—10.4	70	N	.....	.....	2	.....	4	NNE	.....	0.091	2.3	.....	Chief Telegrapher Wilhelm.
Hamburg	30.16	766.0	30.23	767.8	36.9	2.7	94	WNW	.....	.....	5	.....	10	.....	.....	0.075	1.9	.....	Capt. P. F. A. Hegerman.
Kiel	30.15	765.8	30.17	766.2	37.4	3.0	95	WNW	.....	.....	5	.....	10	.....	.....	0	0	.....	Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.88	759.0	29.97	761.2	26.4	— 3.1	87	SW	.....	.....	3	.....	10	.....	.....	0	0	.....	Prof. E. Luther.
Köslin	.....	.....	29.97	761.2	30.6	— 0.8	.....	SW	.....	.....	2	.....	4	.....	.....	0	0	.....	H. Müller.
Leipsic Observatory	29.89	759.3	30.35	770.9	20.5	— 6.4	97	WSW	.....	.....	4	.....	10	.....	.....	0.024	0.6	Snow-drift..	Prof. Dr. Bruhns, Privy Counselor
Magdeburg	30.03	762.7	30.26	768.5	29.5	— 1.4	96	W	.....	.....	6	.....	10s	W	.....	0.079	2.0	Rain & snow	Dr. Assmann.
Memel	29.83	757.7	29.88	758.9	33.6	0.9	82	W	.....	.....	4	.....	10n	.....	.....	.....	.....	Snowing.....	Reinbrecht & Issermann.
Munich (München)	28.59	726.3	30.48	774.3	12.7	—10.7	85	SW	.....	.....	2	.....	7	.....	.....	0	0	Light fog....	Dr. C. Lang.
Neufahrwasser	29.95	760.7	29.97	761.1	28.8	— 1.8	82	SW	.....	.....	3	.....	10	.....	.....	0.008	0.2	.....	A. Lothes.
Neustadt (Palatinate)	29.99	761.7	30.52	775.3	20.7	— 6.3	.....	SE	.....	.....	1	.....	10	.....	.....	0	0	.....	Reallehrer Dicknether
Posen	29.77	756.1	30.08	763.9	26.1	— 3.3	97	W	.....	.....	7	.....	10	.....	.....	0.067	1.7	Snowing.....	Prof. Dr. Magener.
Strassburg (in Alsace)	30.06	763.4	30.67	779.0	16.3	— 8.7	91	SW	.....	.....	2	.....	10	.....	.....	0.075	1.89	.....	Imp. University Observatory.
Stuttgart	29.56	750.7	30.59	777.0	16.9	— 8.4	83	SW	.....	.....	1	.....	2	N	.....	0.134	3.4	.....	Prof. Dr. Schoder.
Weissenburg (Bavaria)	28.93	734.8	30.52	775.1	13.5	—10.3	84	W	.....	.....	1	.....	10	.....	.....	0	0	Foggy	Reallehrer J. Hopfner
Wustrow	30.04	763.0	30.07	763.6	36.0	2.2	93	WNW	.....	.....	5	.....	10s	.....	.....	0	0	.....	E. Schütz, Director.
German Naval Series.																			
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NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.68	753.9	30.09	764.2	43.2	6.2	.....	NE	.....	.....	2.5	.....	10	.....	.....	.....	.....	Covered.....	Dr. J. F. J. Schmidt.
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NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	30.01	762.2	30.06	763.5	72.6	22.6	69	WSW	5	2.2	.....	.....	0	.....	.....	0	0	Blue sky.....	
Deesa	29.56	750.8	30.05	763.2	69.5	20.8	14	NNW	9	4.0	.....	.....	0	.....	.....	0	0	Blue sky.....	
Bombay	29.88	759.0	29.92	760.0	73.6	23.1	53	NNW	23	10.3	.....	.....	0	.....	.....	0	0	Blue sky.....	
Poona (Yerrowda)	28.06	712.8	29.94	760.5	72.8	22.7	13	NE	12	5.4	.....	.....	0	.....	.....	0	0	Blue sky.....	
Belgaum	27.36	695.0	29.92	759.8	73.3	22.9	34	ENE	1	0.4	.....	.....	1	S	.....	0	0	D. clouds.....	
Lahore	29.27	743.4	30.05	763.3	57.6	14.2	42	Calm	0.3	0.1	.....	.....	0	.....	.....	0	0	Blue sky.....	
Roorkee	29.08	738.5	30.02	762.5	58.8	14.9	33	SW	1.7	0.8	.....	.....	0	.....	.....	0	0	Blue sky.....	
Agra	29.45	748.1	30.05	763.2	60.3	15.7	42	N	2.8	1.2	.....	.....	0	.....	.....	0	0	.....	
Nagpur	28.91	734.2	29.97	761.3	71.0	21.7	44	NE	2.8	1.2	.....	.....	0	.....	.....	0	0	Blue sky.....	
Jubbulpore	28.60	726.5	30.00	762.0	69.6	20.9	29	NE	1.5	0.7	.....	.....	0	.....	.....	0	0	Blue sky.....	
Lucknow	29.66	753.3	30.05	763.3	61.5	16.4	38	Calm	0.6	0.3	.....	.....	0	.....	.....	0	0	Blue sky.....	
Allahabad	29.70	754.2	30.02	762.6	58.8	14.9	75	Calm	1.1	0.5	.....	.....	0	.....	.....	0	0	Blue sky.....	
Patna	29.81	757.2	30.00	761.9	77.7	25.4	24	W	0.4	0.2	.....	.....	2	W	W	0	0	.....	
Hazaribagh	27.92	709.0	30.00	762.0	61.6	16.4	57	NW	3.2	1.4	.....	.....	0	.....	.....	0	0	Blue sky.....	
Cuttack	29.89	759.1	29.97	761.3	70.1	21.2	88	ENE	5.0	2.2	.....	.....	10	.....	.....	1.07	27.2	Overcast.....	
Calcutta (Alipore)	29.94	760.4	29.96	761.0	65.8	18.8	89	Calm	.....	.....	.....	.....	1	.....	.....	0	0	Blue sky.....	
Goalpara	29.55	750.4	29.95	760.6	69.9	21.1	65	Calm	2.3	1.0	.....	.....	0	.....	.....	0	0	Blue sky.....	
Chittagong	29.85	758.3	29.95	760.7	67.8	19.9	95	Calm	3.5	1.6	.....	.....	8	.....	.....	0.03	0.8	Misty.....	
Sibsagar	29.61	752.1	29.96	760.9	66.7	19.3	76	ENE	1.0	0.4	.....	.....	0	.....	.....	0	0	Blue sky.....	
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NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,361 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	29.93	760.1	30.37	771.3	27.1	— 2.7	46	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.82	757.5	30.37	771.5	25.0	— 3.9	81	W	.....	.....	1	.....	1	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	30.26	768.5	30.37	771.5	26.6	— 3.0	55	N	0.7	0.3	.....	.....	0	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.41	746.9	30.38	771.7	27.0	— 2.8	76	ESE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	30.11	764.7	30.31	769.8	36.3	2.4	34	NE	11.2	5.0	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.31	719.1	30.34	770.7	27.1	— 2.7	45	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.28	769.1	30.33	770.4	29.7	- 1.3	53	W	17.8	7.5	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	30.06	763.4	30.33	770.3	35.2	1.8	50	NE	.....	.....	2	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	30.19	766.8	30.28	769.1	37.6	3.1	46	NE	8.7	3.9	.....	.....	0	.....	.....	0	0	.....	Prof. P. Monte.
Rome	30.02	762.6	30.21	767.3	42.3	5.7	45	N	7.4	3.3	.....	.....	9	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.89	759.2	30.15	765.9	41.9	5.5	77	NNW	8.7	3.9	.....	.....	3	NW	.....	0.031	0.8	.....	Prof. C. De Giorgi.
Cosenza	29.24	742.7	30.17	766.4	37.0	2.8	80	SE	0	0	.....	.....	3	.....	.....	0	6	.....	Prof. D. Conti.
Cagliari	29.91	759.8	30.15	765.9	45.9	7.7	35	SE	.....	.....	2	.....	10	W	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.87	758.8	30.14	765.5	45.9	7.7	73	W	2.5	1.1	.....	.....	10	W	.....	0.803	20.4	.....	Prof. G. Ciacciatore.
Syracuse	30.05	763.2	30.12	765.1	46.4	8.0	49	WNW	3.8	1.7	.....	.....	4	WNW	.....	0	0	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.65	753.0	30.19	766.9	40.5	4.7	55	N	4.9	2.2	.....	.....	3	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE—The orignals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.15	765.8	30.17	766.3	42.0	5.6	87	NNE	9.2	4.1	.....	0	0	.....	.....	0	0	Clear.	K. Sasaki.
Nagasaki, I. M. Obs'y	29.96	761.0	30.17	766.3	42.0	5.6	92	WNW	0.4	0.2	.....	.....	0	.....	.....	0	0	Clear	S. Takehayashi.
Tokei, (Yeddo) Observatory	30.12	765.0	30.19	766.8	41.9	5.5	84	WSW	6.3	2.8	.....	0	0	.....	.....	0	0	Clear	The Staff.
Wakayama	30.11	764.8	30.16	766.0	42.1	5.6	86	E	3.8	1.7	.....	.....	0	.....	.....	0	0	Clear	

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	25.03	635.7	30.14	765.6	48.2	9.0	59	SW	.....	.....	1	.....	7	.....	SE	0	0	Cloudy	Prof. L. Perez.
Leon	24.43	620.5	30.17	766.2	55.0	12.8	80	N	.....	.....	1	2c	3k	NW	.....	0	0	½ clouded	Prof. M. Leal.
Mazatlan	29.71	754.7	29.98	761.4	64.0	17.8	89	NW	.....	.....	2	1c	0	.....	.....	0	0	Clear.	I. Guerrero, C. E.
Mexico, Central Observatory	23.02	584.8	30.13	765.3	47.3	8.5	74	Calm	0	0	.....	0	0	.....	.....	0	0	Very clear	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	53.2	11.8	61	Calm	.....	.....	0	2c	6k	SW	W	0	0	Cloudy	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.39	594.0	30.29	769.1	44.6	7.0	39	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.15	613.3	30.20	767.1	50.4	10.2	66	SW	.....	.....	1	3	6	W	E	0	0	Cloudy	G. Barroeta, M. D.
Tlacotalpam	29.86	758.4	29.87	758.7	74.1	23.4	94	W	.....	.....	0	1	5	NE	NE	0	0	Threatening	Prof. M. M. Chàzaro
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell
Zacatecas	22.51	571.7	30.19	766.8	54.5	12.5	57	Calm	0	0	.....	8c	0	SW	.....	0	0	Cloudy	J. C. Castrillon

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column; the instrumental correction —0.88 mm., or —0.035 inch, has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Groningen	30.56	776.3	30.56	776.3	36.7	2.6	.....	WNW	.....	.....	2	.....	.....	.....	.....	0.079	2.0	.....	.....
Helder	30.34	770.7	30.40	772.1	.....	.....	.....	NW	.....	.....	1	.....	.....	.....	.....	0	0	.....	.....
Hellevoetsluis	30.44	773.1	30.44	773.1	36.7	2.6	.....	NW	.....	.....	2	.....	.....	.....	.....	0	0	.....	.....
Utrecht	30.51	774.9	30.51	774.9	37.0	2.8	84	WNW	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	.....
.....	30.45	773.4	30.50	774.6	39.0	3.9	82	W	.....	.....	2	.....	2	.....	.....	0.035	0.9	Slightly cl'dy	H. v. d. Brink

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.32	770.0	30.37	771.4	39.6	4.2	97	NNW	2.5	1.1	.....	.....	10	.....	.....	0.803	20.4	.....	
Brönö	29.97	761.1	30.00	762.1	33.8	1.0	81	Calm	0	0	.....	.....	10	.....	.....	0	0	.....	
Christiana	29.93	760.1	30.08	764.1	23.0	— 5.0	88	ENE	0	0	.....	.....	8	.....	.....	0	0	Foggy	
Tromsö	29.92	759.9	29.96	761.0	19.0	— 7.2	84	SW	9	4	.....	.....	10	.....	.....	0	0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	29.56	750.8	29.76	755.7	61.2	16.2	89	SW	10.5	4.7	.....	.....	6	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.20	741.6	30.23	767.8	47.5	8.6	35	ENE	11.2	5.0	.....	.....	8	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	29.92	759.9	30.00	762.1	68.2	20.1	77	WNW	3.8	1.7	.....	.....	5	.....	.....	0.370	9.4	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.81	757.1	30.18	766.5	49.5	9.7	61	NNE	18.6	8.3	.....	.....	6	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	29.77	756.1	29.84	757.9	64.4	18.0	74	S	14.3	6.4	.....	.....	4	.....	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.																Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Rio Lima. Capt. S. C. da Silva Costa, Santiago, Cape Verd Ids.	.....	.....	.....	.....	77.7	25.4	.....	NE	.....	.....	3	.....	1	.....	NE	1	NE	Blue sky.....	A. D. de Fouseca Sarurento....
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Comd't.
Sado, Capt. J. A de Brito Capello, St. Paul de Loando	.....	.....	29.84	757.9	82.8	28.2	.....	W	.....	.....	3	.....	3	.....	W	.....	.....	D. clouds.....	Luiz Aprá, Q. M.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	.....	.....	30.28	769.0	66.4	19.1	.....	N	.....	.....	2	.....	0	.....	.....	1	.....	Blue sky.....	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sá da Bandeirá gives the barometer reduced tofreezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	29.87	758.7	29.89	759.2	1.8	—16.8	76	ENE	9	4	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Astrakhan	30.17	766.3	30.09	764.2	34.2	1.2	91	ESE	2	1	.....	.....	10	.....	.....	Blank	Blank	.....	Capt. Wisganow.
Barnaul	29.84	757.8	30.38	771.6	14.9	— 9.5	94	SW	13	6	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	29.64	752.8	29.89	759.3	23.9	— 4.5	90	SSE	4	2	.....	.....	8k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	28.98	736.0	30.01	762.2	16.7	— 8.5	76	W	13	6	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	29.68	753.8	29.96	761.0	22.5	— 5.3	92	SSW	7	3	.....	.....	10n	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.46	748.2	30.17	766.2	9.7	—12.4	96	NW	2	1	.....	.....	10ks;n	.....	.....	.....	.....	.....	Physical Cabinet.
Krotkowo*	29.61	752.0	30.11	764.9	18.5	— 7.5	72	WSW	9	4	.....	.....	10	.....	.....	.....	.....	Light snow.	Cand. Fatjanow.
Lugan	29.78	756.4	30.00	762.0	20.8	— 6.2	79	E	2	1	.....	.....	6	.....	.....	Blank	Blank	.....	Meteorological Obs
Moscow	29.43	747.6	30.02	762.4	22.5	— 5.3	78	W	7.8	3.5	.....	.....	10s	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	27.69	703.3	30.16	766.0	11.5	—11.4	90	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Nikolaiev	30.13	765.2	30.20	767.0	16.9	— 8.4	76	NNW	9	4	.....	2c	.....	.....	.....	.....	.....	Light clouds	Kurdakof.
Nukuss	30.13	765.4	30.38	771.6	37.8	3.2	50	ESE	11	5	.....	.....	8ks	.....	.....	.....	.....	.....	.....
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	29.99	761.8	30.13	765.4	32.7	0.4	85	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	29.85	758.3	29.87	758.7	23.0	— 5.0	93	SW	2	1	.....	.....	10n	.....	.....	.....	.....	.....	Central Physical Obs.
Tashkend	28.94	735.0	30.64	778.3	24.4	— 4.2	86	.....	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.78	729.8	30.21	767.2	39.4	4.1	85	Calm	0	0	.....	.....	10ks	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	29.67	753.5	30.12	765.0	22.1	— 5.5	90	W	18	8	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.57	751.0	30.02	762.5	18.1	— 7.7	86	S	4	2	.....	.....	10	.....	.....	.....	.....	Heavy clouds.	Astronomical Obs.
Yenisiesk	29.63	752.6	29.94	760.4	11.5	—11.4	87	SW	16	7	.....	.....	10	.....	.....	.....	.....	Snowing.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	30.20	767.1	30.31	769.8	43.2	6.2	46	NE	0.9	0.39	.....	.....	0	.....	.....	0	0	Clear.	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.34	770.5	30.39	772.0	39.9	4.4	63	SE	1.5	0.68	.....	0	0	.....	.....	0	0	Clear.	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.28	693.0	.....	.....	40.6	4.8	54	NE	2.7	1.19	.....	0	0	.....	.....	0	0	Clear.	Domingo Martin y Perez
Madrid, Royal Observatory	27.97	710.5	30.31	769.8	38.7	3.7	71	E	2.2	1.00	.....	0	0	.....	.....	0	0	Clear.	The Staff.
Murcia, Met. Obs'y	30.08	764.0	30.23	767.9	52.7	11.5	56	SW	0.9	0.42	.....	0	0	.....	.....	0	0	Clear.	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.27	743.5	30.17	766.3	58.5	14.7	29	E	13.7	6.1	.....	.....	1	.....	.....	0	0	Almost clear	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	29.95	760.7	30.02	762.4	71.2	21.8	89	E	2.9	1.3	.....	4c	0	SW	.....	Inap.	Inap.	Fair.....	Benito Vines S. J.
Manilla, Phillippine Islands	29.77	756.1	29.82	757.4	80.1	26.7	78	NE	4.5	2.0	.....	0	0	.....	.....	0	0	Fine.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.05	763.2	30.15	765.7	59.4	15.2	66	SE	16.4	7.3	.....	9	0	W	.....	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.91	759.7	30.00	762.0	77.4	25.2	83	NE	14.4	6.41	.....	4ks	4kn	NE	NE	0.157	4.00	Cloudy.....	Enrique Gadea, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From→	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.04	763.0	30.08	764.0	7.5	—13.6		N			2		9			0	0		
Umea	29.97	761.1	30.02	762.4	22.6	— 5.2	96	N			2		10			0.031	0.8		
Hernosand	29.89	759.2	29.94	760.5	27.7	— 2.4	83	NNW			4		10			0.071	1.8		
Stockholm	29.71	754.6	29.89	759.1	31.1	— 0.5	86	NNW			4		9			0	0		
Wisby	29.78	756.4	29.84	757.9	34.9	1.6	63	NNE			6		10			0	0		
Sub-Series.																			
Upsala	29.77	756.2	29.86	758.4	31.5	— 0.3	88	NNW	12.5	5.6			10			0.012	0.30		Nils Ekholm.
Naval Series.																			
Corvette Saga																			Capt. M. von Krusenstierna.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	29.04	737.6	30.58	776.6	20.1	— 6.6	73	ENE			3		1			0	0	Clear.	The Observatory.
Zurich	28.84	732.4	30.62	777.8	12.9	—10.6	85	W			1		1			0	0	Clear.	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +10.3 mm.; Thermometer, —9.4 Cent.; Relative Humidity, —7 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople			30.19	766.9	37.4	3.0	89	N	19	8.5			10		N			Snowing	The Observatory.
Fao, Persian Gulf																			
Valona			30.09	764.2	45.7	7.6		NW			1		2			0.98	25.	Slightly cl'dy	A. Bertrand.
Sub-series.																			
Beirut, (Syria) Lee Obs'y	29.91	759.7	30.02	762.6	68.5	20.3	75	N			1	9c				0	0	D. clouds.	Prof. C. V. A. van Dyck

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B.																			Hon. J. Ferguson.
Brockville, Ontario																			W. R. Bigg.
Chatham, N. B.	29.63	752.6	29.70	754.4	33.6	0.9	89	Calm	0	0			10n			0.24	6.1	Light rain	G. A. Blair.
Charlottetown, P. E. Island	29.80	756.9	29.85	758.2	38.1	3.4	99	SE	20	8.9			10n			0.35	8.9	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.51	749.5	29.71	754.6	38.6	3.7	75	SW			3		10s			0.01	0.3	Overcast	James Smith, M. A.
Dalhousie, N. B.	29.47	748.5	29.64	752.8	31	— 0.6		E			2		10n			0.40	10.2	Raining	H. A. Johnson.
Father Point, Quebec	29.37	746.0	29.39	746.5	41.5	5.3	87	S	36	16.1			10s			0.58	14.7	Threatening	J. McWilliams.
Fredericton, N. B.	29.64	752.8	29.70	754.4	45.1	7.3	96	SW	7	3.1			Mist			0.24	6.1	Foggy	Prof. Harrison.
Fort Garry, Manitoba	29.58	751.3	30.57	776.5	—20.0	—28.9	100	NW	8	3.6		0	0			0.10	2.5	Clear.	James Stewart.
Granton, Ontario	28.74	730.0	29.89	759.2	27	— 2.8		W			2		10n			0.20	5.1	Cloudy	James Grant.
Halifax, N. S.	29.83	757.7	29.96	761.0	43.3	6.3	99	S	10	4.5			Fog			0.08	2.0	Foggy	A. Allison.
Hamilton, Ontario	29.35	745.5	29.73	755.1	32.7	0.4	95	W			1	10cs	0	W		0	0	Cloudy	Geo. Dickson, B. A.
Heart's Content, N. F.																			E. Weedon.
Kingston, Ontario	29.46	748.3	29.80	756.9	36.1	2.3	71	SW	20	8.9		10cs	0	SW		0.39	9.9	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S.	29.98	761.5	30.02	762.5	34.2	1.2	94	S	13	5.8			10n					Raining	C. H. Rigby.
Montreal, Quebec	29.48	748.8	29.69	754.1	39.8	4.4	79	N	23	10.3			10s			0.03	0.8	Cloudy	C. H. McLeod, C. E.
Moose Factory, Ontario	29.64	752.8	29.68	753.9	— 1.0	—18.3	84	NW			5		10			0.20	5.1	Cloudy	J. R. Nesson.
Norwood	29.07	738.4	29.79	756.7	31.6	— 0.2		W			2		10s			0.70	17.8	Clearing	Rev. T. F. Fotheringham, M. A.
Parry Sound, Ontario																			Rev. R. Mosley.
Peterboro, Ontario	29.05	737.9	29.83	757.7	31.2	— 0.4	95	W			3	10k	0			0	0	Overcast	J. F. Jeffers, M. A.
Port Dover, Ontario	29.20	741.7	29.92	760.0	30.0	— 1.1	78	W	10	4.5		10k	0	SW		0.19	4.8	Cloudy	H. Morgan.
Port Hastings, N. S.																			Peter Grant.
Port Stanley, Ontario																			M. Payne.
Quebec, Quebec	29.24	742.7	29.92	760.0	28.3	— 2.1	75	W	18	8.0			10n		W	0.18	4.6	Cloudy	Capt. Ashe, R. N.
Rockliffe, Ontario	29.30	744.2	29.63	752.6	38	3.3	100	Calm			0	Haze	Fog			0.79	20.1	Rain & fog	W. H. McIntyre.
St. Andrews, N. B.																			Dr. Gove.
St. John, N. B.	29.58	751.3	29.75	755.6	45	7.2	100	S	14	6.3			Fog			0.56	14.2	Dense fog	G. Murdock, C. E.
Saugeen, Ontario	29.07	738.4	29.81	757.2	28.5	— 1.9	82	W	42	18.8			10ks			0.14	3.6	Overcast	K. Stewart.
Stayner, Ontario																			R. J. Cole.
Stratford, Ontario	28.56	725.4	29.90	759.4	28.0	— 2.2	94	W	15	6.7			10s			0.280	7.11	Cloudy	C. J. MacGregor, M. A.
Sydney, C. B.	30.03	762.7	30.07	763.8	35.7	2.1	93	S	16	7.2			10n			0	0	Overcast	T. C. Hill, C. E.
Toronto, Ontario	29.47	748.5	29.86	758.4	33.7	0.9	91	NW	11	4.9			10ks		W	0	0	Cloudy	Magnetic Observatory.
Windsor, N. S.	29.74	755.4	29.84	757.9	44.0	6.7	96	S	11	4.9			10n			0.01	0.3	Overcast	Prof. John E. Oram, M. A.
Woodstock, Ontario	28.78	731.0	29.89	759.2	28.5	— 1.9	18	W	22	9.8			10s		W	0	0	Overcast	Prof. J. Montgomery.
Yarmouth, N. S.	29.82	757.4	29.89	759.2	48.2	9.0	97	SW	25	11.2		4ck	8s;n	W		0.02	0.5	Cloudy	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	30.11	764.8	30.38	771.6	24.0	— 4.4	87	W					10			Inap.	Inap.	Overcast	John Delany.
St. Pierre, N. F., l'Hopital Maritime			30.18	766.5	33.8	1		SW			2								The Commandant.

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of BVT. BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.56	750.8	29.80	756.9	46	7.8	84	NW	14	6.3			10s		NW	0.05	1.3	Cloudy	
Alpena, Michigan	29.18	741.1	29.86	758.4	20	— 6.7	85	W	17	7.6			10s		Calm	0.15	3.8	Cloudy	
Atcha, Aleutian Is., Alaska																			
Atlanta, Georgia	28.77	730.7	29.90	759.4	57	13.9	93	NW	13	5.8			10n		Calm	0.35	8.9	Light rain	
Atlantic City, New Jersey	29.89	759.2	29.90	759.4	52	11.1	100	SW	7	3.1			Fog		Calm	0	0	Foggy	
Augusta, Georgia	29.82	757.4	30.02	762.5	63	17.2	89	SW	2	0.9			10s		S	0	0	Cloudy	
Baltimore, Maryland	29.83	757.7	29.87	758.7	60	15.6	94	SW	11	4.9			10s		W	0.17	4.3	Threatening	
Barnegat, New Jersey	29.87	758.7	29.89	759.2	54	12.2	100	SW	17	7.6			10s;fog		SW	0	0	Cloudy	
Bismarck, Dakota	28.57	725.7	30.42	772.7	—16	—26.7	100	NW	8	3.6		0	0			0	0	Clear.	
Boerne, Texas	28.71	729.2	30.10	764.5	35	1.7	45	N	12	5.4		0	0			0	0	Clear.	
Boise City, Idaho	27.39	695.7	30.35	770.9	28	— 2.2	88	E	3	1.3			10s		Calm	0.02	0.5	Cloudy	
Boston, Massachusetts	29.61	752.1	29.76	755.9	60	15.6	94	S	21	9.4		0	8ks		SW	0.16	4.1	Fair	
Brackettville, Texas	29.00	736.6	30.11	764.8	38	3.3	45	NW	1	0.4		0	0			0	0	Clear.	
Breckenridge, Minnesota	29.36	745.7	30.54	775.7	—15	—26.1	100	NW	10	4.5		0	0			0	0	Clear.	
Brownsville, Texas	29.95	760.7	29.98	761.5	57	13.9	81	N	8	3.6			10s		N	0	0	Cloudy	
Buffalo, New York	29.15	740.4	29.86	758.4	36	2.2	61	W	22	9.8			10s		SW	0.23	5.8	Cloudy	
Burkes, Arizona					40	4.4	19	Calm			0	0	0			0	0	Clear.	
Burlington, Vermont	29.45	748.0	29.74	755.4	47	8.3	62	W	11	4.9			10n		W	0.08	2.0	Light rain	
Cairo, Illinois	29.90	759.4	30.32	770.1	33	0.6	51	N	8	3.6		Haze	5s		Calm	0	0	Fair	
Campo, California	27.55	699.9	30.12	765.0	49	9.4	44	E	21	9.4		0	0			0	0	Clear.	
Cape Hatteras, N. Carolina	30.06	763.5	30.06	763.5	64	17.8	89	S	16	7.2		8cs	2ks	SW	SW	0.26	6.6	Cloudy	
Cape Henry, Virginia	29.93	760.2	29.95	760.7	66	18.9	84	S	18	8.0			10s		Calm	0	0	Cloudy	
Cape Lookout, N. Carolina	30.05	763.3	30.06	763.5	65	18.3	94	SW	13	5.8			10n		Calm	Inap.	Inap.	Light rain	
Cape May, New Jersey	29.88	758.9	29.91	759.7	56	13.3	87	S	22	9.8			10ks		S	0	0	Cloudy	
Castroville, Texas	29.37	746.0	30.11	764.8	40	4.4	39	N	10	4.5		2ck	0	W		0	0	Fair	
Cedar Keys, Florida	30.00	762.0	30.03	762.7	68	20.0	90	S	13	5.8		2c;cs	5s	Calm	Calm	0	0	Fair	
Charleston, South Carolina	29.98	761.5	30.04	763.0	65	18.3	89	SW	10	4.5		0	0			0	0	Clear.	
Charlotte, North Carolina	29.11	739.4	29.90	759.4	63	17.2	89	S	10	4.5			10s		S	0	0	Cloudy	
Chattanooga, Tennessee	29.29	744.0	30.13	765.3	37	2.8	90	NW	8	3.6			10n		NW	3.02	76.7	Light rain	
Cheyenne, Wyoming	24.09	611.9	30.03	762.7	— 1	—18.3	68	W	4	1.8		0	0			Inap.	Inap.	Clear.	
Chicago, Illinois	29.40	746.7	30.15	765.8	16	— 8.9	49	W	12	5.4		5k	0	W		0	0	Fair	
Cincinnati, Ohio	29.47	748.5	30.15	765.8	36	2.2	59	W	8	3.6			10ks		W	0.69	17.5	Cloudy	
Cleveland, Ohio	29.24	742.7	29.99	761.7	31	— 0.6	69	SW	12	5.4			10s		SW	0.21	5.3	Cloudy	
Coleman City, Texas	28.42	721.9	30.21	767.3	26	— 3.3	63	N	12	5.4		0	0			0	0	Clear.	
Columbus, Ohio	29.21	741.9	30.08	764.0	32	0.0	69	W	12	5.4			10ks		W	0	0	Cloudy	
Concho, Texas	28.47	723.1	30.20	767.1	26	— 3.3	63	N			1	0	0			0	0	Clear.	
Corsicana, Texas	29.77	756.1	30.28	769.1	30	— 1.1	68	N	8	3.6		0	0			0	0	Clear.	
Davenport, Iowa	29.58	751.3	30.28	769.1	10	—12.2	58	W	14	6.3		0	0			Inap.	Inap.	Clear.	
Dayton, Washington T'y					29	— 1.7	89	E			1		10n		Calm	0.11	2.8	Light snow.	
Deadwood, Dakota	25.47	646.9			— 9	—22.8	56	Calm	0	0		0	0			0.06	1.5	Clear.	
Decatur, Texas	29.24	742.7	30.49	774.4	34	1.1	61	N	12	5.4		8cs	0	NW		0	0	Cloudy	
Denison, Texas	29.53	750.0	30.38	771.6	32	0.0	59	N	8	3.6			10s		N	0	0	Cloudy	
Denver, Colorado	24.94	633.5	30.16	766.1	— 5	—20.6	83	S	5	2.2		0	0			0.13	3.3	Clear.	
Des Moines, Iowa	29.46	748.3	30.45	773.4	4	—15.6	74	NW	14	6.3		0	0			Inap	Inap.	Clear	
Detroit, Michigan	29.26	743.2	29.96	761 0	26	— 3.3	88	SW	12	5.4			10s		SW	0.36	9.1	Cloudy	
Dodge City, Kansas	27.83	706.9	30.43	772.9	3	—16.1	46	N	12	5.4		0	0			0	0	Clear.	
Dubuque, Iowa	29.48	748.8	30.26	768 6	4	—15.6	48	W	11	4.9		2c	Fog	Calm	Calm	Inap.	Inap.	Fair	
Duluth, Minnesota	29.45	748.0	30.22	767.6	— 2	—18.9	67	NW	30	13.4		0	0			0.11	2.8	Clear.	
Eagle Pass, Texas	29.36	745.7	30.12	765.0	39	3.9	55	Calm	0	0		0	0			0	0	Clear.	
Eastport, Maine	29.66	753.4	29.73	755.1	48	8.9	100	S	21	9.4			Fog		S	0.32	8.1	Foggy	
Edinburg, Texas					60	15.6	77	N			4		10s		N	0	0	Cloudy	
El Paso, Texas																			
Erie, Pennsylvania	29.21	741.9	29.94	760.5	36	2.2	61	SW	12	5.4			10ks		W	0.48	12.2	Cloudy	
Escanaba, Michigan	29.26	743.2	29.96	761.0	14	—10.0	64	NW	17	7.6			10s		NW	0	0	Cloudy	
Florence, Arizona	28.66	728.0	30.26	768.6	30	— 1.1	78	Calm	0	0		0	0			0	0	Clear.	
Fort Assiniboine, Montana																			
Fort Buford, Dakota	28.31	719.1	30.40	772.1	— 3	—19.4	83	Calm	0	0		10cs	0	Calm		0	0	Cloudy	
Fort Custer, Montana	27.03	686.6			—19	—28.3		S	6	2.7		0	0			0.03	0.8	Clear.	
Fort Davis, Texas	25.28	642.1	30.24	768.1	36	2.2	39	N	16	7.2		0	0			0	0	Clear	
Fort Gibson, Indian Ter	29.85	758.2	30.44	773.2	26	— 3.3	75	N	12	5.4		0	0			0	0	Clear.	
Fort Grant, Arizona	25.27	641.8	30.07	763.8	33	0.7	43	NE	4	1.8		0	0			0	0	Clear.	
Fort Griffin, Texas	29.04	737.6	30.39	771.9	35	1.7	61	N	8	3.6		0	8s		Calm	0	0	Cloudy	
Fort Keogh, Montana	27.69	703.3			—18	—27.8	33	NW	2	0.9		0	0			0	0	Clear	
Fort McKavett, Texas	27.95	709.9	29.99	761.7	28	— 2.2	77	N	6	2.7		0	0			0	0	Clear.	
Fort St. Michael, Alaska																			
Fort Shaw, Montana																			
Fort Sill, Indian Territory	29.18	741.1	30.38	771.6	28	— 2.2	54	N	20	8.9			10s		Calm	0	0	Cloudy	
Fort Stevenson, Dakota	28.53	724.6			—20	—28.9	64	SW	7	3.1		0	0			0.02	0.5	Clear.	
Fort Verde, Arizona					31	— 0.6	58	NW			1	0	0			0	0	Clear	
Fort Yates, Dakota																			
Fredericksburg, Texas	28.38	720.8	30.00	762.0	40	4.4	31	N	12	5.4		0	0			0	0	Clear.	
Galveston, Texas	30.03	762.7	30.07	763.8	49	9.4	71	NE	19	8.5		0	8ks		NW	0.04	1.0	Cloudy	
Graham, Texas	29.27	743.4	30.40	772.1	32	0.0	79	N	8	3.6			5s		SW	0	0	Cloudy	
Grand Haven, Michigan	29.31	744.5	30.00	762.0	22	— 5.6	86	W	20	8.9			10n		Calm	0.10	2.5	Light snow.	
Helena, Montana																			
Henrietta, Texas	29.42	747.3	30.43	772.9	31	— 0.6	89	N	16	7.2			10s		Calm	0	0	Cloudy	
Indianapolis, Indiana	29.31	744.5	30.13	765.3	28	— 2.2	66	N	9	4.0			10s		W	0.20	5.1	Cloudy	
Indianola, Texas	30.07	763.8	30.10	764.5	49	9.4	64	N	31	13.9			10s		N	0.08	2.0	Cloudy	
Jacksboro, Texas	29.22	742.2	30.42	772.7	33	0.6	61	N	8	3.6			10s		N	0	0	Cloudy	
Jacksonville, Florida	30.03	762.7	30.05	763.3	66	18.9	89	SE	8	3.6			10s		SE	0	0	Cloudy	
Keokuk, Iowa	29.63	752.6	30.32	770.1	13	—10.6	81	NW	14	6.3		1k	1s	NW	NW	0	0	Clear	
Key West, Florida	30.01	762.2	30.04	763.0	73	22.8	90	SE	8	3.6		5k	5s	SE	SE	0.15	3.8	Cloudy	
Kittyhawk, North Carolina	30.03	762.7	30.06	763.5	65	18.3	89	SW	19	8.5			10ks		SW	0.10	2.5	Cloudy	
Knoxville, Tennessee	29.11	739.4	30.15	765.8	38	3.3	91	N	10	4.5			10n		N	2.25	57.1	Heavy rain	
La Crosse, Wisconsin	29.43	747.5	30.25	768.3	7	—13.9	77	NW	8	3.6		0	0			Inap.	Inap.	Clear.	
La Mesilla, New Mexico	26.21	665.7	30.36	771.1	31	— 0.6	38	N	9	4.0		0	0			0	0	Clear.	
Laredo, Texas	29.82	757.4	30.17	766.3	46	7.8	84	N	8	3.6			8ks		N	0	0	Cloudy	
Leavenworth, Kansas	29.56	750.8	30.51	774.9	10	—12.2	58	NW	18	8.0		0	5s		NW	0	0	Fair	
Lewiston, Idaho																			
Little Rock, Arkansas	29.96	761.0	30.35	770.9	33	0.6	61	N	10	4.5		0	0			0	0	Clear.	
Los Angeles, California	29.81	757.2	30.16	766.1	50.0	10.0	61	N	5	2.2		0	0			0	0	Clear.	
Louisville, Kentucky	29.61	752.1	30.19	766.8	35	1.7	53	W	8	3.6		2c	8s	Calm	Calm	1.06	26.9	Cloudy	
Lynchburg, Virginia	29.22	742.2	29.89	759.2	61	16.1	88	SW	8	3.6			10n		SW	0.14	3.6	Light rain	
Madison, Wisconsin	29.07	738.4	30.15	765.8	8	—13.3	78	W	26	11.6		0	1s		W	Inap.	Inap.	Clear.	
Marquette, Michigan	29.21	744.9	29.96	761.0	13	—10.6	81	NW	12	5.4			10n		Calm	0.01	0.3	Light snow.	
Mason, Texas	28.57	725.7	30.43	772.9	33	0.6	51	NE	8	3.6		0	0			0	0	Clear.	
Memphis, Tennessee	29.92	760.0	30.27	768.8	33	0.6	50	NW	12	5.4		8cs	0	W		1.72	43.7	Cloudy	
Milwaukee, Wisconsin	29.32	744.7	30.12	765.0	10	—12.2	79	W	18	8.0		0	1s		Calm	Inap.	Inap.	Clear.	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mobile, Alabama	29.95	760.7	30.00	762.0	55	12.8	93	N	4	1.8	.....	.....	10s	.....	N	0.25	6.3	Cloudy.....	
Montgomery, Alabama	29.75	755.6	29.98	761.5	55	12.8	96	NW	11	4.9	.....	.....	10n	.....	NW	0.39	9.9	Light rain..	
Morgantown, West Virginia	29.02	737.1	30.02	762.5	44	6.7	60	SW	4	1.8	.....	.....	10ks	.....	SW	0.76	19.3	Cloudy.....	
Mt. Washington, N. H.	23.48	596.4	29.84	757.9	38	3.3	100	NW	63	28.1	.....	.....	Fog	.....	NW	0	0	Foggy	
Nashville, Tennessee	29.65	753.1	30.21	767.3	37	2.8	71	NW	6	2.7	.....	.....	10ks	.....	W	2.02	51.3	Cloudy.....	
New Haven, Connecticut	29.71	754.6	29.83	757.7	57	13.9	91	SW	8	3.6	.....	.....	10n	.....	SW	0.01	0.3	Light rain..	
New London, Connecticut	29.81	757.2	29.86	758.4	54	12.2	93	S	9	4.0	.....	.....	10s;fg	.....	S	0.02	0.5	Cloudy.....	
New Orleans, Louisiana	29.96	761.0	30.02	762.5	57	13.9	81	N	13	5.8	.....	.....	10s	.....	N	0.09	2.3	Cloudy.....	
Newport, Rhode Island	29.80	756 9	29.85	758.2	53	11.7	93	SW	15	6.7	.....	.....	Fog	.....	.....	0.02	0.5	Dense fog....	
New River, North Carolina	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
New York, New York	29.66	753.4	29.83	757.7	59	15.0	81	SW	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Norfolk, Virginia	29.91	759.7	29.96	761.0	64	17.8	89	S	12	5.4	.....	.....	10ks	.....	SW	0.04	1.0	Cloudy.....	
North Platte, Nebraska	27.45	697.2	30.52	775.2	—18	—27.8	67	NW	9	4.0	.....	0	0	.....	.....	0	0	Clear.	
Olympia, Washington Ter.	30.06	763.5	30.10	764.5	36.0	2.2	95	S	2	0.9	.....	.....	10n	.....	Calm	0.47	11.9	Light rain...	
Omaha, Nebraska	29.25	742.9	30.50	774.7	1	—17.2	71	NW	23	10.3	.....	0	2s	.....	NE	0	0	Clear	
Oswego, New York	29.53	750.0	29.85	758.2	44	6.7	60	W	10	4.5	.....	.....	10s	.....	Calm	0.27	6.9	Cloudy.....	
Pembina, Dakota	29.50	749.3	30.49	774.4	—20	—28.9	100	NW	6	2.7	.....	0	0	.....	.....	0.03	0.8	Clear.	
Pensacola, Florida	29.97	761.2	30.00	762.0	67	19.4	95	W	9	4.0	.....	.....	10n	.....	Calm	0.19	4.8	Heavy rain..	
Philadelphia, Pennsylvania	29.81	757.2	29.86	758.4	59	15.0	100	SW	12	5.4	.....	.....	10n;fg	.....	s;Calm	Inap.	Inap.	Light rain..	
Phœnix, Arizona	29.04	737.6	30.96	786.4	35	1.7	53	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.32	439.9	29.53	750.0	—23	—30.6	100	W	26	11.6	.....	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	29.65	753.1	30.45	773.4	34	1.1	43	N	.....	.....	.....	5k	2s	N	NW	0	0	Fair	
Pioche, Nevada	.....	.....	.....	.....	21	— 6.1	57	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.15	740.4	29.98	761.5	40	4.4	65	W	9	4.0	.....	.....	10s	.....	W	0.62	15.7	Cloudy.....	
Port Huron, Michigan	29.21	741.9	29.90	759.4	28	— 2.2	77	W	20	8.9	.....	.....	10s	.....	W	0.12	3.0	Cloudy.....	
Portland, Maine	29.66	753.4	29.71	754.6	49	9.4	100	S	4	1.8	.....	.....	Fog	.....	.....	0.48	12.2	Foggy	
Portland, Oregon	30.10	764.5	30.18	766.6	37.3	2.9	96	SW	2	0.9	.....	.....	10n	.....	Calm	0.51	13.0	Light rain...	
Portsmouth, North Carolina	.....	.....	.....	.....	64	17.8	86	S	13	5.8	.....	8cs	0	S	.....	0.04	1.0	Fair.....	
Prescott, Arizona	24.87	631.7	30.23	767.8	22	— 5.6	72	Calm	0	0	.....	0	0	.....	Calm	0	0	Clear	
Punta Rassa, Florida	30.02	762.5	30.04	763.0	71	21.7	90	E	12	5.4	.....	.....	10s	.....	S	0	0	Cloudy.....	
Red Bluff, California	29.97	761.2	30.35	770.9	38	3.3	91	N	6	2.7	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Rio Grande City, Texas	29.86	758.4	30.08	764.0	54	12.2	67	NE	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Rochester, New York	29.22	742.2	29.84	757.9	38	3.3	72	W	12	5.4	.....	2k	7s	W	W	0.11	2.8	Cloudy.....	
Roseburg, Oregon	29.71	754.6	30.29	769.4	48	8.9	92	SW	1	0.4	.....	.....	10n	.....	Calm	0.06	1.5	Light rain...	
Sacramento, California	30.28	769.1	30.36	771.1	40	4.4	100	Calm	0	0	.....	.....	Fog	.....	.....	0.04	1.0	Foggy.....	
St. Louis, Missouri	29.72	754.9	30.34	770.6	20	— 6.7	70	NW	15	6.7	.....	0	8s	.....	NW	0	0	Fair.....	
St. Paul, Minnesota	29.36	745.7	30.29	769.4	2	—16.7	58	W	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Salt Lake City, Utah	25.89	657.6	30.22	767.6	16	— 8.9	49	Calm	0	0	.....	0	8s	.....	Calm	Inap.	Inap.	Cloudy.....	
San Antonio, Texas	29.45	748.0	30.06	763.5	40	4.4	56	N	11	4.9	.....	0	0	.....	.....	0	0	Clear	
San Diego, California	30.10	764.5	30.17	766.3	47	8.3	77	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Sandusky, Ohio	29.32	744.7	30.02	762.5	32	0.0	59	W	20	8.9	.....	.....	10s	.....	W	0 28	7.1	Cloudy.....	
Sandy Hook, New Jersey	29.81	757.2	29.84	757.9	59	15.0	94	SW	24	10.7	.....	.....	10s	.....	SW	0.01	0.3	Cloudy.....	
San Francisco, California	30.28	769.1	30.35	770.9	50	10.0	93	N	3	1.3	.....	.....	Fog	.....	Calm	0	0	Foggy	
Santa Fé, New Mexico	23.29	591.6	29.83	757.7	17	— 8.3	67	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	29.97	761.2	30.06	763.5	65	18.3	89	S	6	2.7	.....	8c	Fog	W	Calm	0	0	Fair.....	
Shreveport, Louisiana	30.07	763.8	30.24	768.1	38	3.3	63	N	8	3.6	.....	0	2s	.....	Calm	Inap.	Inap.	Fair	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.05	763.3	30.09	764.3	65	18.3	94	SW	18	8.0	.....	8k	2s	SW	Calm	0 13	3.3	Threatening	
Socorro, New Mexico	25.60	650.2	29.66	753.4	22	— 5.6	45	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois	29.60	751.8	30.33	770.4	19	— 7.2	69	NW	12	5.4	.....	.....	10s	.....	W	0	0	Cloudy.....	
Springfield, Massachusetts	29.66	753.4	29.79	756.7	55	12.8	93	S	7	3.1	.....	.....	10n	.....	S	0.21	5.3	Light rain..	
Stockton, Texas	27.17	690.1	30.17	766.3	28	— 2.2	11	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Thatcher's Island, Mass	29.97	761.2	30.03	762.7	38	3.3	63	W	20	8.9	.....	.....	10s	.....	W	0.22	5.6	Cloudy.....	
Toledo, Ohio	29.29	744.0	29.99	761.7	33	0.6	70	W	18	8.0	.....	.....	10s	.....	W	0.23	5.8	Threatening	
Tucson, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon	29.96	761.0	30.49	774.4	28.0	— 2.2	88	SW	4	1.8	.....	.....	10s	.....	Calm	0.19	4.8	Cloudy.....	
Uvalde, Texas	29.33	745.0	30.18	766.6	42	5.6	27	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	29.91	759.7	30.18	766.6	42	5.6	83	NW	10	4.5	.....	.....	10s	.....	NW	1.99	50.5	Cloudy.....	
Virginia City, Montana	24.26	616.2	29.73	755.1	8	—13.3	55	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Visalia, California	29.92	760.0	30.30	769.6	47	8.3	96	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Washington, D. C.	29.77	756.1	29.89	759.2	60	15.6	88	SW	8	3.6	.....	.....	10s	.....	SW	0.08	2.0	Cloudy.....	
Wickenburg, Arizona	.....	.....	.....	.....	37	2.8	63	W	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, North Carolina	29.98	761.5	30.06	763.5	64	17.8	94	SW	10	4.5	.....	.....	10n	.....	Calm	0.11	2.8	Light rain...	
Winnemucca, Nevada	25.82	655.8	30.18	766.6	24	— 4.4	87	SE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Wood's Holl, Massachusetts	29.81	757.2	29.85	758.2	54	12.2	93	SW	12	5.4	.....	.....	10s;fg	.....	SW	0.01	0.3	Cloudy.....	
Yankton, Dakota	29.18	741.1	30.69	779.5	— 6	—21.1	61	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear.....	
Yuma, Arizona	30.09	764.3	30.24	768.1	50	10.0	32	W	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
SUB-SERIES.																			
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	29.94	760.5	29.99	761.7	75	23.9	81	Calm	0	0	.....	8c	0	SE	.....	0	0	Fair	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.17	766.3	30.18	766.6	76	24.4	95	Calm	0	0	.....	.....	2cs	.....	.....	.....	.....	Hazy.....	James Gall.
Navassa, W. I.	29.87	758.7	29.95	760.7	80	26.7	62	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.96	761.0	29.96	761.0	82	27.8	79	E	.....	.....	1	3c	6k	E	.....	0.030	0.76	Cloudy.....	C. J. Hering.
Santiago de Cuba, W. I.	29.92	760.0	29.95	760.7	76	24.4	76	NNE	9.6	4.3	.....	8c	0	.....	.....	Blank	Blank	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	30.21	767.3	30.26	768.6	—32.5	—35.8	.....	NW	13	5.8	.....	0	0	.....	.....	0	0	Clear.	J. Fortescue & W. Wood

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,325.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1.856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.67 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 m.m.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3.488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.83 in., or 116.9 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.04‡	763.0‡	.....	.....	69	20.6	95	SW	7	3.1	.....	.....	10	.....	SW	1.42	36.1	.....	.....	Storming.....	
Navy Yard, Portsmouth, N.H	30.09‡	764.3‡	.....	.....	52	11.1	100	SSW	2	0.9	.....	.....	10	.....	.....	0	0	.....	.....	Overcast.....	
Naval Hospital, Yokohama, Japan.....	30.14‡	765.5‡	.....	.....	44	6.7	79	E	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Adams, Mare I'd., Navy Yard, Cal.	30.26‡	768.6‡	.....	.....	53	11.7	100	SW	.....	.....	1	.....	10	.....	SW	.....	.....	.....	.....	Cloudy.....	
Alaska, Arica, Peru..... *	29.86‡	758.4‡	.....	.....	67	19.4	79	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....	Hazy.....	
Colorado, New York, N. Y.....	29.77‡	756.1‡	.....	.....	60	15.6	94	S	5	2.2	.....	.....	10	.....	S	0	0	.....	.....	Misty.....	
Constitution, N. 36° 57′, W. 76° 00′.....	29.97‡	761.2‡	.....	.....	64	17.8	94	S	.....	.....	5	.....	10	.....	SW	.....	.....	.....	.....	Drizzling.....	
Enterprise. Beirut, Syria.....	30.06‡	763.5‡	.....	.....	71	21.7	80	NNW	.....	.....	3	.....	6	.....	NNW	.....	.....	Smooth	.....	Cloudy?.....	
Franklin, Off Navy Yard, Norfolk, Va.	30.00‡	762.0‡	.....	.....	66	18.9	89	SSW	15.6	7.0	.....	.....	10	.....	SW	0.02	0.5	.....	.....	Cloudy.....	
Independence, Mare I'd, Navy Yard, Cal.	30.33‡	770.4‡	.....	.....	58	14.4	82	ESE	1.2	0.5	.....	.....	10	.....	SE	0	0	.....	.....	Overcast.....	
Kearsarge, N. 27° 00′, W. 76° 30′.....	30.26‡	768.6‡	.....	.....	74	23.3	72	SE	.....	.....	3–4	.....	5	.....	S	.....	.....	Rough	SE	Showery.....	
Lackawana, N. 21° 28′, W. 157° 18′..†	30.04‡	763.0‡	.....	.....	75	23.9	68	ESE	.....	.....	5–6	.....	10	.....	SE	.....	.....	Mod'ate	SE	Cloudy.....	
Marion, Navy Yard, Brooklyn, N.Y.	29.86‡	758.4‡	.....	.....	59	15.0	94	SSW	.....	.....	3	.....	10	.....	SW	.....	.....	.....	.....	Cloudy.....	
Michigan, Erie, Pa.....	29.99‡	761.7‡	.....	.....	36	2.2	74	WSW	.....	.....	4	.....	10	.....	W	.....	.....	.....	.....	Overcast.....	
Monocacy, Shanghai, China..	.....	.....	.....	.....	42	5.6	91	SE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
New Hampshire, Port Royal, S. C.....	30.04‡	763.0‡	.....	.....	62	16.7	100	SSW	8	3.6	.....	.....	2	WNW	S	0.025	0.64	.....	.....	Fair.....	
Nipsic, Norfolk, Va.....	30.07‡	763.8‡	.....	.....	57	13.9	41	N	.....	.....	3	.....	10	.....	.....	.....	.....	.....	.....	Foggy.....	
Onward, Callao, Peru ..... †.	29.91‡	759.7‡	.....	.....	65	18.3	89	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Long smooth	W	Cloudy.....	
Palos, Tientsin, China.....	30.12‡	765.0‡	.....	.....	36	2.2	?	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Passaic, Washington, D. C.....	29.90‡	759.4‡	.....	.....	58	14.4	94	SW	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Cloudy.....	
Pensacola, Callao, Peru	29.86‡	758.4‡	.....	.....	64	17.8	100	SE	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Overcast.....	
Powhatan, Navy Yard, Brooklyn, N.Y.	29.85‡	758.2‡	.....	.....	61	16.1	82	SSW	.....	.....	2	.....	10	.....	Calm	.....	.....	.....	.....	Showery.....	
Quinnebaug, Villafranca, France.....	30.24‡	768.1‡	.....	.....	52	11.1	41	NW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Ranger, N. 31° 35′, W. 163° 47′.....	29.85‡	758.2‡	.....	.....	66	18.9	89	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Smooth	.....	Rainy.....	
Richmond, Amoy, China.....	30.13‡	765.3‡	.....	.....	58	14.4	70	NNE	.....	.....	3–4	.....	0	.....	.....	.....	.....	Smooth	.....	Clear.....	
Rio Bravo, Brownsville, Texas... †.	30.21‡	767.3‡	.....	.....	56	13.3	81	NNW	4	1.8	.....	.....	10	.....	N	0	0	.....	.....	Cloudy.....	
Santee. Annapolis, Md	29.91‡	759.7‡	.....	.....	62	16.7	94	SW	.....	.....	3	.....	10	.....	SW	0	0	.....	.....	Overcast.....	
Shenandoah, S. 30° 40′, W. 46° 35′.....	29.53‡	750.0‡	.....	.....	72	22.2	85	WNW	.....	.....	7	.....	10	.....	.....	.....	.....	Rough	NNW	Cloudy.....	
St. Louis, League Island, Pa.....	29.89‡	759.2‡	.....	.....	57	13.9	94	SSW	15	6.7	.....	.....	10	.....	SW	.....	.....	.....	.....	Light rain...	
Tuscarora, Acapulco, Mexico.	29.83‡	757.7‡	.....	.....	77	25.0	91	NW	.....	.....	1	.....	0	.....	.....	0	0	Smooth	.....	Clear.....	
Vandalia. Navy Yard, Brooklyn, N.Y	29.84‡	757.9‡	.....	.....	58	14.4	100	SW	.....	.....	2	.....	10	.....	SW	.....	.....	.....	.....	Cloudy.....	
Wabash, Boston, Mass.....	29.82‡	757.4‡	.....	.....	59	15.0	88	SW	9	4.0	.....	.....	10	.....	.....	0	0	.....	.....	Overcast.....	
Wachusett, Rio de Janeiro, Brazil.†	30.25‡	768.3‡	.....	.....	78	25.6	86	WNW	.....	.....	2	.....	8	.....	NNW	.....	.....	Smooth	NW	Fair.....	
Wyoming, Gibraltar, Mediterranean	30.19‡	766.8‡	.....	.....	59	15.0	65	ENE	.....	.....	3–4	.....	10	.....	E	.....	.....	Smooth	E	Cloudy.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S. S. Samaria																			Capt. T. Roberts.
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitebury.
S. S. Costa Rica																			W. House & R. Lawless.
S. S. Dakota, Capt. H. G. Morse																			Capt. Connolly.
S. S. Georgia																			F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin																			Capt. A. Fuller.
S. S. Wilmington																			R. C. Ghest, 1st Officer.
S. S. Zealandia, Sydney, New South Wales.		29.84‡	757.9*				NE			2				E				Cloudy	
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer Yokohama, Japan		30.10‡	764.5‡	49	9.4	85	NW.			1		5		NW		Smooth		D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson N. 40° 09′, W. 142° 35′		30.40‡	772.1‡	58	14.4		SSW			4		11		SW	0	Mod'rate	SW	Misty	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES Furnished by the co-operation of A. Schumacher & Co., Agents																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undutsch.
S. S. Leipzig, Capt. F. Pfeiffer, N. 49° 28′, W. 14° 34′		30.10‡	766.1‡	52.5	11.4	83	S			8		10		S	2 h'rs	Heavy	S	Dazzling	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 37° 43′, W. 74° 36′		29.98‡	761.5‡				SW			3		10		W		4	SW	Foggy	Capt G. Meyer.

NOTE.—†Aneroid. *The error of the barometer is not known.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to to 12; for the Brittanic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa		30.44‡	773.2‡	46	7.8		ENE			5		9		ENE	Mod'ate			Fair	Capt. R. W. Sargent
S. S. Ohio																			Wm. Shackford, Chief Officer
S. S. Pennsylvania																			Capt. Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from, sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents.

S. S. Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson
S. S. Vaderland																			Capt. Nichols.

NOTE.—The originals give the barometer as read off; do not distinguish between upper and lower clouds; sea-swell in general terms, as published. ‡Corrections for temperature, instrumental error and elevation applied at this office.

ALLAN LINE MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. *The error of the barometer is not known. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES—Miscellaneous.

Furnished by the co-operation of the Observers named.

Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Barkentine "Carrie Heckle" N. 34° 40', W. 55° 25'... *		30 29‡	769.4‡	61	16.1		NE			4		5		NE	0	Mod'ate	NE	Fair	B. F. Woodbury.
Brigantine "George" of Halifax. N. 29° 15', W. 71° 30'... †		30.14‡	765.5‡	78	25.6		SE			4		2				Smooth		Clear	N. B. Foss.
Schooner Harry and Fred																			Capt. George Gardner.
Haytian																			
§ Iron Cross																			Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden.																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time. *Instrumental error not known.

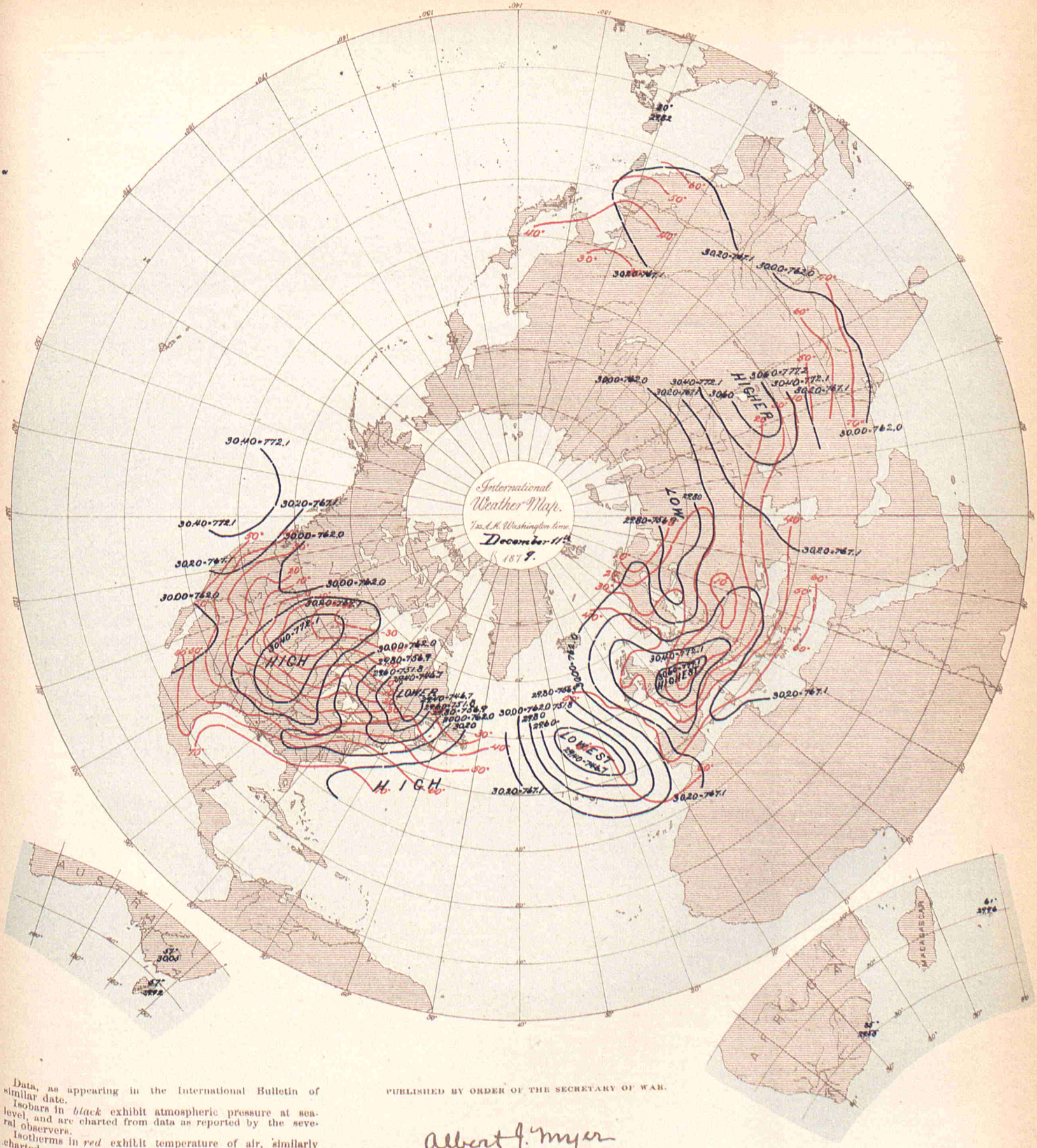
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.,) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 12, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE TOWN, C. G. H. mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.24	768.2	66.4	19.1	84	E			1		2			0	0	Fair	
Nemours			30.30	772.0	60.4	15.8	84	E			1		0			0	0	Clear	Kesxuche.
Algiers			30.37	771.5	52.2	11.2	68	NE			2		5			0.228	5.8	Cloudy	Tourillere.
La Calle			30.27	768.8	50.0	10.0	82	W			4		8			0.336	8.5	Very cloudy	Foufrede.
Tunis																			Jacques.
Sfax			30.22	767.5															Gau.
Saida																			Herbin.
Tebessa			30.31	769.9	36.7	2.6	89	NNW			3		10			0.016	0.4	Covered.	Watrin.
Geriville					50.4	10.2	39	NNW			2		0			0	0	Clear	Brugnluax.
Laghouat			30.37	771.4	65.8	18.8	34	NW			5		0			0	0	Clear	Bertrand.
Biskra			30.29	769.3	60.1	15.6	68	NW			1		0			0	0	Clear	Chauvaux.

NOTE.—The originals give the amount of cloudiness by the scale 0–4; no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.76	756.0	30.37	771.5	19.6	— 6.9	89	NW			1		10			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.45	748.1	30.20	768.7	29.8	— 1.2	88	WSW	1.6	0.7			10			0.028	0.7		Dr. Wierzbicki.
Eperies	29.33	744.9	30.32	770.0	10.4	—12.0	85	Calm			0		10s			0	0		Julius Mikolik.
Gratz	28.98	736.2	30.32	770.1	27.5	— 2.5	67	S			2		8			0	0		Andreas Rospini.
Hermannstadt	28.77	730.8	30.33	770.4	16.3	— 8.7	91	N			1		10			0.008	0.2		Prof. A. Gottschling.
Kremsmünster	28.98	736.0	30.41	772.3	27.9	— 2.3	98	NW			2		10			0.177	4.5		Prof. C. Wagner.
Lemberg	29.05	737.9	30.12	765.0	21.0	— 6.1	98	S			1		10			0.047	1.2		Dr. T. Stanecki.
Pola	30.20	767.1	30.32	770.1	38.5	3.6	57	WNW			1		5			0	0		I.R.Hydrographic Office
Szathmar	29.88	759.0	30.49	772.1	14.0	—10.0	97	E			2		10			0	0		Pet. Pancsics, S. J.
Szegedin	29.99	761.8	30.30	769.6	18.0	— 7.8	72	SE			1		10			0.078	1.85		Karl Stancel.
Trieste	30.22	767.5	30.32	770.1	38.1	3.4	44	Calm			0		10			0	0		P. Busin.
Vienna	29.55	750.5	30.29	769.4	29.1	— 1.6	80	W			4		10			0.177	4.5		I.R.Central Met. Ob'sy

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C., as Second-Class Matter

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.52	775.2	30.62	777.7	36.2	2.3		W	4	1.8			6			0	0	Misty	W. Boswell.
Ardrossan	30.63	778.0	30.64	778.2	36	2.2		ESE			1		7					Foggy	Wm.McNell &G.Carrick
Armagh, (Observatory)	30.42	772.7	30.66	778.7	37.0	2.8		SSW	7	3.1			9					Overcast	S. Call.
Bidston (Liverpool Obs)			30.69	779.5	41.7	5.4		SW	4	1.8			2					Blue sky	John Hall nup.
Bolton (Sharples)	30.11	764.8	30.65	778.5	31.5	— 0.3		N	6	2.7			10					Gloomy	Thomas M. ckereth.
Bradford, Yorkshire	30.26	768.6	30.65	778.5	33.4	0.8		N			2		5			0	0	D. clouds	J McLandsborough.
Bridgetown, Barbadoes	29.90	759.4	29.93	760.2	79	26.1		NE			3		3					D. clouds	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	30.56	776.2	30.66	778.7	36.5	2.5		NW			1		10					Overcast	H. Todd.
Cardington			30.66	778.7	34.0	1.1		W			0-1		10					Foggy	John McLaren.
Chatham (School M. E.)	30.54	775.7	30.68	779.3	36.2	2.3		Calm			0		10					Foggy	J. Carmell, Sapper, R.E.
Donaghadee	30.62	777.7	30.66	778.7	39	3.7		SW			2		10					Misty	J. Mac Gowan.
Dover	30.61	777.5	30.64	778.2	38	3 3		NNW			2		8					Foggy	J. Costello.
Falmouth (Observatory)	30.46	773.7	30.70	779.8	42.6	5.6		ESE			1		1					D. clouds	The Staff.
Fort Napier, Natal	27.52	699.0	30.74	780.8	76.5	24.7		NE			2		10					Overcast	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone																			
Galway (Queen's College)			30.55	776.0	39	3.9		SSE			1		10					Overcast	Prof. A. H. Curtis.
Gibraltar, Mediterranean																			Sergt.Wm. Allen, A. H.
Glasgow, (Observatory)	30.44	773.2	30.64	778.2	32.5	0.3		E			1		0					Foggy	D. G. Maclean. [C.
Great Yarmouth	30.60	777.2	30.61	777.5	35	1.7		WNW			2		5					Foggy	G. T. Watson.
Greenwich (Royal Obs'y)	30.49	774.4	30.68	779.3	34.6	1.4		WSW			1		0					Foggy	The Staff, for G.B.Airy.
Guernsey	30.47	773.9	30.70	779.8	38	3.3		SSE			1		6					D. clouds	Dr.S.E Hoskins, F.R.S.
Helston	30.78	781.8	30.91	785.1	40	4.4		E			2	2c				0	0	Fine	M. P. Moyle.
Holyhead	30.61	777.5	30.68	779.3	43	6.1		SW			3		3					D. clouds	John Tilston.
Jersey	30.44	773.2	30.75	781.0	37.7	3.2		SE			1		2					D. clouds	J. Fisher.
Kew (Observatory)	30.65	778.5	30.68	779.3	35.1	1.7		WSW	2	0.9			9					Misty	The Met'g'l Office.
Leicester (Museum)	30.41	772.4	30.64	778.2	36.6	2.6		NE			1		10					Overcast	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	30.10	764.5	30.18	766.6	51	10.6		NE			2	6ck						D. clouds	A. King.
Nairn	30.48	774.2	30.58	776.7	39	3.9		W			1		5					½ clouded	W. D. Penny.
Nassau, Bahamas			30.06	763.5	75.0	23.9		SE			1		6					D. clouds	C. S. Duncombe.
Nottingham (Observatory)	30.50	774.7	30.70	779.8	33.2	0.7		Calm			0		10c;s		E	0	0	Overcast	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	30.13	765.3	30.68	779 3	39.8	4.3		NNE			1		4					Misty	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)			30.68	779.3	35	1.7		Calm			0		7					D. clouds	H. E. Bellamy.
Plymouth	30.61	777.5	30.69	779.5	40.0	4.4		E			2		0					Blue sky	John Merrifield.
Prince Town																			W. H. Tooker.
*Roche's Point	30.56	776.2	30.64	778.2	40	7.8		S			4		8					¾ clouded	Wm. Kennedy.
St. Ann's Head	30.52	775.2	30.70	779.8	39	3.9		E			1		2					Misty	John C. Walker.
Sandwick Manse, Orkneys			30.55	776.0	43	6.1		WSW	8	3.6			1					Blue sky	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	30.20	767.1	30.26	768.6	35.4	1.9		NNE			1		9			Blank	Blank	Misty	Serg't W. H. L ne.
Sheffield	30.40	772.1	30.70	779.8	37.4	3.0		Calm			0		7			0	0	Foggy	W. F. Cooper.
Silloth Rectory	30.62	777.7	30.66	778.7	28.5	— 1.9	86	Calm			0		10			0	0	Overcast	Francis Redford, A. M.
Stonyhurst (Observatory)			30.67	779.0	30.2	— 1.0		NNE	3	1.3			4					Misty	Rev. J. Perry.
Strafield, Turgiss	30.46	773.7	30.69	779.5	35.0	1.7		NE			1		4					D. clouds	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	30.48	774.2	30.58	776.7	43	6.1		SE			4		3					D. clouds	W. Newcombe.
Valencia Observatory)	30.56	776.2	30.58	776.7	47.9	8.8		SE	22	9.8			10					D. clouds	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)																			The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.40	645.2			88	31.1		WNW					5						Robert Burnet.
Constable, Cape Colony	26.68	677.7			81	27.2		W					3						Francis Abbott, F.R.A.S.
Hobart Town, Tasmania			29.97	761.2	59.0	15.0	88	S			3		6k			0.01	0.3		Andrew Gibb.
Leith(RestalrigPark)Se'd'd			30.67	779.0	35.1	1.7		NW			1	5cs				0	0		C. Meldrum.
Mauritius (Observatory)	29.80	756.9	29.99	761.7	80.4	26.9	58	E	14.0	6.3		0	4		ENE	0.04	1.0	Fine	R. L. J. Ellery.
Melbourne (Observatory)	29.86	758.4	29.95	760.7	58.2	14.6	66	SE	14	6.3			0			0	0	Very fine	J. Youngclause.
Monach Lt-house, Hebrides			30.51	774.9	47	8.3		SSW			4		10			0	0		
North Unst, Shetland Is			30.35	770.9				SW			4	6	8	Calm		0	0		

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters; Prince Town, 1,400 feet, or 427 meters; Colesberg Bridge and Constable, unknown.

BRITISH MARINE SERIES. VESSELS.	Sea or swell. Height scale 0—9	Sea or swell. Direction from—																	
H. M. S. Alert, Tom Bay, Patagonia			29.32‡	744.7‡	48.2	9.0		ENE			3		10					Drizzling	Capt.J.P. Maclear, R.N.
H. M. Sloop Gannet, S. 18° 28′, W. 70° 21′			29.83‡	757.7‡	70	21.1		Calm			0		3					D. clouds	Commander E. Bourke, R. N.
H. M. S. Magpie, Shanghai, China			30.21‡	767.3‡	46.5	8.1		Calm			0		3					D. clouds	Capt. R. H. Napier, R.N.
Brig Alliance, N. 48° 35′, W. 26° 50′			29.99‡	761.7‡	59	15.0		SE			5		10					Overcast	Capt. W. Scott.
Barque Belle-Isle, N. 31° 10′, W. 71° 25′			30.17	766.3	74	23.3		SSE			5		4			3	E	D. clouds	Capt. A. J. Brown
City of Cashmere, N. 7° 55′, W. 124° 22′			29.86‡	758.4‡	75.3	24.1		SSE			3		10					Showery	Capt. W. M. Grieve.
S. S. Iron Cross, N. 27° 30′, W. 79° 30′			30.10	764.5	77	25.0		SSE			3		7			4	E	Misty	Capt. W. Randall.
S. S. Peruvian, N. 45° 40′, W. 57° 55′			29.77	756.1	40	4.4		NW			2		10			4	SW	Drizzling	Capt. W. H. Smith.
S. S. Strathleven, S. 36° 60′, E. 122° 35′			29.84‡	757.9‡	59.5	15.3		WSW			3		4					D. clouds	Capt. C. W. Pearson.
Light House Tender Richmond, Off Nassau Light, Bahama I'ds.			30.08	764.0	77	25.0		SE			2		2			2	E	Misty	Capt. W. H. Stewart.
S. S. Gordon Castle																			Capt. Wm. Waring.
German Brig "W. von Freeden"																			Capt. H. V. Freeden.
S. S. Ethiopia																			Capt. Campbell.
S. S. Sunbeam																			Capt. C. M. Dobson.
Barque Fedalma																			Capt. H. L. Fox.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. L'w'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
San José	26.16	664.4	29.88	758.9	64.4	18.0	88	NE			2	4ck	1d			0	0		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,767 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.44	773.3	30.49	774.5	29.5	—1.4	78	NNE			4		0						
Faröe	30.53	775.4	30.55	775.9	34.2	1.2	87	E			2		3						
Godthaab (Greenland)																			
Stykkisholm (Iceland)	29.50	749.4	29.55	750.5	47.5	8.6	95	S			7		8						
Thorshavn (Faröe)	30.25	768.4	30.29	769.3	47.1	8.4	74	SW			6		10						
Vestervig	30.44	773.1	30.55	775.9	31.8	— 0.1	96	Calm			0		0						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	30.16	766.0	30.71	780.0	17.6	— 8	88	NE			1		2ks			0	0	Slightly cld'y	Collignon, Director.
Amiens, Normal School	30.41	772.5	30.53	775.5	37.0	2.8	84	S			1		10		Calm	0	0	Covered	Vaillant, Director.
Arras, Engin'r School	30.37	771.3	30.65	778.4	33.1	0.6	100	N			1					0	0		Klein, Commandant.
Avignon, Normal School	30.34	770.5	30.41	772.5	34.5	1.4	78	NNW			4		2		N	0	0	Light clouds	Giraud, Director.
Bar-sur-Seine	30.08	764.0	30.69	779.6	21.6	— 5.8		S			1		10			0	0	Covered	C. Saillard, Director.
Beauvais, Normal School	30.39	772.0	30.68	779.2	31.6	— 0.2	90	WNW			1		10			0	0	Covered	Frère Eugene Marie.
Besançon, Normal School	29.71	754.6	30.68	779.3	24.8	— 4		E			1		0			0	0	Clear	A. Carré, Director.
Bourg-en-Bresse, N. School	29.76	755.8	30.67	779.0	15.8	— 9	100	N			1		5cn	N	N	0	0	Cloudy	Marlot, Diretor.
Bourges, Normal School	30.05	763.3	30.67	779.0	9.5	—12.5	91	ENE			3		10n		ENE	0	0	Covered	M. Gence, Director.
Brest, Naval Observatory	30.44	773.2	30.69	779.4	42.4	5.8	54	ESE			1		0			0	0		Ch. de Rermaree, Dir.
Caen, Normal School	30.01	777.5	30.69	779.6	36.3	2.4	87	S			1					0	0		M. Bietrin, Director.
Carcassonne, N. School	30.02	762.6	30.46	773.6	42.4	5.8	35	WSW			1		0			0	0	Clear	September, Director.
Châlons-sur-Marne, N. Sch'l	30.35	770.9	30.69	779.5	27.5	— 2.5		Calm			0		10					Covered	Jadot, Director.
Chartres, Normal School	30.10	764.5	30.72	780.3	19.4	— 7	56	NE			1		10			0	0	Covered	Vergier, Director.
Clermont-Fd, Puy de D. Obs	29.21	741.8	30.70	779.7	21.3	— 5.6	75	NW			1		8			0	0	Misty	Alluard, Director.
Commercy, Normal School	29.73	755.2	30.68	779.2	22.1	— 5.5		NW			1		10			0	0	Covered	Dr. Coullet, Director.
Commune de Gréasque*	29.19	741.4	30.37	771.4	37.8	3.2	51	NW			2		2		NW	0	0		L. Kina, Director.
Grenoble, Normal School	29.80	756.9	30.65	778.4	19.0	— 7.2		SSW			1		0			0	0	Clear	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.41	772.4	30.64	778.2	34.9	1.6	70	ENE			1		0			0	0	Clear	Mouillot, Director.
Le Mans, Normal School	30.41	772.5	30.76	781.2	15.1	— 9.4	87	NE			1		0			0	0	Clear	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.66	753.3	30.63	778.0	20.3	— 6.5	74	N			1		2		N	0	0	Slightly cld'y	A. Baudry, Director
Lorient, Naval Observatory	30.59	777.0	30.70	779.8	32.4	0.2	97	E			1		0			0	0	Clear	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.98	761.5	30.65	778.5	25.2	— 3.8	87	NE			1		8			0	0	Very cloudy	Ch. André, Director
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	30.02	762.6	30.30	769.6	38.5	3.6	39	NW			2		1		NW	0	0		E. Stephan, Director.
Mirecourt, Normal School	29.47	748.5	30.59	777.0	25.7	— 3.5	96	N			1		n		N	0	0		Barbier, Director.
Mont-Louis	25.08	637.0	30.39	772.0	38.8	3.8	55	NE	9.4	4.2			0			0	0		M. Cave.
Nice	30.30	769.5	30.33	770.3	46.4	8.0	59	Calm			0		1	NE	Calm	0	0	Clear	M. Boissière, Director.
Nismes, Normal School	30.21	767.2	30.42	772.6	41.0	5	66	N			3		0			0	0	Clear	M. Boyer, Director.
Paris, Montsouris Obs'y	30.39	771.8			26.2	— 3.2	95	NNW			1		10			Inap.	Inap.		Marié Davy, Director.
Perpignan	30.28	769.1	30.39	771.9	48.6	9.2	26	S	3.8	1.7			0			0	0		Dr. Fines.
Pic du Midi (Plantade) H. P.	22.70	576.6			28.4	— 2.0									W	0	0		Gen'l de Nansouty.
Pic du Midi (Summit) H. P.																			M. Baylac.
Privas, Normal School	29.37	746.0	30.50	774.8	33.1	0.6	92	N			1		1	N	N	0	0	Clear	M. Tallieu
Puy de Dome (Summit) Obs	25.48	645.8			14.9	— 9.5	100	NE			2		2			0	0	Misty	Alluard, Director.
Rochefort, Naval Obs'y	30.58	776.7	30.61	777.5	35.6	2.0	82	ENE			3		2	ENE	ENE	0	0	¾ covered	Lt E. Decante, Director
Rouen, Normal School	30.61	777.4	30.70	779.8	24.3	— 4.3	96	SE			1		10			0	0	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.68	779.2	30.71	780.0	32.0	0.0	81	SSE			1		0			0	0	Clear	Lt. Hercouet, Director
Saint Maur (near Paris)	30.51	775.0	30.68	779.2	21.7	— 5.7	97	SE			1		8		NNE	0	0	Foggy	E. Renou, Director.
Tarbes, Normal School	29.37	746.0	30.50	774.8	40.3	4.6	47	W			1		0			0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.84	757.9	30.58	776.6	32.9	0.5		N			1		0			0	0	Clear	M. Juher Mercadier.
Tours	30.53	775.4	30.72	780.4	21.2	— 6.0		E			1		10			0	0	Misty	Cousin-Marquet.
Versailles, Observatory	30.16	766.0	30.65	778.5	21.9	— 5.6	90	NW			1		10			0	0	Covered	Dr. A. Berigny, Director
Villefranche-sur-Saone, N. S	29.92	760.0	30.69	779.6	29.3	— 1.5	74	NNE			1		0			0	0	Clear	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.90	759.4	29.93	760.1	77.0	25										1.02	26.		L'Abbé Marchési
Zi-Ka-Wei (near Shanghai	30.19	766.7	30.21	767.3	42.8	6.0	94	ESE	4.7	2.1			5			0	0	Cloudy	Marc Dechevreus.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fal as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in gene al terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:58 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,092.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.56	750.7	30.41	772.4	31.6	— 0.2	89	SW			4		10ks	SW		0.150	3.8	Snow-fog	Prof. Dr. Hoh.
Berlin	30.17	766.2	30.35	770.8	34.7	1.5	73	N			1		8			0	0		Prof. Dr. Arndt.
Breslau	29.74	755.5	30.28	769.1	30.9	— 0.6	91	NW			2		10			0.162	4.11		Royal University Obs'y.
Carlsruhe	30.12	765.0	30.59	776.9	25.7	— 3.5	97	SW			2		10	N		0.079	2.0	Snowing	Albert Senz.
Cassel	29.84	758.0	30.46	773.7	34.5	1.4	90	NNW			3		10			0.021	0.53	Snowing	Dr. H. Möhl.
Emden			30.51	775.0	35.8	2.1	100	NE			2		10			0	0		Prof. Dr. Prestel.
Frankfort on the Main	30.19	766.8	30.58	776.8	32.0	0.0	83	SW			1		10			0.028	0.7		Physical Society.
Friedrichshafen	29.07	738.4	30.62	777.8	23.9	— 4.5	75	NNW			1		10	N		0.354	9.0	Light snow.	Chief Telegrapher Wilhelm.
Hamburg	30.43	773.0	30.50	774.8	35.1	1.7	80	NNW			3		10			0.087	2.2		Capt. P. F. A. Hegerman.
Kiel	30.50	774.8	30.52	775.2	34.7	1.5	74	N			1		10			0.006	0.14		Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.11	764.9	30.20	767.1	28.4	— 2.0	95	NE			2		7			0.079	2.0	Snowing	Prof. E. Luther.
Köslin			30.30	769.5	33.8	1.0		N			2		4			0	0		H. Müller.
Leipsic Observatory	29.98	761.5	30.43	772.8	32.7	0.4	92	NNW			2		9	NW		0.177	4.5		Prof. Dr. Brahms, Privy Counselor
Magdeburg	30.22	767.5	30.45	773.4	36.5	2.5	91	NW			2		9ks	NW		0.079	2.0		Dr. Assmann.
Memel	30.19	766.7	30.23	767.9	29.7	— 1.3	86	NNE			3		10n						Reinbrecht & Issermann.
Munich (München)	28.57	725.6	30.46	773.6	27.1	— 2.7	92	W			6		10			0.441	11.2	Stormy	Dr. C. Lang.
Neufahrwasser	30.20	767.1	30.22	767.5	33.6	0.9	90	N			4		8			0.087	2.2		A. Lothes.
Neustadt (Palatinate)	29.99	761.8	30.52	775.3	31.1	— 0.5		W			4		10			0	0		Reallehrer Dicknether.
Posen	29.96	761.0	30.27	768.8	31.5	— 0.3	84	NW			2		10			0.016	0.4	Snowing	Prof. Dr. Magener.
Strassburg (in Alsace)	30.06	763.4	30.66	778.7	25.2	— 3.8	86	SW			1		10			0	0		Imp. University Observatory.
Stuttgart	29.54	750.3	30.54	775.8	30.7	— 0.7	95	W			1		10			0.134	3.4		Prof. Dr. Schoder.
Weissenburg (Bavaria)	28.89	733.9	30.48	774.1	26.6	— 3.0	96	W			1		10			0.366	9.3	Snowing	Reallehrer J. Hopfner
Wustrow	30.44	773.3	30.47	773.9	32.7	0.4	78	NNE			3		3s			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made: the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.85	758.3	30.25	768.4	50.5	10.3		NE			1-0		1k					Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.93	760.1	29.98	761.4	71.1	21.7	63	SW	9	4.0		3				0	0	D. clouds.	
Deesa	29.52	749.8	30.00	762.1	73.0	22.8	22	NW	7	3.1		0				0	0	Blue sky:	
Bombay	29.85	758.3	29.89	759.2	74.8	23.8	67	NNW	16	7.2		0				0	0	Blue sky	
Poona (Yerrowda)	28.04	712.1	29.90	759.6	75.8	24.3	19	ENE	10	4.5		0				0	0	Blue sky	
Belgaum	27.34	694.4	29.89	759.3	72.4	22.4	47	NNW	2	0.9		1	S			0	0	D. clouds	
Lahore	29.17	740.9	29.94	760.5	61.1	16.2	48	Calm	0.3	0.1		0				0	0	Blue sky	
Roorkee	29.04	737.7	29.99	761.8	54.8	12.7	50	Calm	1.5	0.7		0				0	0	Blue sky	
Agra	29.40	746.6	29.98	761.6	61.8	16.6	41	Calm	2.1	0.9		0				0	0		
Nagpur	28.89	733.9	29.96	761 0	69.2	20.7	35	Calm	2.3	1.0		0				0	0	Blue sky	
Jubbulpore	28.58	726.0	29.98	761.4	69.9	21.1	32	N	1.1	0.5		0				0	0	Blue sky	
Lucknow	29.61	752.0	30.00	762.0	61.5	16.4	38	Calm	0.1	0.04		0				0	0	Blue sky	
Allahabad	29.68	753.7	30.01	762.1	56.7	13.7	65	Calm	1.1	0.5		0				0	0	Blue sky	
Patna	29.78	756.5	29.97	761.3	65.4	18.6	56	W	0.3	0.1		0				0	0	Blue sky	
Hazaribagh	27.89	708.5	29.98	761.6	59.8	15.4	55	NNW	3.6	1.6		0				0	0	Blue sky	
Cuttack	29.88	758.8	29.96	761.0	68.2	20.1	81	Calm	0.3	0.1		0				0	0	Blue sky	
Calcutta (Alipore)	29.92	759.9	29.94	760.5	64.8	18.2	77	NNW	0.5	0.2		0				0	0	Blue sky	
Goalpara	29.53	749.9	29.93	760.1	69.8	21.0	61	Calm	1.8	0.8		0				0	0	Blue sky	
Chittagong	29.82	757.4	29.91	759.8	70.3	21.3	83	NW	2.8	1.2		0				0	0		
Sibsagar	29.60	751.8	29.95	760.6	67.0	19.4	73	ENE	1.6	0.7		2				0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,361 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.90	759.4	30.34	770.6	29.3	— 1.5	50	N	0.7	0.3	.....	.....	0	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.77	756.2	30.33	770.3	27.3	— 2.6	89	SW	.....	.....	2	.....	1	SW	.....	0	0	.....	Prof. Schiaparelli.
Padua	30.23	767.8	30.35	770.8	24.1	— 4.4	70	NW	0.7	0.3	.....	.....	9	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.52	749.8	30.34	770.7	25.2	— 3.8	75	ESE	.....	.....	2	.....	3	ENE	.....	0	0	.....	Prof. P. F. Denza.
Genoa	30.13	765.4	30.34	770.5	44.1	6.7	51	NE	0.7	0.3	.....	.....	10	SW	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.31	719.0	30.34	770.6	30.7	— 0.7	32	NE	.....	.....	4	.....	8	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.29	769.3	30.34	770.7	31.8	— 0.1	65	S	2.5	1.1	.....	.....	3	N	.....	0	0	.....	Prof. Luigi Guidi.
Florence	30.10	764.4	30.37	771.4	35.2	1.8	65	E	.....	.....	2	.....	5	NW	.....	0	0	.....	Cav. F. Meucci.
Leghorn	30.27	768.8	30.36	771.1	40.8	4.9	81	N	3.8	1.7	.....	.....	8	.....	.....	0	0	.....	Prof. P. Monte.
Rome	30.13	765.4	30.32	770.1	42.1	5.6	41	NE	4.9	2.2	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.98	761.6	30.25	768.3	39.6	4.2	89	NW	14.3	6.4	.....	.....	9	N	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.37	745.9	30.30	769.6	36.9	2.7	79	SE	0	0	.....	.....	3	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	30.08	764.1	30.28	769.2	47.8	8.8	47	NW	.....	.....	2	.....	0	.....	.....	0.008	0.2	.....	Prof. A. Pacinotti.
Palermo	30.01	762.3	30.27	768.9	47.7	8.7	60	NE	4.3	1.9	.....	.....	4	.....	.....	0.106	2.7	.....	Prof. G. Cincciatore.
Syracuse	30.07	763.6	30.14	765.5	48.0	8.9	63	W	4.9	2.2	.....	.....	4	WSW	.....	0	0	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.76	755.9	30.31	769.9	42.8	6.0	60	NE	1.3	0.6	.....	.....	0	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.14	765.5	30.15	765.8	42.3	5.7	84	NNE	11.7	5.2	.....	0	0	.....	.....	0	0	Clear.	K. Sasaki.
Nagasaki, I. M. Obs'y	29.94	760.5	30.15	765.8	45.3	7.4	88	SW	0.4	0.2	.....	.....	0	.....	.....	0	0	Clear.	S. Takehayashi.
Tokei, (Yeddo) Observatory	30.12	765.0	30.19	766.8	45.1	7.3	77	N	5.8	2.6	.....	.....	1ks	.....	.....	0	0	Fair.	The Staff.
Wakayama	30.10	764.5	30.15	765.8	43.1	6.2	87	N	3.9	1.7	.....	.....	0	.....	.....	0	0	Clear.	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	24.99	634.7	30.13	765.2	45.5	7.5	57	SW	.....	.....	1	.....	5	.....	SE	0	0	⅛ covered.	Prof. L. Perez.
Leon	24.40	619.8	30.13	765.3	55.2	12.9	89	S	.....	.....	1	10c	0	NW	.....	0	0	Cloudy.	Prof. M. Leal.
Mazatlan	29.67	753.5	29.93	760.2	60.6	15.9	88	N	.....	.....	2	1c	0	.....	.....	0	0	Clear.	I. Guerrero, C. E.
Mexico, Central Observatory	23.03	584.9	30.15	765.8	46.4	8.0	83	Calm	0	0	.....	5ks	0	.....	.....	0	0	⅛ clouded.	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	48.6	9.2	54	NE	.....	.....	1	2c	1s	SW	.....	0	0	Clear.	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.37	593.6	30.27	768.9	46.0	7.8	54	Calm	0	0	.....	0	0	.....	.....	0	0	Fine.	Prof. P. Spina.
San Luis Potosi	24.10	612.1	30.90	769.7	41.0	5.0	62	SE	.....	.....	1	.....	10	.....	E	0.024	0.6	Covered.	G. Barroeta, M. D.
Tlacotalpam	30.02	762.5	30.03	762.8	68.0	20.0	75	N	.....	.....	6	2	1	W	N	0	0	Clear.	Prof. M. M. Chazaro.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell
Zacatecas	22.48	571.1	30.15	765.9	50.0	10.0	52	Calm	0	0	.....	1s	0	.....	.....	0	0	Clear.	J. C. Castrillon

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,490 m., or 8,169 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column; the instrumental correction —0.88 mm., or —0.035 inch, has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.61	777.5	30.61	777.5	37.2	2.9	.....	NW	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Groningen	30.46	773.8	30.52	775.2	29.7	— 1.3	.....	N	.....	.....	1	.....	.....	.....	.....	0.004	0.1	.....	
Helder	30.53	775.4	30.53	775.4	37.6	3.1	.....	NNW	.....	.....	1	.....	.....	.....	.....	0.039	1.0	.....	
Hellevoetsluis	30.56	776.3	30.56	776.3	39.4	4.1	90	WNW	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	
Utrecht	30.51	774.9	30.56	776.1	39.7	4.3	87	W	.....	.....	2	.....	2	.....	.....	0.012	0.3	Slightly cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.59	776.9	30.64	778.3	32.4	0.2	96	SSE	1.1	0.5	.....	.....	4	.....	.....	0	0	.....	
Brönö	30.32	770.1	30.36	771.1	35.6	2.0	82	SW	18	8	.....	.....	10	.....	.....	0	0	.....	
Christiana	30.41	772.4	30.57	776.4	31.1	— 0.5	98	SSE	0	0	.....	.....	10	.....	.....	0.008	0.2	Foggy	
Tromsö	29.86	758.4	29.90	759.5	37.4	— 3.0	76	SW	11	5	.....	.....	10	.....	.....	1.102	28.0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	29.67	753.6	29.86	758.5	62.2	16.8	92	ESE	13.0	5.8	.....	.....	7	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.40	746.8	30.44	773.1	50.4	10.2	51	ESE	6.9	3.1	.....	.....	2	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	30.02	762.6	30.11	764.8	68.2	20.1	72	ESE	2.5	1.1	.....	.....	4	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon Observatory	30.06	763.4	30.43	772.8	48.2	9.0	68	NE	16.1	7.2	.....	.....	4	SSW	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	29.87	758.6	29.94	760.4	64.4	18.0	84	SE	21.7	9.7	.....	.....	3	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE Naval Series. Vessels.	Sea or swell. Height scale 0–9	Sea or swell. Direction form—		
Bartholomew Dias				A. G. da Silva Costa, Com'd't.
D. Fernando				A. M. de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.				J. C. M. Cabrate, 1st Lt.
Mindello				J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos				H. de C. C. e Athayde.
Rio Duro				J. T. d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa. Santiago, Cape Verd Ids			Blue sky	A. D. da Fonseca Sarurento
Sá da Bandeira				F. Teixeira da Silva, Comd't.
Sado, Capt. J. A de Brito Capello. St. Paul de Loando			D. clouds	Luiz Aprá, Q. M.
Tejo, Capt. J. M. T. Guimaraes. Macao, China			Blue sky	J. G. Felgo, 2nd Lieut.

Note.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sá da Bandeirà gives the barometer reduced tofreezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	30.33	770.3	30.35	770.8	—27.8	—33.2	74	E	4	2	.....	.....	8ks	.....	.....	.....	.....	.....	Capt. Sselliwerstow.
Astrakhan	30.19	766.9	30.11	764.8	36.3	2.4	96	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Capt. Wisganow.
Barnaul	29.91	759.6	30.45	773.5	13.5	—10.3	75	SW	13	6	.....	.....	9	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Dorpat	30.05	763.2	30.31	769.8	21.0	— 6.1	93	NNW	4	2	.....	.....	10n	.....	.....	.....	.....	Light snow.	Prof. Dr. Weihrauch.
Ekaterinburg	29.04	737.6	30.08	764.1	9.5	—12.5	88	Calm	0	0	.....	.....	8	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk																			
Kasan	29.90	759.5	30.20	767.0	12.4	—10.9	93	N	2	1	.....	.....	3	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch																			Lagorio.
Kieff	29.45	748.1	30.15	765.7	17.6	— 8.0	94	W	2	1	.....	.....	10n	.....	.....	.....	.....	.....	Physical Cabinet.
Krotkowo*																			Cand. Fatjanow.
Lugan	29.59	759.2	30.11	764.8	22.3	— 5.4	85	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs
Moscow	29.62	752.4	30.22	767.5	17.6	— 8.0	83	WSW	10.1	4.5	.....	.....	6s	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	27.85	707.3	30.33	770.3	11.8	—11.2	77	NW	7	3	.....	.....	2	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	30.19	766.9	30.26	768.7	14.2	— 9.9	80	N	9	4	.....	7c	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.84	757.9	30.08	764.0	43.2	6.2	66	Calm	0	0	.....	.....	5ks	.....	.....	.....	.....	.....	Kurdakof.
Orenberg																			
Pekin (China)	29.99	761.8	30.13	765.4	33.6	0.9	83	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	
St. Petersburg	30.28	769.0	30.29	769.4	15.1	— 9.4	94	N	9	4	.....	.....	10n	.....	.....	.....	.....	Snowing	Physical Observatory.
Tashkend	28.70	729.0	30.34	770.6	39.6	4.2	44	NE	13	6	.....	.....	2	.....	.....	.....	.....	.....	Central Physical Obs.
Tiflis	28.61	726.6	30.06	763.5	42.4	5.8	85	Calm	0	0	.....	.....	10s	.....	.....	.....	.....	.....	Teich, A. M.
Vladivostock																			Physical Observatory.
Warsaw	29.68	753.8	30.12	765.1	30.0	— 1.1	92	NW	7	3	.....	.....	10ks	.....	.....	.....	.....	.....	
Wilna	29.73	755.2	30.18	766.6	24.3	— 4.3	89	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Astronomical Obs.
Yenisiesk	30.06	763.5	30.37	771.5	10.4	—12.0	92	WSW	7	3	.....	.....	10	.....	.....	.....	.....	Heavy clouds	Astronomical Obs.
																			Marks.

Note.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	30.32	770.1	30.43	772.9	45.9	7.7	49	W	5.1	2.28	.....	.....	0	.....	.....	0	0	Clear.	Antonio Rave, Director
Bilbao, Met. Obs'y	30.42	772.7	30.48	774.2	45.9	7.7	63	SE	2.3	1.04	.....	0	0	.....	.....	0	0	Clear.	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.43	696.6	.....	.....	49.6	9.8	15	E	2.7	1.21	.....	0	0	.....	.....	0	0	Clear.	Domingo Martin y Perez.
Madrid, Royal Observatory	28.20	716.3	30.56	776.1	38.8	3.8	74	SW	3.0	1.33	.....	0	0	.....	.....	0	0	Clear.	The Staff.
Murcia, Met. Obs'y	30.34	770.5	30.49	774.4	52.7	11.5	59	SE	1.1	0.50	.....	0	2	.....	.....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.52	749.7	30.43	772.8	55.2	12.9	54	N	0	0	.....	.....	0	.....	.....	0	0	Clear.	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.94	760.5	30.01	762.2	72.0	22.2	91	Calm	0	0	.....	10ckjcs	1s;k	SSW	.....	0	0	Cloudy.....	Benito Vines S. J.
Manilla, Phillippine Islands	29.78	756.3	29.83	757.6	80.4	26.9	70	NNE	4.5	2.0	.....	0	28	.....	.....	0	0	Fine	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.28	769.0	30.38	771.6	58.8	14.9	59	SSE	23.9	10.7	.....	0	3	.....	ESE	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W.I	29.95	760.7	30.04	763.0	76.6	24.8	71	NE	12.2	5.43	.....	3cks	2kn	NE	NE	0.049	1.25	Cloudy.....	Enrique Gadea, Chief Eng'r.

Note.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.24	768.0	30.28	769.0	10.8	—11.8	.....	SE	.....	.....	2	.....	10	.....	.....	0	0	.....	
Umea	30.35	770.8	30.40	772.1	3.9	—15.6	90	N	.....	.....	2	.....	8	.....	.....	0	0	.....	
Hernosand	30.47	773.8	30.52	775.1	8.6	—13.0	92	Calm	.....	.....	0	.....	2	.....	.....	0	0	.....	
Stockholm	30.37	771.5	30.55	776.0	22.1	— 5.5	80	N	.....	.....	2	.....	0	.....	.....	0 008	0.2	.....	
Wisby	30 24	768.2	30.30	769.7	32.0	0.0	81	NE	.....	.....	7	.....	10	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	30.41	772.3	30.49	774.5	15.8	— 9.0	97	NNW	2.5	1.1	.....	.....	0	.....	.....	0.004	0.11	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	29.09	738.8	30.60	777.2	26.6	— 3.0	70	WSW	.....	.....	1	.....	6	.....	.....	0	0	Hazy	The Observatory.
Zurich	28.86	733.1	30.60	777.2	27.0	— 2.8	89	NW	.....	.....	1	.....	9	.....	.....	0.110	2.8	Foggy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +11.4 mm.; Thermometer, —5.7 Cent.; Relative Humidity, —10 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.28	769.1	34.9	1.6	85	N	7	3.0	.....	.....	10	.....	N	0.484	12.3	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.16	766.1	42.6	6 9	.....	NW	.....	.....	1	.....	2	.....	.....	0	0	Slightly cld'y	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.96	761.0	30.07	763.8	64.4	18.0	75	W	.....	.....	1	.....	8n	.....	W	0.08	2.0	D. clouds	Prof. C. V. A. van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	29.78	756.4	29.85	758.2	33.8	1.0	84	Calm	0	0	.....	.....	10ks	.....	.....	0.01	0.3	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	29.77	756.1	29.82	757.4	34.8	1.6	93	SW	2	0.9	.....	.....	10s	.....	.....	0.24	6.1	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.84	757.9	30.05	763.3	23.2	— 4.9	85	NW	.....	.....	1	.....	10n	.....	.....	0	0	Overcast	James Smith, M. A.
Dalhousie, N. B	29.66	753.4	29.84	757.9	24	— 4.4	.....	W	.....	.....	1	0	7ks	.....	.....	0.05	1.3	Cloudy	H. A. Johnson.
Father Point, Quebec	29.88	758.9	29.90	759.4	19.1	— 7.2	77	NW	15	6.7	.....	.....	10n	.....	.....	0.04	1.0	Light snow.	J. McWilliams.
Fredericton, N. B	29.85	758.2	29.91	759.7	33.7	0.9	66	NW	2	0.9	.....	.....	10s	.....	.....	0	0	Overcast	Prof. Harrison.
Fort Garry, Manitoba	29.46	748.3	30.47	773.9	—31.5	—35.3	100	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear.	James Stewart.
Granton, Ontario	29.05	737.9	30.24	768.1	19	— 7.2	.....	W	.....	.....	2	.....	10n	.....	.....	Inap.	Inap.	Cloudy	James Grant.
Halifax, N. S	29.75	755.6	29.88	758.9	35.0	1.7	94	NW	2	0.9	.....	.....	10n	.....	.....	0.27	6.9	Light snow.	A. Allison.
Hamilton, Ontario	29.83	757.7	30.22	767.6	24.5	— 4.2	76	W	.....	.....	1	10cs	0	W	.....	0.18	4.6	Cloudy	Geo. Dickson, B. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.75	755.6	30.10	764.5	23.1	— 4.9	93	W	7	3.1	.....	0	2s	.....	.....	0	0	Clear.	S. Woods, M. A.
Little Glace Bay, N. S	29.79	756.7	29.83	757.7	33.2	0.7	96	S	2	0.9	.....	.....	10n	.....	.....	0.43	10.9	Snowing	C. H. Rigby.
Montreal, Quebec	29.82	757.4	30.03	762.7	25.0	— 3.9	77	NW	8	3.6	.....	.....	10ks	.....	.....	0.02	0.5	Overcast	C. H. McLeod, C. E.
Moose Factory, Ontario	30.26	768.6	30.30	769.6	—33.2	—36.2	100	SW	.....	.....	1	0	0	.....	.....	0	0	Clear.	J. R. Nelson.
Norwood	29.38	746.2	30.13	765.3	18.1	— 7.7	.....	NW	.....	.....	3	0	3s	.....	.....	0	0	Clear.	Rev. T. F. Fotheringham, M. A.
Parry Sound, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. R. Mosley.
Peterboro, Ontario	29.37	746.0	30.18	766.6	16.6	— 8.6	48	N	.....	.....	4	0	6ks	.....	.....	0	0	Fair	J. F. Jeffers, M. A.
Port Dover, Ontario	29.50	749.3	30.24	768.1	16.1	— 7.2	84	W	9	4.0	.....	2ck	0	SW	.....	0	0	Fair	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.54	750.3	30.24	768.1	17.6	— 8.0	93	W	16	7.2	.....	0	5ks	.....	SW	0	0	Clearing	M. Payne.
Quebec, Quebec	29.65	753.1	29.99	761.7	22	— 5.6	86	N	.....	.....	1	.....	10s	.....	.....	0.04	1.0	Fair	Capt. Ashe, R. N.
Rockliffe, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. McIntyre.
St. Andrews, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Gove.
St. John, N. B	29.75	755.6	29.92	760.0	35	1.7	85	NW	6	2.7	.....	.....	10ks	.....	.....	0	0	Overcast	G. Murdock, C. E.
Saugeen, Ontario	29.46	748.3	30.24	768.1	16.0	— 8.9	87	N	26	11.6	.....	.....	10ks	.....	.....	0.17	4.3	Snowing	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.85	732.8	30.23	767.6	18.4	— 7.6	89	NW	10	4.5	.....	.....	10s	.....	.....	0.050	1.27	Cloudy	C. J. MacGregor, M. A.
Sydney, C. B	29.78	756.4	29.82	757.4	35.4	1.9	66	NE	1	0.4	.....	.....	10n	.....	.....	0.24	6.1	Snowing	T. C. Hill, C. E.
Toronto, Ontario	29.82	757.4	30.23	767.8	31.0	— 0.6	72	W	14	6.3	.....	07	07	.....	.....	0.01	0.3	Cloudy?	Magnetic Observatory.
Windsor, N. S	29.73	755.1	29.82	757.4	36.0	2.2	90	NW	4	1.8	.....	.....	10n	.....	.....	0.13	3.3	Overcast	Prof. John E. Oram, M. A.
Woodstock, Ontario	29.09	738.9	30.23	767.8	19.6	— 6 9	96	SW	12	5.4	.....	9k	0	W	.....	0.06	1.3	Cloudy	Prof. J. Montgomery.
Yarmouth, N. S	29.83	757.7	29.90	759.4	33.7	0.9	96	N	3	1.3	.....	10k	6s	NW	.....	0.23	5.8	Cloudy	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.58	751.3	29.84	757.9	42.0	5.6	96	SW	.....	.....	.....	.....	10	.....	.....	0.06	1.5	Overcast	John Delany.
St. Pierre, N. F., l'Hopital Maritime	.....	.....	29.70	754.3	39.2	4	.....	SW	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	The Commandant.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of BVT. BRIG.-GEN. ALBERT J. MYER, Chief Signal Officer. U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0–10.	CLOUDS. Amount. Up'er 0–10.	CLOUDS. Amount. Lo'er 0–10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.90	759.4	30.14	765.5	30	— 1.1	57	NW	8	3.6	.....	0	8s	.....	W	0.08	2.0	Fair	.....
Alpena, Michigan	29.54	750.3	30.24	768.1	15	— 9.4	82	W	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	.....
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Atlanta, Georgia	28.93	734.8	30.14	765.5	32	0.0	69	NW	14	6.3	.....	2c	2s	Calm	Calm	1.22	31.0	Fair	.....
Atlantic City, New Jersey	30.10	764.5	30.12	765.0	38	3.3	72	NW	10	4.5	.....	.....	10s	.....	Calm	0.51	13.0	Cloudy	.....
Augusta, Georgia	29.93	760.2	30.13	765.3	49	9.4	71	NW	1	0.4	.....	.....	10s	.....	Calm	1.25	31.7	Cloudy	.....
Baltimore, Maryland	30.15	765.8	30.20	767 1	38	3.3	45	NW	8	3 6	.....	8cs	0	W	.....	0.74	18.8	Fair	.....
Barnegat, New Jersey	30.10	764.5	30.13	765 3	38	3.3	81	NW	12	5.4	.....	.....	10s	.....	NW	0.39	9.9	Cloudy	.....
Bismarck, Dakota	28.30	718.8	30.15	765.8	—17	—27.2	100	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	.....
Boerne, Texas	28.75	730.2	30.17	766.3	26	— 3.3	75	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	.....
Boise City, Idaho	27.39	695.7	30.35	770.9	24	— 4.4	93	NW	2	0.9	.....	.....	10s	.....	Calm	0.17	4.3	Cloudy	.....
Boston, Massachusetts	29.88	758.9	30.04	763.0	37	2.8	53	W	9	4.0	.....	.....	10s	.....	W	0.01	0.3	Cloudy	.....
Brackettville, Texas	29.07	738.4	30.22	767.6	25	— 3.9	75	NE	.....	0.4	.....	0	0	.....	.....	0	0	Clear	.....
Breckenridge, Minnesota	29.31	744.5	30.53	775.4	-30	—34.4	100	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	.....
Brownsville, Texas	30.13	765.3	30.18	766.6	45	7.2	61	N	4	1.8	.....	.....	10s	.....	N	Inap.	Inap.	Cloudy	.....
Buffalo, New York	29.47	748.5	30.22	767.6	22	— 5.6	72	W	14	6.3	.....	0	2s	.....	W	Inap.	Inap.	Clear	.....
Burkes, Arizona	.....	.....	.....	.....	37	2.8	38	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	.....
Burlington, Vermont	29.75	755.6	30.05	763.3	31	— 0.6	58	W	12	5.4	.....	2ck	5ks	W	W	0.02	0.5	Fair	.....
Cairo, Illinois	30.03	762.7	30.46	773.7	23	— 5.0	73	N	5	2.2	.....	0	0	.....	.....	0	0	Clear	.....
Campo, California	27.40	696.0	29.97	761.2	32	0.0	89	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	.....
Cape Hatteras, N. Carolina	30.04	763.0	30.05	763.3	50	10.0	86	N	27	12.1	.....	.....	10s	.....	N	0.50	12.7	Cloudy	.....
Cape Henry, Virginia	30.13	765.3	30.14	765.5	42	5.6	74	N	19	8.5	.....	.....	10n	.....	N	0.18	4.6	Light rain	...
Cape Lookout, N. Carolina	30.04	763.0	30.05	763.3	48	8.9	100	NE	30	13.4	.....	.....	10s	.....	Calm	0	0	Threatening	
Cape May, New Jersey	30.11	764.8	30.14	765.5	39	3.9	63	NW	25	11.2	.....	.....	10s	.....	NW	0.96	24.4	Cloudy	.....
Castroville, Texas	29.47	748.5	30.23	767.8	28	— 2.2	66	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	.....
Cedar Keys, Florida	30.00	762.0	30.02	762.5	64	17.8	94	N	10	4.5	.....	.....	10s	.....	SE	0.39	9.9	Cloudy	.....
Charleston, South Carolina	29.97	761.2	30.02	762.5	62	16.7	88	NW	5	2.2	.....	.....	10s	.....	NW	0.12	3.0	Cloudy	.....
Charlotte, North Carolina	29.28	743.7	30.11	764.8	41	5.0	65	N	9	4.0	.....	.....	10s	.....	W	0	0	Cloudy	.....
Chattanooga, Tennessee	29.43	747.5	30.29	769.4	28	— 2.2	77	NW	6	2.7	.....	0	1s	.....	Calm	0.08	2.0	Clear	.....
Cheyenne, Wyoming	23.85	605.8	29.79	756.7	20	— 6.7	56	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	.....
Chicago, Illinois	29.59	751.6	30.35	770.9	13	—10.6	62	W	5	2.2	.....	0	0	.....	.....	Inap.	Inap.	Clear	.....
Cincinnati, Ohio	29.68	753.9	30.39	771.9	25	— 3.9	75	W	6	2.7	.....	.....	10n	.....	NW	Inap.	Inap.	Light snow	..
Cleveland, Ohio	29.51	749.5	30.30	769.6	19	— 7.2	85	SW	9	4.0	.....	.....	10n	.....	Calm	0.06	1.5	Light snow	..
Coleman City, Texas	28.37	720.6	30.20	767.1	17	— 8.3	67	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	.....
Columbus, Ohio	29.45	748.0	30.36	771.1	23	— 5.0	86	NW	5	2.2	.....	.....	10ks	.....	NW	0	0	Cloudy	.....
Concho, Texas	28.26	717.8	30.07	763.8	20	— 6.7	56	N	.....	.....	1	0	0	.....	.....	0	0	Clear	.....
Corsicana, Texas	29.85	758.2	30.36	771.1	24	— 4.4	74	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	.....
Davenport, Iowa	29.72	754.9	30.45	773.4	5	—15.0	75	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	.....
Dayton, Washington T'y	.....	.....	.....	.....	35	1.7	90	SW	.....	.....	1	.....	10s	.....	Calm	0.09	2.3	Cloudy	.....
Deadwood, Dakota	25.22	640.6	.....	.....	6	—14.4	76	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	.....
Decatur, Texas	29.27	743.4	30.54	775.7	26	— 3.3	40	SE	8	3.6	.....	5cs	0	SE	.....	0	0	Cloudy	.....
Denison, Texas	29.52	749.8	30.39	771.9	21	— 6.1	71	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear	.....
Denver, Colorado	24.64	625.8	29.86	758.4	9	—12.8	78	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	.....
Des Moines, Iowa	29.42	747.3	30.41	772.4	4	—15.6	74	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	.....
Detroit, Michigan	29.56	750.8	30.29	769.4	17	— 8.3	83	W	3	1.3	.....	0	0	.....	.....	Inap.	Inap.	Clear	.....
Dodge City, Kansas	27.53	699.2	30.04	763.0	10	—12.2	38	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear	.....
Dubuque, Iowa	29.69	754.1	30.49	774.4	0	—17.8	70	W	3	1.3	.....	0	1s	.....	Calm	0	0	Clear	.....
Duluth, Minnesota	29.63	752.6	30.43	772.9	—17	—27.2	68	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear	.....
Eagle Pass, Texas	29.49	749.0	30.29	769.4	28	— 2.2	66	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	.....
Eastport, Maine	29.83	757.7	29.90	759.4	37	2.8	71	W	4	1.8	.....	.....	10ks	.....	W	0.06	1.5	Cloudy	.....
Edinburg, Texas	.....	.....	.....	.....	42	5.6	83	N	.....	.....	1	.....	8s	.....	Calm	0	0	Cloudy	.....
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Erie, Pennsylvania	29.49	749.0	30.25	768.3	26	— 3.3	75	NW	16	7.2	.....	.....	10n	.....	NW	0.01	0.3	Light snow	..
Escanaba, Michigan	29.58	751.3	30.31	769.9	4	—15.6	74	NW	8	3.6	.....	0	5s	.....	W	0	0	Fair	.....
Florence, Arizona	28.46	722.9	30.06	763.5	34	1.1	70	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	.....
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fort Buford, Dakota	27.96	710.2	30.09	764.3	—18	—27.8	67	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	.....
Fort Custer, Montana	26.75	679.4	.....	.....	17	— 8.3	67	Calm	0	0	.....	0	0	.....	.....	0.01	0.3	Clear	.....
Fort Davis, Texas	25.07	636.8	30.03	762.7	31	— 0.6	58	E	10	4.5	.....	0	0	.....	.....	0	0	Clear	.....
Fort Gibson, Indian Ter	29.82	757.4	30.41	772.4	20	— 6.7	70	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	.....
Fort Grant, Arizona	25.16	639.0	29.96	761.0	32	0.0	32	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	.....
Fort Griffin, Texas	28.98	736.1	30.37	771.4	21	— 6.1	57	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	.....
Fort Keogh, Montana	27.38	695.4	.....	.....	— 7	—21.7	59	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	.....
Fort McKavett, Texas	27.85	707.4	29.90	759.4	25	— 3.9	75	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	.....
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fort Sill, Indian Territory	29.04	737.6	30.26	768.6	19	— 7.2	54	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	.....
Fort Stevenson, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fort Verde, Arizona	.....	.....	.....	.....	24	— 4.4	74	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	.....
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fredericksburg, Texas	28.32	719.3	29.99	761.7	28	— 2.2	66	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	.....
Galveston, Texas	30.23	767.8	30.27	768.8	38	3.3	63	NE	14	6.3	.....	0	0	.....	.....	0	0	Clear	.....
Graham, Texas	29.17	740.9	30.34	770.6	16	— 8.9	49	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	.....
Grand Haven, Michigan	29.57	751.1	30.26	768.6	23	— 5.0	86	W	8	3.6	.....	.....	10s	.....	Calm	0.21	5.3	Cloudy	.....
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Henrietta, Texas	.....	.....	.....	.....	19	— 7.2	85	E	6	2.7	.....	0	2s	.....	Calm	0	0	Fair	.....
Indianapolis, Indiana	29.50	749.3	30.35	770.9	19	— 7.2	69	NW	4	1.8	.....	.....	10s	.....	NW	0.01	0.3	Cloudy	.....
Indianola, Texas	30.25	768.3	30.28	769.1	37	2.8	63	NE	25	11.2	.....	0	0	.....	.....	0	0	Clear	.....
Jacksboro, Texas	29.12	739.6	30.34	770 6	25	— 3.9	75	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	.....
Jacksonville, Florida	30.02	762.5	30.04	763.0	65	18.3	84	N	5	2.2	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	.....
Keokuk, Iowa	29.73	755.1	30.42	772.7	9	—12.8	78	NW	5	2.2	.....	0	1s	.....	Calm	0	0	Clear	.....
Key West, Florida	29.99	761.7	30.03	762.7	70	21.1	95	NE	3	1.3	.....	.....	10s	.....	NE	3.87	98.3	Cloudy	.....
Kittyhawk, North Carolina	30.09	764.3	30.12	765.0	46	7.8	84	NE	34	15.2	.....	.....	10ks	.....	NE	0.12	3.0	Cloudy	.....
Knoxville, Tennessee	29.25	742.9	30.32	770.1	28.5	— 1.9	77	N	8	3.6	.....	.....	10ks	.....	E	0.21	5.3	Cloudy	.....
La Crosse, Wisconsin	29.59	751.6	30.44	773.2	— 1	—18.3	68	W	6	2.7	.....	0	0	.....	.....	0	0	Clear	.....
La Mesilla, New Mexico	26.06	661.9	30.21	767.3	21	— 6.1	57	Calm	0	0	.....	0	1s	.....	Calm	0	0	Clear	.....
Laredo, Texas	29.83	757.7	30.20	767.1	34	1.1	90	Calm	0	0	.....	.....	10s	.....	NE	0	0	Cloudy	.....
Leavenworth, Kansas	29.49	749.0	30.43	772.9	12	—11.1	61	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	.....
Lewiston, Idaho	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Little Rock, Arkansas	30.06	763.5	30.45	773.4	25	— 3.9	75	N	5	2.2	.....	0	0	.....	.....	0	0	Clear	.....
Los Angeles, California	29.64	752.8	29.98	761.5	48.0	8.9	70	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	.....
Louisville, Kentucky	29.78	756.4	30.39	771.9	23	— 5.0	60	NW	4	1.8	.....	.....	10n	.....	Calm	Inap.	Inap.	Light snow	..
Lynchburg, Virginia	29.50	749.3	30.21	767.3	38	3.3	63	NW	5	2.2	.....	5cs	2ks	SW	Calm	0.19	4.8	Fair	.....
Madison, Wisconsin	29.25	742.9	30.36	771.1	4	—15.6	74	NW	10	4.5	.....	0	5s	.....	NW	0	0	Fair	.....
Marquette, Michigan	29.48	748.8	30.26	768.6	5	—15.0	75	N	4	1.8	.....	0	0	.....	.....	0.18	4.7	Clear	.....
Mason, Texas	28.56	725.4	30.48	774.2	21	— 6.1	71	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear	.....
Memphis, Tennessee	30.05	763.3	30.42	772.7	24	— 4.4	48	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	.....
Milwaukee, Wisconsin	29.53	750.0	30.34	770.6	7	—13.9	77	W	7	3.1	.....	0	1s	.....	Calm	Inap.	Inap.	Clear	.....

UNITED STATES SERIES—CONTINUED.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Mobile, Alabama	30.16	766.1	30.20	767.1	35	1.7	80	N	11	4.9	.....	2ck	1s	W	Calm	0.01	0.3	Fair	
Montgomery, Alabama	29.98	761.5	30.23	767.8	33	0.6	69	N	10	4.5	.....	2c	0	W	.....	0.46	11.7	Clear.	
Morgantown, West Virginia	29.24	742.7	30.29	769.4	31	— 0.6	48	N	9	4.0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Mt. Washington, N. H.	23.37	593.6	29.73	755.1	7	—13.9	100	NW	60	26.8	.....	.....	10n	.....	NW	0.25	6.3	Light snow.	
Nashville, Tennessee	29.84	757.9	30.42	772.7	25	— 3.9	62	Calm	0	0	.....	0	5ks	.....	NE.	0	0	Fair	
New Haven, Connecticut	29.99	761.7	30.11	764.8	36	2.2	61	N	12	5.4	.....	.....	10s	.....	W	0.22	5.6	Cloudy	
New London, Connecticut	30.02	762.5	30.07	763.8	38	3.3	54	NW	6	2.7	.....	.....	10s	.....	Calm	0.23	5.8	Cloudy	
New Orleans, Louisiana	30.16	766.1	30.22	767.6	41	5.0	48	N	10	4.5	.....	2c	0	Calm	.....	0.02	0.5	Fair	
Newport, Rhode Island	29.98	761.5	30.03	762.7	39	3.9	73	NW	8	3.6	.....	.....	10s	.....	NW	0.28	7.1	Cloudy	
New River, North Carolina	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
New York, New York	29.97	761.2	30.15	765.8	38	3.3	71	NW	5	2.2	.....	.....	10ks	.....	Calm	0.18	4.6	Cloudy.	
Norfolk, Virginia	30.10	764.5	30.16	766.1	41	5.0	82	NW	6	2.7	.....	.....	10n	.....	.....	0.28	7.1	Light rain.	
North Platte, Nebraska	27.09	688.1	30.03	762.7	—11	—23.9	76	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Olympia, Washington Ter.	30.30	769.6	30.34	770.6	44.0	6.7	92	SW	8	3.6	.....	.....	10s	.....	Calm	0.04	1.0	Cloudy	
Omaha, Nebraska	29.17	740.9	30.42	772.7	1	—17.2	71	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Oswego, New York	29.81	757 2	30.15	765.8	31	— 0.6	89	NW	16	7.2	.....	.....	10n	.....	NW	0.01	0.3	Light snow.	
Pembina, Dakota	29.42	747 3	30.42	772.7	—34	—36.7	100	S	3	1.3	.....	0	2s	.....	Calm	0	0	Clear	
Pensacola, Florida	30.15	765.8	30.19	766.8	39	3.9	73	N	14	6.3	.....	0	9s	.....	SW	0.07	1.8	Clearing	
Philadelphia, Pennsylvania	30.10	764.5	30.15	765.8	36	2.2	61	NW	20	8.9	.....	.....	10s	.....	S	0.32	8.1	Cloudy	
Phœnix, Arizona	28.80	731.5	30.68	779.3	37	2.8	53	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.36	440.9	29.57	751.1	— 5	—20.6	100	N	18	8.0	.....	0	0	.....	.....	0	0	Clear.	
Pilot Point, Texas	29.55	750.6	30.47	773.9	23	— 5.0	22	NE	.....	.....	.....	2k	0	N	.....	0	0	Fair	
Pioche, Nevada	.....	.....	.....	.....	31	— 0.6	69	N	8	3.6	.....	0	0	.....	.....	Inap.	Inap.	Clear.	
Pittsburg, Pennsylvania	29.44	747.8	30.31	769.9	24	— 4.4	74	N	6	2.7	.....	.....	10s	.....	NW	0	0	Cloudy	
Port Huron, Michigan	29.55	750.6	30.28	769.1	16	— 8.9	66	W	5	2.2	.....	C	0	.....	.....	0.01	0.3	Clear.	
Portland, Maine	29.88	758.9	29.94	760.5	40	4.4	56	W	8	3.6	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Portland, Oregon	30.36	771.1	30.43	772.9	38.5	3.6	94	S	3	1.3	.....	.....	10s;fg	.....	Calm	0.08	2.0	Cloudy	
Portsmouth, North Carolina	.....	.....	.....	.....	51	10.6	86	NE	36	16.1	.....	.....	10s	.....	NE	0.22	5.6	Cloudy	
Prescott, Arizona	24.72	627.9	30.08	764.0	27	— 2.8	76	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.06	762.0	30.02	762.5	72	22.2	85	E	10	4.5	.....	2cs	8ks	Calm	SW	0	0	Cloudy	
Red Bluff, California	29.97	761.2	30.35	770.9	39	3.9	91	N	9	4.0	.....	0	0	.....	.....	0	0	Clear.	
Rio Grande City, Texas	30.08	764.0	30.31	769.9	39	3.9	55	N	2	0.9	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Rochester, New York	29.48	748.8	30.13	765.3	24	— 4.4	74	W	12	5.4	.....	.....	10s	.....	W	0	0	Cloudy	
Roseburg, Oregon	29.88	758.9	30.48	774.2	43.5	6.4	96	Calm	0	0	.....	0	5s	.....	Calm	0.02	0.5	Fair	
Sacramento, California	30.22	767.6	30.30	769.6	42	5.6	100	N	7	3.1	.....	.....	Fog	.....	.....	0	0	Foggy	
St. Louis, Missouri	29.82	757.4	30.46	773.7	16	— 8.9	66	NW	8	3.6	.....	.....	10ks;s	.....	W	Inap.	Inap.	Cloudy	
St. Paul, Minnesota	29.48	748.8	30.45	773.4	—10	—23.3	31	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Salt Lake City, Utah	25.69	652.5	30.02	762.5	27	— 2.8	76	Calm	0	0	.....	.....	10n	.....	Calm	0.16	4.1	Light snow.	
San Antonio, Texas	29.57	751.1	30.20	767.1	32	0.0	59	N	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
San Diego, California	29.93	760.2	30.00	762.0	46	7.8	77	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Sandusky, Ohio	29.59	751.6	30.31	769.9	24	— 4.4	74	SW	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandy Hook, New Jersey	30.08	764.0	30.11	764.8	38	3.3	63	NW	16	7.2	.....	.....	10s	.....	NW	0.18	4.6	Cloudy	
San Francisco, California	30.23	767.8	30.30	769.6	48	8.9	85	NE	7	3.1	.....	.....	Fog	.....	Calm	0	0	Foggy	
Santa Fé, New Mexico	23.15	588.0	29.69	754.1	12	—11.1	61	N	5	2.2	.....	0	1s	.....	N	0	0	Clear	
Savannah, Georgia	29.99	761.7	30.09	764.3	56	13.3	81	NW	5	2.2	.....	.....	10s	.....	NW	0.30	7.6	Cloudy	
Shreveport, Louisiana	30.09	764.0	30.33	770.4	31	— 0.6	48	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Silver City, New Mexico	30.06	763.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.06	763.5	30.09	764.3	52	11.1	100	N	12	5.4	.....	.....	10s	.....	N	0.23	5.8	Cloudy	
Socorro, New Mexico	25.38	644.6	29.44	747.8	18	— 7.8	53	N	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Springfield, Illinois	29.72	754.9	30.46	773.7	16	— 8.9	66	W	5	2.2	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Springfield, Massachusetts	29.97	761.2	30.11	764.8	34	1.1	43	NW	13	5.8	.....	.....	10ks	.....	SW	0.05	1.3	Cloudy	
Stockton, Texas	27.04	686.8	30.04	763.0	30	— 1.1	16	N	16	7.2	.....	0	0	.....	.....	0	0	Clear.	
Thatcher's Island, Mass	29.93	760.2	29.99	761.7	38	3.3	63	W	17	7.6	.....	10k	0	W	.....	0.26	6.6	Cloudy	
Toledo, Ohio	29 56	750.8	30.30	769.6	23	— 5.0	73	W	5	2.2	.....	0	1s	.....	.....	Inap.	Inap.	Clear.	
Tucson, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon	29.94	760.5	30.47	773.9	22.0	— 5.6	92	NE	4	1.8	.....	.....	Fog	.....	.....	0	0	Foggy	
Uvalde, Texas	29.29	744.0	30.18	766.6	26	— 3.3	75	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	30.06	763.5	30.34	770.6	29	— 1.7	78	NE	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Virginia City, Montana	24.14	613.1	29.62	752.3	22	— 5.6	86	Calm	0	0	.....	.....	10n	.....	Calm	0.49	12.4	Light snow.	
Visalia, California	29.84	757.9	30.22	767.6	48	8.9	93	NW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Washington, D. C	30.09	764.3	30.21	767.3	35	1.7	53	NW	14	6.3	.....	.....	8s	.....	NW	0.32	8.1	Clearing	
Wickenburg, Arizona	.....	.....	.....	.....	31	— 0.6	69	NW	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Wilmington, North Carolina	29.99	761.7	30.07	763.8	46	7.8	92	N	10	4.5	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy	
Winnemucca, Nevada	25.82	655.8	30.18	766.6	29	— 1.7	78	SW	10	4.5	.....	0	0	.....	.....	0	0	Clear.	
Wood's Holl, Massachusetts	29.99	761 7	30.03	762.7	40	4.4	56	NW	14	6.3	.....	.....	10s	.....	.....	0.23	5.8	Cloudy	
Yankton, Dakota	29.02	737.1	30.55	776.0	—17	—27.2	39	N	4	1.8	.....	2c	0	W	.....	0	0	Fair	
Yuma, Arizona	29.85	758.2	30.00	762.0	49	9.4	37	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear.	
SUB-SERIES.																			
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I	29.92	760.0	29.97	761.2	75	23.9	85	Calm	0	0	.....	8c	4ks	S	SE	0	0	Cloudy	Chas. Hasselbrink.
Kingston, Jamaica, W. I	30.18	766.6	30.19	766.8	76	24.4	95	Calm	0	0	.....	2c	8cs	Calm	.....	.....	.....	Fair	James Gall.
Navassa, W. I	29.87	758.7	29.95	760.7	79	26.1	78	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.96	761.0	29.96	761.0	82	27.8	79	E	.....	.....	2	5k	6ks	E	.....	0.040	1.02	Cloudy	C. J. Hering.
Santiago de Cuba, W. I	29.97	761.2	30.00	762.0	76	24.4	81	Calm	0	0	.....	2c	0	.....	.....	0	0	.....	Robert Mason.
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	29.88	758.9	29.93	760.2	—35.0	—37.2	.....	W	14	6.3	.....	0	0	.....	.....	0	0	Clear.	J. Fortescue & W. Wood
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,289 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,888.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,325.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.14‡	765.5‡	.....	.....	46	7.8	84	N	10	4.5	.....	.....	5	.....	SW	0	0	.....	.....	Fair	
Navy Yard, Portsmouth, N.H.	29.88‡	758.9‡	.....	.....	37	2.8	53	WNW	2	0.9	.....	.....	10	.....	.....	0	0	.....	.....	Overcast	
Naval Hospital, Yokohama, Japan	30.15‡	765.8‡	.....	.....	47.5	8.6	77	Calm	.....	.....	0	.....	1k	.....	W	0	0	.....	.....	Fair	
Adams, Mare I'd., Navy Yard, Cal.	30.28‡	769.1‡	.....	.....	50	10.0	100	E	.....	.....	1	.....	10	.....	E	.....	.....	.....	.....	Cloudy	
Alaska, Arica, Peru*	29.88‡	758.9‡	.....	.....	68	20.0	79	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	.....	.....	D. clouds	
Colorado, New York, N. Y.	30.06‡	763.5‡	.....	.....	38	3.3	54	NW	12	5.4	.....	.....	10	.....	.....	0.10	2.5	.....	.....	Misty	
Constitution, N. 36° 13′, W. 73° 10′	30.06‡	763.5‡	.....	.....	60	15.6	100	NNE	.....	.....	5	.....	10	.....	Calm	.....	.....	Mod'ate	NNE	Raining	
Enterprise, Beirut, Syria	30.10‡	764.5‡	.....	.....	68	20.0	74	SW	.....	.....	1	.....	6?	.....	S	.....	.....	Smooth	.....	Cloudy	
Franklin, Off Navy Yard, Norfolk, Va.	30.16‡	766.1‡	.....	.....	42	5.6	100	NNE	8.4	3.8	.....	.....	10	.....	NNE	0.02	0.5	.....	.....	Cloudy	
Independence, Mare I'd, Navy Yard, Cal.	30.29‡	769.4‡	.....	.....	58	14.4	82	Calm	0	0	.....	.....	10	.....	Calm	0	0	.....	.....	Foggy	
Kearsarge, N. 25° 40′, W. 75° 40′	30.19‡	766.8‡	.....	.....	78	25.6	69	SE	.....	.....	2	.....	2	.....	SE	0	0	Rough	SE	D. clouds	
Lackawana, Honolulu, Sandwich Id's.	30.16‡	766.1‡	.....	.....	69	20.6	90	Calm	.....	.....	0	.....	10	.....	S	.....	.....	.....	.....	Raining	
Marion, Navy Yard, Brooklyn, N.Y.	30.11‡	764.8‡	.....	.....	45	7.2	68	WNW	.....	.....	3	.....	10	.....	WNW	.....	.....	.....	.....	Cloudy	
Michigan, Erie, Pa.	30.20‡	767.1‡	.....	.....	26.5	— 3.1	85	WNW	.....	.....	4	.....	10	.....	.....	.....	.....	.....	.....	Light snow	
Monocacy, Shanghai, China	30.24‡	768.1‡	.....	.....	44	6.7	92	SE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Hazy	
New Hampshire, Port Royal, S. C.	29.96‡	761.0‡	.....	.....	60	15.6	88	NW	8	3.6	.....	.....	2	.....	NW	0.310	7.87	.....	.....	Raining	
Nipsic, Norfolk, Va.	30.13‡	765.3‡	.....	.....	48	8.9	78	N	.....	.....	4	.....	10	.....	NNE	.....	.....	.....	.....	Foggy	
Onward, Callao, Peru †.	29.89‡	759.2‡	.....	.....	64	17.8	89	ESE	.....	.....	1	.....	10	.....	.....	.....	.....	Long swell	W	Misty	
Palos, Tientsin, China	30.09‡	764.3‡	.....	.....	39	3.9	82	WNW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Passaic, Washington, D. C.	30.20‡	767.1‡	.....	.....	37	2.8	81	WNW	.....	.....	2	.....	8	.....	SE	.....	.....	.....	.....	Cloudy	
Pensacola, Callao, Peru	29.92‡	760.0‡	.....	.....	64	17.8	89	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Smooth	.....	Overcast	
Powhatan, Navy Yard, Brooklyn, N.Y.	30.12‡	765.0‡	.....	.....	43	6.1	67	NNW	.....	.....	3	.....	10	.....	Calm	.....	.....	.....	.....	Cloudy	
Quinnebaug, Villafranca, France	30.30‡	769.6‡	.....	.....	51	10.6	46	NE	.....	.....	1	.....	5	.....	Calm	.....	.....	.....	.....	Fair	
Ranger, N. 31° 40′, W. 163° 10′	29.73‡	755.1‡	.....	.....	63	17.2	89	NW	.....	.....	3	.....	10	.....	.....	.....	.....	Long	W	Cloudy	
Richmond, Amoy, China	30.14‡	765.5‡	.....	.....	60	15.6	65	NNE	.....	.....	2	.....	8	.....	.....	.....	.....	Smooth	.....	Cloudy	
Rio Bravo, Brownsville, Texas †.	30.39‡	771.9‡	.....	.....	45	7.2	68	N	3	1.3	.....	.....	10	.....	N	0	0	.....	.....	Cloudy	
Santee, Annapolis, Md	30.20‡	767.1‡	.....	.....	39	3.9	67	NW	.....	.....	4	.....	8	.....	W	0.32	8.1	.....	.....	Cloudy	
Shenandoah, S. 30° 59′, W. 45° 39′	29.92‡	760.0‡	.....	.....	65	18.3	53	SSW	.....	.....	5	.....	2	.....	.....	.....	.....	Rough	SW	Fair	
St. Louis, League Island, Pa.	30.16‡	766.1‡	.....	.....	37	2.8	66	NW	10	4.5	.....	.....	10	.....	.....	0.75	19.1	.....	.....	Cloudy	
Tuscarora, Acapulco, Mexico	29.84‡	757.9‡	.....	.....	75	23.9	95	Calm	.....	.....	0	.....	0	.....	.....	0	0	Smooth	.....	Clear	
Vandalia, Navy Yard, Brooklyn, N.Y.	30.09‡	764.3‡	.....	.....	44	6.7	76	N	.....	.....	3	.....	8	.....	N	.....	.....	.....	.....	Fair	
Wabash, Boston, Mass.	29.94‡	760.5‡	.....	.....	37	2.8	81	NW	10	4.5	.....	.....	8	.....	.....	0	0	.....	.....	Cloudy	
Wachusett, Rio de Janeiro, Brazil.†	30.41‡	772.4‡	.....	.....	74	23.3	81	SSW	.....	.....	3	.....	8	.....	SSW	.....	.....	.....	.....	Fair	
Wyoming, Gibraltar, Mediterranean	30.40‡	772.1‡	.....	.....	58	14.4	76	E	.....	.....	4–6	.....	8	.....	E	.....	.....	Mod'ate	E	Cloudy	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		CHARACTER.	DIRECTION FROM—		

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S. S. Samaria																			Capt. T. Roberts.

NOTE—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitebury.
S. S. Costa Rica																			W. House & R. Lawless.
S. S. Dakota, Capt. H. G. Morse																			Capt. Connolly.
S. S. Georgia																			F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin																			Capt. A. Fuller.
S. S. Wilmington																			
S. S. Zealandia, Sydney, New South Wales.		29.82‡	757.4‡				NE							E				Cloudy	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The orginals give the barometer as read off; wind-force by the scale 0 to 12; for the Brittanic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer Yokohama, Japan	†	30.11‡	764.8‡	49	9.4	93	WNW			2		2		WNW		Smooth		D, clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson N. 40° 22′, W. 147° 56′	†	30.33‡	770.1‡	60	15.6		SSE			4		11		SE	0	Rough	SW	Misty	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undutsch.
S. S. Leipzig, Capt. F. Pfeiffer, N. 40° 40′, W. 10° 23′		30.08‡	778.0‡	51.0	10.6	79	SE			4		10		SE		Mod'te	ESE	Drizzling	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, Off Sandy Point, Chesapeake Bay		30.22‡	767.0‡				N			5		8		NNW				Cloudy	Capt G. Meyer

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness by the scale 0 to 4, do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa.		30.25‡	768.3‡	42	5.6		WNW			6		8		W	Mod'ate			Fair	Capt. R. W. Sargent
S. S. Ohio																			Wm. Shackford, Chief Officer
S. S. Pennsylvania																			Capt. Harris.
RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents.																			
S. S. Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES—Miscellaneous.																			
Furnished by the co-operation of the Observers named.																			
Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Barkentine "Carrie Heckle" N. 34° 03′, W. 54° 05′	*	30 31‡	769.9‡	63	17.2		N			2		0			0	Long	NE	Clear	B. F. Woodbury.
Brigantine "George" of Halifax, N. 31° 45′, W. 72° 22′	†	30.06‡	763.5‡	77	25.0		S			5		2		S	Mod'ate	SE	Clear		N. B. Foss.
Schooner Harry and Fred																			Capt. George Gardner.
Haytian																			
§ Iron Cross																			Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; do not distinguish between upper and lower clouds; sea-swell in general terms, as published. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. *The error of the barometer is not known. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time. *Instrumental error not known.

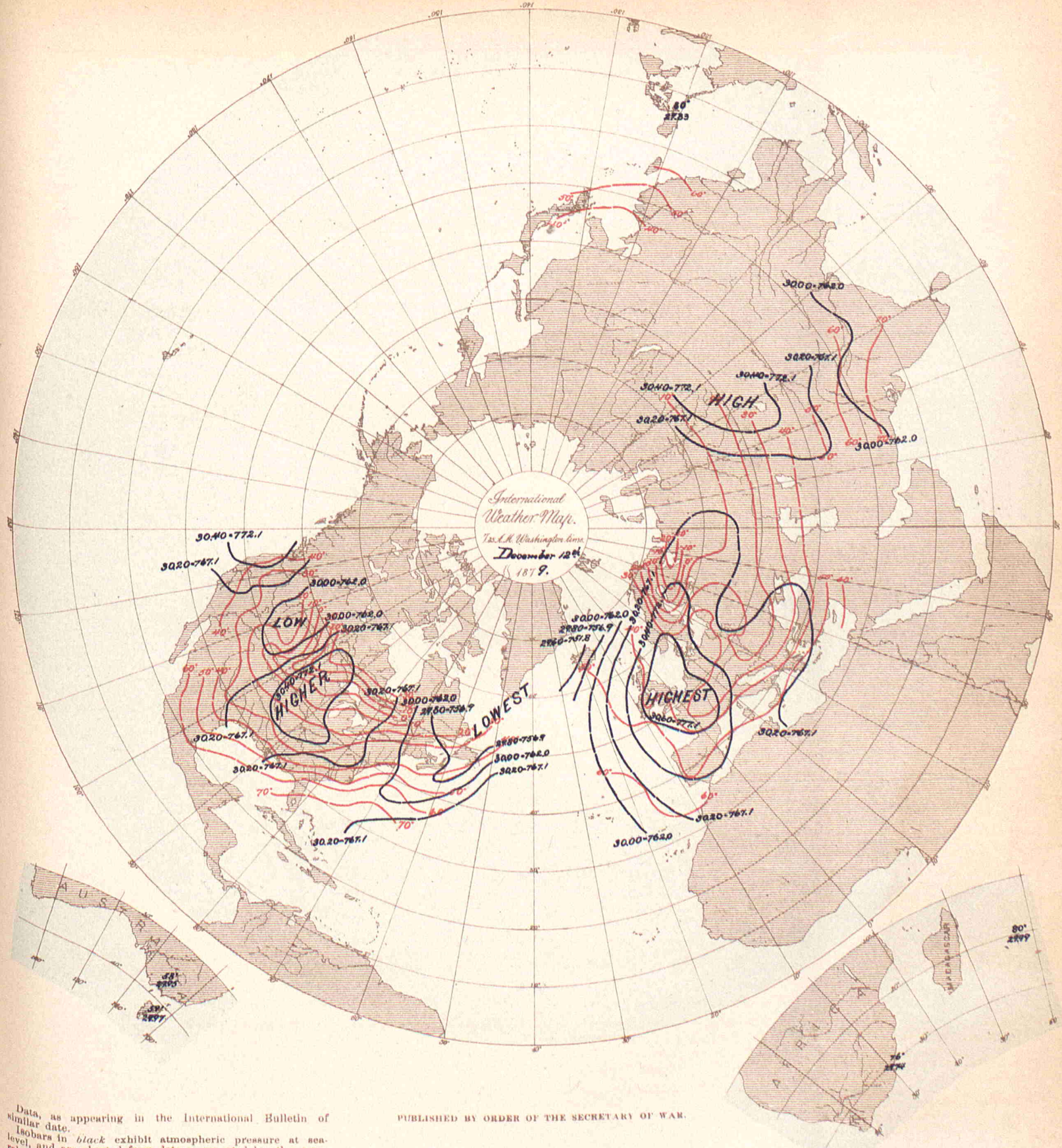
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

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BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 13, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE TOWN, C. G. H. mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.34	770.7	65.5	18.6	84	NE			1		0			0	0	Clear	
Nemours			30.34	770.5	60.6	15.9	64	Calm			0		0			0	0	Clear	Kesxuche.
Algiers			30.27	768.9	54.3	12.4	61	WNW			1		0			Inap.	Inap.	Clear.	Tourilliere.
La Calle			30.02	762.5	49.3	9.6	81	WSW			5		8			0.624	18.2	Very cloudy	Foufrede.
Tunis																			Jacques.
Sfax			30.12	765.0															Gau.
Saida																			Herbin.
Tebessa			30.17	766.3	43.0	6.1	70	NNW			3		8			0.008	0.2	Very cloudy	Watrin.
Geriville					48.7	6.5	39	Calm			0		0			0	0	Clear	Brugniaux.
Laghouat			30.30	769.5	47.5	8.6	30	SSW			2		0			6	0	Clear.	Bertrand.
Biskra			30.21	767.2	58.3	14.6	74	N			1		0			0	0	Clear.	Chanvaux.

NOTE.—The originals give the amount of cloudiness by the scale 0–4; no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.85	758.3	30.44	773.2	32.0	0.0	79	NE			1		7			0.016	0.4	Snowing	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.81	757.1	30.64	778.3	22.3	— 5.4	93	ENE	0.7	0.3			10			0.039	1.0		Dr. Wierzbicki.
Eperies	29.49	749.0	30.45	773.3	21.6	— 5.8	77	N			2		0			0.162	3.85		Julius Mikolik.
Gratz	29.14	740.2	30.47	773.9	32.0	0.0	74	NW			4		7						Andreas Rospini.
Hermannstadt	28.85	732.7	30.43	772.8	13.6	—10.2	97	NE			1		0			0.008	0.2		Prof. A. Gottschling.
Kremsmünster	29.16	740.7	30.61	777.5	26.4	— 3.1	96	NNW			2		10			0.740	18.8		Prof. C. Wagner.
Lemberg	29.36	745.6	30.44	773.1	18.1	— 7.7	97	S			1		10			0.024	0.6		Dr. T. Stanecki.
Pola	30.27	768.8	30.39	771.8	40.8	4.9	92	ENE			2		4			0	0		I.R.Hydrographic Office
Szathmar	29.96	761.0	30.48	774.1	14.5	— 9.7	97	N			2		10			0	0		Pet. Pancsics, S. J.
Szegedin	30.14	765.5	30.45	773.4	14.0	—10.0		N			1		10			0	0		Karl Stancel.
Trieste	30.33	770.3	30.43	772.9	39.2	4.0	38	ENE			1		0			0	0		P. Busin.
Vienna	29.78	756.5	30.54	775.6	27.7	— 2.4	71	N			3		9			0.031	0.8		I.R.Central Met. Ob'sy

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.																			
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

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BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.34	770.6	30.45	773.4	38.1	3.4		WSW	4	1.8			9			0	0	Misty	W. Boswell.
Ardrossan	30.57	776.5	30.58	776.7	44	6.7		SSW			5		7					D. clouds	Wm.McNeil &G.Carrick
Armagh, (Observatory)	30.37	771.4	30.62	777.7	39.0	3.9		S	15	6.7			3					D. clouds	S. Call.
Bidston (Liverpool Obs)			30.70	779.8	38.8	3.8		S	10	4.5			1					Blue sky	John Hartnup.
Bolton (Sharples)	30.13	765.3	30.67	779.0	30.7	0.7		N	6	2.7			10					Foggy	Thomas M. Ckereth.
Bradford, Yorkshire	30.28	769.1	30.68	779.3	37.7	3.2		W			3		3			0	0	Blue sky	J McLandsborough.
Bridgetown, Barbadoes	29.94	760.5	29.98	761.5	79	26.1		NE			2		3					D. clouds	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	30.64	778.2	30.74	780.8	35.0	1.7		Calm			0		10					Overcast	H. Todd.
Cardington			30.75	781.0	35.0	1.7		NW			0		10					Foggy	John McLaren.
Chatham (School M. E.)	30.63	778.0	30.77	781.5	36.2	2.3		Calm			0		10					Foggy	J. Carmell, Sapper, R.E.
Donaghadee	30.59	777.0	30.63	778.0	42	5.6		SW			2		8					D. clouds	J. Mac Gowan.
Dover	30.71	780.0	30.75	781.0	36	2.2		SE			2		7					¾ clouded	J. Costello.
Falmouth (Observatory)	30.50	774.7	30.74	780.8	43.5	6.4		SSE			1		10					Overcast	The Staff.
Fort Napier, Natal	27.34	694.4	29.55	750.6	84.0	28.9		NE			1		4					Blue sky	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone																			
Galway (Queen's College)			30.54	775.7	42	5.6		S			1		10					Overcast	Prof. A. H. Curtis.
Gibraltar, Mediterranean																			Sergt.Wm. Allen, A. H.
Glasgow, (Observatory)	30.36	771.1	30.56	776.2	41.0	5.0		SSW			2		9					Gloomy	D. G. Maclean. [C.
Great Yarmouth	30.73	780.5	30.74	780.8	35	1.7		Calm			0							Dense fog	G. T. Watson.
Greenwich (Royal Obs'y)	30.58	776.7	30.77	781.5	36.4	2.4		WSW			1		10					Raining	The Staff, for G.B.Airy.
Guernsey	30.51	774.9	30.74	780.8	42.5	5.8		SE			1		0					Blue sky	Dr.S.E Hoskins, F.R.S.
Helston	30.82	782.8	30.95	786.1	41	5.0		E			1		10k			0	0	Gloomy	M. P. Moyle.
Holyhead	30.58	776.7	30.65	778.5	43	6.1		SSW			4		10					Overcast	John Tilston.
Jersey	30.47	773.9	30.78	781.8	43.4	6.3		ESE			1		0					Misty	J. Fisher.
Kew (Observatory)	30.73	780.5	30.77	781.5	35.1	1.7		SSW	2	0.9			10					Foggy	The Met'g'l Office.
Leicester (Museum)	30.45	773.4	30.72	780.3	35.5	1.9		SW			1		10					Misty	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	30.03	762.7	30.10	764.5	53	11.7		NW			2		2k					Blue sky	A. King.
Nairn	30.31	769.9	30.40	772.1	44	6.7		W			2		10					Overcast	W. D. Penny.
Nassau, Bahamas			30.18	766.6	75.2	24.0		SE			1		4					D. clouds	C. S. Duncombe.
Nottingham (Observatory)	30.53	775.4	30.73	780.5	37.3	2.9		SSW			1		10k;s		W	0.011	0.28	Overcast	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	30.18	766.6	30.73	780.5	37.0	2.8		S			0-1		10					Foggy	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)			30.76	781.3	37	2.8		W			1		10					Overcast	H. E. Bellamy.
Plymouth	30.66	778.7	30.74	780.8	34.6	1.4		SE			1		10					Foggy	John Merrifield.
Prince Town																			W. H. Tooker.
*Roche's Point	30.57	776.5	30.66	778.7	47	8.3		SSW			4		10					Overcast	Wm. Kennedy.
St. Ann's Head	30.55	776.0	30.72	780.3	45	7.2		S			2		2						John C. Walker.
Sandwick Manse, Orkneys			30.34	770.6	46.9	8.3		SW	10	4.5			10					Misty	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	30.14	765.5	30.20	767.1	40.8	4.9		NE			2		7			Blank	Blank	D. clouds	Serg't W. H. Line.
Sheffield	30.42	772.7	30.72	780.3	39.1	3.9		SSW			1		2			0	0	Misty	W. F. Cooper.
Silloth Rectory	30.58	776.7	30.61	777.5	39.0	3.9	92	S			3		10			0	0	Overcast	Francis Redford, A. M.
Stonyhurst (Observatory)			30.67	779.0	34.7	1.5		WSW	5	2.2								Misty	Rev. S. J. Perry.
Stratfield, Turgiss	30.54	775.7	30.78	781.8	35.2	1.8		E			0-1		10					Foggy	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	30.64	778.2	30.72	780.3	39	3.9		NW			2		10					Gloomy	W. Newcombe.
Valencia Observatory)	30.59	777.0	30.62	777.7	49.9	9.9		SSE	20	8.9			10					D. clouds	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)																			The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.26	641.6			91	32.8		W					1						Robert Burnet.
Constable, Cape Colony	26.61	675.9			76.8	24.9		NW					4						Francis Abbott, F.R.A.S.
Hobart Town, Tasmania			29.92	760.0	62.0	16.7	72	S			1		10k			0.02	0.5	Covered	Andrew Gibb.
Leith(RestalrigPark)Sc'tl'd			30.51	774.9	41.0	5.0		W			2		10ks			0	0	Overcast	C. Meldrum.
Mauritius (Observatory)	29.74	755.4	29.93	760.2	81.0	27.2	53	NNE	18.5	8.3		0	2		E	0.10	2.5	Squally	R. L. J. Ellery.
Melbourne (Observatory)	26.67	753.6	29.76	755.9	61.3	16.3	79	ESE	3	1.3			2			0	0	Very fine	J. Youngclause.
Monach Lt-house, Hebrides			30.30	769.6	48	8.9		SSW			4		10			0.2	5.		
North Unst, Shetland Is			30.17	766.3				SW			6	10	10			Blank	Blank		

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters; Prince Town, 1,400 feet, or 427 meters; Colesberg Bridge and Constable, unknown.

BRITISH MARINE SERIES. VESSELS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. Alert, Tom Bay, Patagonia			29.61‡	749.5‡	47.8	8.8		NNW			2		10					Raining	Capt.J.P. Maclear, R.N.
H. M. Sloop Gannet, S. 18° 25′, W. 70° 21′			30.00‡	762.0‡	69	20.6		Calm			0		1					Blue sky	Commander E. Bourke, R. N.
H. M. S. Magpie, Shanghai, China			30.21‡	767.3‡	48.0	8.9		Calm			0		0					Blue sky	Capt. R. H. Napier, R N.
Brig Alliance, N. 49° 20′, W. 23° 30′			30.33‡	770.4‡	57.5	14.2		S			4		8					Misty	Capt. W. Scott.
Barque Belle-Isle, N. 32° 10′, W. 69° 25′			30.36	771.1	73	22.8		SSE			3		4			2	NE	D. clouds	Capt. A. J. Brown
City of Cashmere, N. 6° 40′, W. 125° 40′			29.90‡	759.4‡	76.5	24.7		SSE			3		5					D. clouds	Capt. W. M. Grieve.
Barque Fedalma, N. 20° 35′, W. 64° 00′			30.18	766.6	79	26.1		NE			6		4			6	NE	D. clouds	Capt. H. L. Fox.
S. S. Iron Cross, N. 28° 50′, W. 79° 20′			30.22	767.6	73	22.8		SSE			2		9			3	NE;E	Misty	Capt. W. Randall.
S. S. Strathleven, S. 35° 35′, E. 118° 55′			29.75‡	755.6‡	61.5	16.4		W			6		3					D. clouds	Capt. C. W. Pearson.
Light House Tender Richmond																			Capt. W. H. Stewart.
S. S. Gordon Castle																			Capt. Wm. Waring.
German Brig "W. von Freeden"																			Capt. H. V. Freeden.
S. S. Ethiopia																			Capt. Campbell.
S. S. Sunbeam																			Capt. C. M. Dobson.
S. S. Peruvian																			Capt. W. H. Smith.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.20	665.5	29.92	760.0	66.2	19.0	90	NE	.....	.....	3	.....	7d	.....	E	0	0	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish ples.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.55	776.0	30.60	777.2	29.1	— 1.6	86	W	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy	.....
Fanöe	30.59	777.0	30.61	777.5	35.8	2.1	94	WSW	.....	.....	2	.....	9	.....	.....	.....	.....	.....	.....
Godthaab (Greenland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stykkisholm (Iceland)	29.19	741.4	29.23	742.5	41.7	5.4	91	S	.....	.....	7	.....	10	.....	.....	.....	.....	Raining	.....
Thorshavn (Faröe)	29.91	759.8	29.95	760.7	48.9	9.4	80	W	.....	.....	6	.....	10	.....	.....	.....	.....	.....	.....
Vestervig	30.42	772.6	30.53	775.4	36.8	2.1	100	SW	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	30.20	767.1	30.75	781.1	35.6	2	82	NE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Collignon, Director.
Amiens, Normal School	30.52	775.2	30.63	778.1	37.0	2.8	77	S	.....	.....	1	.....	10	.....	Calm	0	0	Covered	Vaillant, Director.
Arras, Engin'r School	30.49	774.4	30.73	780.5	33.4	0.8	79	E	.....	.....	1	.....	.....	.....	.....	0.154	3.9	.....	Klein, Commandant.
Avignon, Normal School	30.28	769.1	30.36	771.1	37.9	3.3	47	NNW	.....	.....	4	.....	0	.....	.....	0	0	Very clear	Giraud, Director.
Bar-sur-Seine	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. Saillard, Director.
Beauvais, Normal School	30.47	773.8	30.75	781.0	36.0	2.2	83	ENE	.....	.....	1	.....	8	.....	ENE	0	0	Very cloudy	Frère Eugene Marie.
Besançon, Normal School	29.70	754.3	30.06	778.8	28.4	— 2	.....	E	.....	.....	1	.....	0	.....	.....	0	0	Clear.	A. Carré, Director.
Bourg-en-Bresse, N. School	29.65	753.2	30.58	776.6	28.4	— 2	100	N	.....	.....	3	.....	0	.....	.....	0	0	Clear.	Marlot, Director.
Bourges, Normal School	30.10	764.5	30.69	779.6	31.6	— 0.2	92	NNE	.....	.....	4	.....	2k	.....	NNE	0	0	Slightly cld'y	M. Gence, Director.
Brest, Naval Observatory	30.49	774.4	30.73	780.6	37.0	2.8	58	Calm	.....	.....	0	.....	8	.....	NE	0	0	Foggy	Ch. de Rermaree, Dir.
Caen, Normal School	30.65	778.6	30.73	780.6	33.1	0.6	86	N	.....	.....	0–1	.....	.....	.....	E	0	0	.....	M. Bletrin, Director.
Carcassonne, N. School	30.08	764.0	30.52	775.2	35.4	1.9	70	W	.....	.....	3	.....	0	.....	.....	0	0	Clear.	September, Director.
Châlons-sur-Marne, N. Sch'	30.41	772.3	30.75	781.0	27.0	— 2.8	.....	Calm	.....	.....	0	.....	2	.....	.....	.....	.....	Slightly cld'y	Jadot, Director.
Chartres, Normal School	30.10	764.5	30.71	780.1	35.1	1.7	71	NE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Yergier, Director.
Clermont-Fd, Puy de D. Obs	29.19	741.5	30.65	778.5	28.0	— 2.2	92	N	.....	.....	3	.....	10	.....	.....	0	0	Misty	Alluard, Director.
Commercy, Normal School	29.80	756.9	30.74	780.7	25.2	— 3.8	81	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Dr. Coullet, Director.
Commune de Gréasque*	29.17	741.0	30.32	770.0	42.4	5.8	44	E	.....	.....	1	.....	2	.....	E	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.77	756.1	30.61	777.4	23.0	— 5	.....	ESE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.50	774.7	30.73	780.5	34.2	1.2	81	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Mouillot, Director.
Le Mans, Normal School	30.43	773.0	30.76	781.4	33.8	1	81	NNE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.58	751.4	30.53	775.4	29.3	— 1.5	80	N	.....	.....	1	.....	0	.....	.....	0	0	Clear.	A. Baudry, Director
Lorient, Naval Observatory	30.65	778.6	30.76	781.4	38.5	3.6	83	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.90	759.4	30.56	776.2	32.0	0.0	66	N	.....	.....	2	.....	1kn	.....	.....	0	0	Clear.	Ch. André, Director
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	29.98	761.6	30.26	768.6	46.0	7.8	63	NW	.....	.....	1–2	.....	2	.....	.....	0	0	.....	E. Stephan, Director.
Mirecourt, Normal School	29.73	755.2	30.87	784.0	24.6	— 4.1	95	N	.....	.....	1	.....	n	.....	N	0	0	.....	Barbier, Director.
Mont-Louis	25.04	636.0	30.35	771.0	32.4	0.2	54	N	11.2	5.0	.....	.....	0	.....	.....	0	0	.....	M. Cave.
Nice	30.24	768.0	30.27	768.9	50.0	10.0	37	E	.....	.....	6	.....	1	N	E	0	0	Clear.	M. Boissière, Director.
Nismes, Normal School	30.20	767.1	30.41	772.5	38.3	3.5	69	N	.....	.....	6	.....	0	.....	.....	0	0	Clear.	M. Boyer, Director.
Paris, Montsouris Obs'y	30.44	773.2	.....	.....	34.7	1.5	87	NNE	.....	.....	1	.....	10	.....	.....	0	0	.....	Marié Davy, Director.
Perpignan	30.26	768.6	30.37	771.4	45.5	7.5	29	NW	31.8	14.2	.....	.....	0	.....	.....	0	0	.....	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.67	575.9	.....	.....	21.2	— 6.0	.....	.....	.....	.....	.....	.....	.....	.....	E	0	0	.....	Gen'l de Nansouty.
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Privas, Normal School	29.34	745.3	30.48	774.1	33.8	1	88	N	.....	.....	4	.....	2	N	N	0	0	Slightly cld'y	M. Tallieu
Puy de Dome (Summit) Obs	25.37	644.4	.....	.....	17.2	— 8.2	97	NE	.....	.....	4	.....	2	.....	.....	0.118	3.0	Misty	Alluard, Director.
Rochefort, Naval Obs'y	30.66	778.8	30.69	779.6	33.1	0.6	96	NE	.....	.....	3	.....	.....	NE	NE	0	0	Misty	Lt E. Decante, Director
Rouen, Normal School	30.67	778.9	30.75	781.1	33.4	0.8	86	SE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.71	780.1	30.74	780.9	41.7	5.4	64	SE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Lt. Hercouet, Director
Saint Maur (near Paris)	30.56	776.3	30.73	780.5	35.6	2.0	87	N	.....	.....	1	.....	10	.....	ENE	0	0	Foggy	E. Renou, Director.
Tarbes, Normal School	29.46	748.3	30.61	777.4	35.6	2	70	WSW	.....	.....	1	.....	0	.....	.....	0	0	Clear.	T. Huguet, Director.
Toulouse, Observatory	29.86	758.4	30.60	777.1	34.2	1.2	86	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear.	M. Juher Mercadier.
Tours	30.50	774.7	30.70	779.7	35.2	1.8	85	E	.....	.....	1	.....	10	.....	.....	0	0	Misty	Cousin-Marquet.
Versailles, Observatory	30.21	767.2	30.70	779.7	33.4	0.8	92	E	.....	.....	1	.....	10	.....	.....	0.021	0.53	Covered	Dr.A. Berigny, Director
Villefranche-sur-Saone, N.S	29.85	758.1	30.62	777.8	37.4	3	92	NW	.....	.....	4	.....	0	.....	.....	0	0	Clear	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.96	760.9	29.98	761.6	77.0	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.87	22.	.....	L'Abbé Marchésl
Zi-Ka-Wei (near Shanghai	30.18	766.6	30.21	767.3	42.3	5.7	97	SE	3.8	1.7	.....	.....	0	.....	.....	0	0	Clear.	Marc Dechevrens.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fal as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in gene al terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,278 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,082.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,866 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has beer added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.78	756.5	30.65	778.4	24.8— 4.0		91	NE			2		8s			0.130	3.3	Snow-fog	Prof. Dr. Hoh.
Berlin	30.48	774.3	30.67	779.0	31.6— 0.2		92	NW			1		5			0	0		Prof. Dr. Arndt.
Breslau	30.08	764.1	30.63	777.9	25.0— 3.9		91	N			2		10			0.033	0.80	Snow-flakes	Royal University Obs'y.
Carlsruhe	30.28	769.0	30.75	781.0	23.7— 4.6		89	NE			1		0			0	0		Albert Senz.
Cassel	30.09	764.3	30.71	780.0	21.2— 6.0		94	E			1		10			0	0		Dr. H. Möhl.
Emden			30.68	779.2	29.3— 1.5		100	SW			0		0			0	0		Prof. Dr. Prestel.
Frankfort on the Main	30.40	772.2	30.80	782.2	26.1— 3.3		73	NE			2		1			0.008	0.2		Physical Society.
Friedrichshafen	29.13	740.0	30.68	779.2	27.7— 2.4		71	NE			3		3	NE		0	0		Chief Telegrapher Wilhelm.
Hamburg	30.65	778.6	30.72	780.4	28.8— 1.8		88	WSW			3		0			0	0		Capt. P. F. A. Hegerman.
Kiel	30.66	778.7	30.68	779.2	30.9— 0.6		86	SW			2		1			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.53	775.5	30.62	777.8	18.5— 7.5		94	SW			4		3			0	0		Prof. E. Luther.
Köslin			30.64	778.2	30.0— 1.1			Calm			0		4			0	0		H. Müller.
Leipsic Observatory	30.29	769.4	30.75	781.0	25.2— 3.8		93	NNW			1		10			0.008	0.2	Snow-flakes	Prof. Dr. Bruhns, Privy Counselor
Magdeburg	30.53	775.4	30.76	781.4	27.9— 2.3		89	N			3		10ks	NNW		0	0		Dr. Assmann.
Memel	30.52	775.3	30.57	776.5	17.4— 8.1		91	N			1		0					Hazy	Reinbrecht & Issermann.
Munich (München)	28.72	729.5	30.62	777.8	25.0— 3.9		80	NW			2		8	W		0.299	7.6	Snowing	Dr. C. Lang.
Neufahrwasser	30.60	777.1	30.61	777.5	29.7— 1.3		74	NW			1		10			0.039	1.0		A. Lothes.
Neustadt (Palatinate)	30.16	766.1	30.70	779.8	28.6— 1.9			NW			1		1	NW		0	0		Reallehrer Dicknether
Posen	30.35	770.8	30.66	778 8	24.8— 4.0		83	NW			1		1			0.012	0.3	Snowing	Prof. Dr. Magener.
Strassburg (in Alsace)	30.16	766.1	30.76	781.3	25.9— 3.4		82	NE			2		0			0.054	1.37		Imp. University Observatory.
Stuttgart	29.69	754.0	30.70	779.9	26.6— 3.0		81	NW			1		4	N		0	0		Prof. Dr. Schoder.
Weissenburg (Bavaria)	29.10	739.0	30.69	779.6	27.5— 2.5		89	Calm			0		9kn		NE	0.154	3.9		Reallehrer J. Hopfner
Wustrow	30.63	778.0	30.65	778.6	30.4— 0.9		90	W			2		5s			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.6 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.74	755.3	30.14	765.6	45.0	7.2		NE			2.0		10					Light rain	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.90	759.6	29.96	760.9	71.6	22.0	59	SSW	11	4.9		0				0	0	Blue sky	
Deesa	29.50	749.3	29.98	761.6	74.7	23.7	24	SSE	7.8	3.5		0				0	0	Blue sky	
Bombay	29.80	756.8	29.84	757.8	75.9	24.4	75	NNW	15	6.7		0				0	0	Blue sky	
Poona (Yerrowda)	27.99	710.9	29.84	758.0	79.3	26.3	21	E	7	3.1		0				0	0	Blue sky	
Belgaum	27.29	693.2	29.82	757.4	77.4	25.2	42	WSW	5	2.2		4		SW		0	0	D. clouds	
Lahore	29.20	741.8	29.97	761.2	66.6	19.2	21	Calm	1.8	0.8		0				0	0	Blue sky	
Roorkee	29.03	737.4	29.98	761.4	58.8	14.9	48	Calm	0.8	0.4		0				0	0		
Agra	29 37	746.9	29.95	760.8	63.8	17.7	43	W	2.2	1.0		0				0	0		
Nagpur	28.86	733.1	29.93	760.2	69.7	20.9	38	Calm	1.8	0.8		0				0	0	Blue sky	
Jubbulpore	28.54	732.9	29.93	760.3	71.6	22.0	25	Calm	1.4	0.6		0				0	0	Blue sky	
Lucknow	29.68	753.8	30.08	763.9	58.7	14.8	56	Calm	0.5	0.2		0				0	0	Blue sky	
Allahabad	29.65	753.2	29.98	761.6	55.9	13.3	60	Calm	0.4	0.2		0				0	0	Blue sky	
Patna	29.79	756.7	29.98	761.5	64.4	18.0	43	Calm	0.3	0.1		0				0	0	Blue sky	
Hazaribagh	27.88	708.1	29.97	761.1	59.8	15.4	45	NW	3.0	1.3		0				0	0	Blue sky	
Cuttack	29.85	758.2	29.94	760.3	65.2	18.4	83	ENE	0.9	0.4		0				0	0	Blue sky	
Calcutta (Alipore)	29.92	760.0	29.95	760.6	61.8	16.6	77	Calm				0				0	0	Blue sky	
Goalpara	29.53	750.0	29.93	760.2	69.9	21.1	65	Calm	1.4	0.6		0				0	0	Blue sky	
Chittagong	29.82	757.5	29.92	759.8	69.2	20.7	70	WNW	2.2	1.0		0				0	0		
Sibsagar	29.59	751.6	29.94	760.4	67.4	19.7	74	ENE	0.9	0.4		0				0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,361 ft., or 472 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	30.00	761.9	30.44	773.1	35.8	2.1	47	Calm	0	0	.....	.....	4	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.89	759.1	30.44	773.3	31.1	— 0.5	70	E	.....	.....	2	.....	1	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	30.33	770.3	30.44	773.3	35.1	1.7	69	NW	3.8	1.7	.....	.....	5	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.45	747.9	30.42	772.7	29.8	— 1.2	69	NNE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	30.14	765.5	30.34	770.6	45.0	7.2	26	NE	2.5	1.1	.....	.....	2	N	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.37	720.7	30.41	772.4	31.6	— 0.2	50	W	.....	.....	2	.....	5	E	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.37	771.5	30.43	772.8	30.2	— 1.0	77	SW	4.9	2.2	.....	.....	8	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	30.07	763.7	30.34	770.6	41.0	5.0	44	NE	.....	.....	2	.....	6	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	30.17	766.3	30.26	768.6	40.6	4.8	65	ENE	9.8	4.4	.....	.....	7	.....	.....	0	0	.....	Prof. P. Monte.
Rome	30.06	763.4	30.24	768.1	41.5	5.3	53	N	3.8	1.7	.....	.....	10	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.91	759.6	30.17	766.3	43.7	6.5	54	N	8.1	3.6	.....	.....	5	N	.....	0.079	2.0	.....	Prof. C. De Giorgi.
Cosenza	29.30	744.3	30.23	767.9	38.7	3.7	82	NW	0.7	0.3	.....	.....	4	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.84	757.8	30.04	762.9	43.7	6.5	79	NW	.....	.....	2	.....	10	.....	.....	0.024	0.6	.....	Prof. A. Pacinotti.
Palermo	29.90	759.5	30.16	766.1	49.1	9.5	42	NE	5.6	2.5	.....	.....	10	NNE	.....	0	0	.....	Prof. G. Ciaccíatore.
Syracuse	30.06	763.5	30.13	765.3	49.3	9.6	72	SW	2.5	1.1	.....	.....	6	WSW	.....	0	0	.....	Prof. V.G. Guiliano.
SUB-SERIES.																			
Naples, S. R.	29.68	753.8	30.23	767.8	42.4	5.8	54	NE	3.1	1.4	.....	.....	4	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.10	764.5	30.12	765.0	42.0	5.6	85	NNE	10.3	4.6	.....	0	0	.....	.....	0	0	Clear.	K. Sasaki.
Nagasaki, I. M. Obs'y	29.93	760.2	30.14	765.5	44.9	7.2	90	WSW	0.3	0.1	.....	.....	0	.....	.....	0	0	Clear	S. Takehayashi.
Tokei, (Yeddo) Observatory	30.04	763.0	30.11	764.8	47.1	8.4	83	NNW	6.8	3.0	.....	.....	7s	.....	.....	0	0	Cloudy	The Staff.
Wakayama	30.05	763.3	30.10	764.8	45.0	7.2	87	NW	1.5	0.7	.....	.....	0	.....	.....	0	0	Clear	

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima																			R. Banda, C. E.
Guadalajara	25.02	635.4	30.21	767.2	41.9	5.5	55	SE	.....	.....	1	.....	0	.....	.....	0	0	Fine	Prof. L. Perez.
Leon	24.42	620.3	30.20	767.0	52.0	11.1	80	N	.....	.....	1	5c	0	NW	.....	0	0	⅛ clouded	Prof. M. Leal.
Mazatlan	29.75	755.6	30.01	762.3	61.5	16.4	95	N	.....	.....	2	5k	.....	SE	.....	0	0	⅛ covered	I. Guerrero, C. E.
Mexico, Central Observatory	23.01	584.5	30.09	764.3	48.7	9.3	64	Calm	0	0	.....	.....	10k	.....	.....	0	0	Covered	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	45.7	7.6	81	Calm	.....	.....	0	1s	0	.....	.....	0.12	3.0	Clear	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.37	593.5	30.23	767.7	46.4	8.0	29	Calm	0	0	.....	8ck	0	SE	.....	0	0	¾ cover d	Prof. P. Spina.
San Luis Potosi	24.10	612.1	30.15	765.8	50.0	10.0	69	NE	.....	.....	1	4	0	W	.....	0	0	Fair	G. Barroeta, M. D.
Tlacotalpam	30.05	763.2	30.06	763.5	69.4	20.8	86	W	.....	.....	1	3	6	NW	W	0	0	Cloudy	Prof. M. M. Chazaro.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell
Zacatecas	22.46	570.5	30.15	765.8	46.4	8.0	56	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	J. C. Castrillon.

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column; the instrumental correction —0.88 mm., or —0.035 inch, has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.80	782.3	30.80	782.3	29.7	— 1.3	.....	SSE	.....	.....	2	.....	.....	.....	.....	0.016	0.4	.....	
Groningen	30.69	779.4	30.74	780.8	27.5	— 2.5	.....	SW	.....	.....	1	.....	.....	.....	.....	0	0	.....	
Helder	30.74	780.8	30.74	780.8	31.1	— 0.5	.....	SSW	.....	.....	1	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.78	781.9	30.78	781.9	30.0	— 1.1	98	W	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	
Utrecht	30.73	780.6	30.78	781.8	24.6	— 4.1	95	ENE	.....	.....	1	.....	.....	.....	.....	0	0	Misty	H. v. d. Brink

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.47	774.0	30.53	775.4	38.8	3.8	87	SSE	17.9	8.0	.....	.....	10	.....	.....	.....	.....	Raining	
Brönö	29.75	755.7	29.79	756.7	43.7	6.5	96	SW	29	13	.....	.....	10	.....	.....	1.158	29.4	Raining.....	
Christiana	30.17	766.4	30.33	770.4	24.1	— 4.4	100	W	0	0	.....	.....	10	.....	.....	0	0	Foggy	
Tromsö	29.44	747.7	29.48	748.8	30.2	— 1.0	73	NNW	13	6	.....	.....	10	.....	.....	0.098	2.5	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m.; instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	29.99	761.8	30.19	766.7	63.0	17.2	86	E	8.1	3.6	.....	.....	6	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.33	745.0	30.36	771.2	48.9	9.4	51	ENE	3.8	1.7	.....	.....	2	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	30.15	765.9	30.24	768.1	68.0	20.0	71	Calm	0	0	.....	.....	10	.....	.....	0	0	.....	Capt. D. A. da Cunha.
Lisbon Observatory	30.05	763.2	30.42	772.7	50.9	10.5	50	NNE	8.7	3.9	.....	.....	1	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.11	764.7	30.18	766.5	64.8	18.2	78	ESE	13.7	6.1	.....	.....	3	.....	.....	0.020	0.5	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	A. M. de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Matto-	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Rio Lima. Capt. S. C. da Silva Costa.				
Santiago, Cape Verd Ids.	.....	.....	D. clouds.....	A. P. de Fonseca Sarurento....
Sâ da Bandeira	.....	.....	.....	F. Teixeira da Silva, Comd't.
Sado, Capt. J. A de Brito Capello, St. Paul de Loando	.....	.....	D. clouds.....	Luiz Aprá, Q. M.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	0	.....	Blue sky.....	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sâ da Bandeirâ gives the barometer reduced tofreezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	29.41	747.0	29.43	747.5	17.2	— 8.2	97	SSW	31	14	.....	.....	10	.....	.....	.....	.....	Heavy snow-drift	Capt. Sseliwerstow.
Astrakhan	30.28	769.2	30.20	767.1	27.0	— 2.8	89	W	29	13	.....	.....	10s	.....	.....	Blank	Blank	.....	Capt. Wisganow.
Barnaul	29.43	747.6	29.97	761.1	21.7	— 5.7	98	SW	9	4	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	30.21	767.2	30.48	774.1	5.2	—14.9	91	SW	7	3	.....	.....	9km	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	29.26	743.3	30.37	771.3	— 9.0	—22.8	78	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	30.08	764.0	30.38	771.6	6.4	—14.2	97	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.67	753.7	30.37	771.4	15.2	— 9.4	91	Calm	0	0	.....	.....	0	.....	.....	.....	.....	Hazy.	Physical Cabinet.
Krotkowo*	29.85	758.3	30.39	771.8	3.6	—15.8	79	N	0	0	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	30.04	763.0	30.26	768.6	19.4	— 7.0	78	WSW	9	4	.....	.....	8	.....	.....	.....	.....	.....	Meteorological Obs.
Moscow	29.81	757.2	30.41	772.4	16.5	— 8.6	67	W	7.8	3.5	.....	.....	10s	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	28.18	715.8	30.78	781.9	—3.3	—19.6	72	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	30.34	770.6	30.41	772.4	18.1	— 7.7	83	ENE	4	2	.....	.....	10cs	.....	.....	.....	.....	.....	Kurdukof.
Nukuss	29.69	754.1	29.93	760.2	42.8	6.0	67	WNW	4	2	.....	.....	2ks	.....	.....	.....	.....	.....	.....
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	30.28	769.0	30.42	772.6	33.3	0.7	39	NW	22	10	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	30.27	768.8	30.28	769.2	5.7	—14.6	96	SSW	16	7	.....	.....	7ks;s	.....	.....	.....	.....	Light clouds	Central Physical Obs.
Tashkend	28.47	723.0	30.07	763.6	48.6	9.2	53	NE	4	2	.....	.....	2	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.74	729.9	30.19	766.8	47.3	8.5	55	NW	13	6	.....	.....	10	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	30.12	765.0	30.59	776.9	14.4	— 9.8	77	NNE	9	4	.....	.....	0	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	30.09	764.3	30.55	775.9	20.3	— 6.5	83	NE	4	2	.....	.....	10	.....	.....	.....	.....	Heavy clouds...	Astronomical Obs.
Yenisiesk	29.51	749.6	29.82	757.4	15.6	— 9.1	91	S	4	2	.....	.....	10	.....	.....	.....	.....	Snowing.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47', E. 48° 34'.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	30.19	766.8	30.30	769.6	47.5	8.6	52	WNW	2.6	1.17	.....	.....	0	.....	.....	0	0	Clear.	Antonio Rave, Director
Bilbao, Met. Obs'y	30.51	774.9	30.57	776.4	38.5	3.6	88	SE	0.9	0.39	.....	1	8	NE	.....	0	0	Almost cov'd	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.42	696.5	.....	.....	35.2	1.8	65	NE	2.8	1.24	.....	0	1	.....	.....	0	0	Almost clear	Domingo Martin y Perez.
Madrid, Royal Observatory	28.06	712.8	30.41	772.3	37.6	3.1	84	S	3.7	1.67	.....	0	0	.....	.....	0	0	Clear.	The Staff.
Murcia, Met. Obs'y	30.14	765.6	30.30	769.5	58.1	14.5	47	NW	2.0	0.92	.....	0	0	.....	.....	0	0	Clear.	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.50	749.4	30.42	772.7	52.0	11.1	51	NE	8.1	3.6	.....	2	0	.....	.....	0	0	Light clouds	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.04	763.0	30.11	764.7	70.6	21.4	94	E	6.3	2.8	.....	0	0	.....	.....	0.319	8.1	Hazy.....	Benito Vines S. J.
Manilla, Phillippine Islands	29.76	756.0	29.82	757.4	80.1	27.1	75	N	3.8	1.7	.....	0	3s	.....	.....	0	0	Partly clear	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.22	767.5	30.32	770.1	55.2	12.9	62	NNW	2.6	1.2	.....	0	0	.....	.....	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	30.03	762.8	30.12	765.1	73.4	23.0	83	NE	20.3	9.09	.....	5km	6km	NE	NE	0.138	3.50	Cloudy.....	Enrique Gadea, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8·19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.46	748.3	29.50	749.3	37.0	2.8	.....	SW	.....	.....	4	.....	10	.....	.....	0	0	.....	
Umea	29.78	756.4	29.83	757.7	35.2	1.8	82	SW	.....	.....	2	.....	10	.....	.....	0	0	.....	
Hernosand	29.93	760.2	29.98	761.5	35.2	1.8	67	SW	.....	.....	2	.....	3	.....	.....	0	0	.....	
Stockholm	30.15	765.9	30.33	770.4	28.4	—2.0	96	SW	.....	.....	2	.....	10	.....	.....	0	0	.....	
Wisby	30.30	769.5	30.35	771.0	32.0	0.0	81	W	.....	.....	0	.....	5	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	30.15	765.8	30.24	768.0	26.8	—2.9	94	WSW	11.2	5.0	.....	.....	10	.....	.....	0	0	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	29.02	737.1	30.52	775.2	30.4	— 0.9	72	NE	.....	.....	8	.....	3	.....	.....	0	0	Clear.	The Observatory.
Zurich	28.91	734.2	30.64	778.3	26.2	— 3.2	88	E	.....	.....	2	.....	6	.....	.....	0	0	Cloudy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +0.7 mm.; Thermometer, —3.5 Cent.; Relative Humidity, —8 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.24	768.2	39.7	4.3	86	N	9	4.0	.....	.....	6	.....	N	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.08	763.9	44.8	7.1	.....	NW	.....	.....	1	.....	2	.....	.....	0	0	Slightly cl'dy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.95	760.7	30.06	763.5	63.1	17.3	63	NW	.....	.....	1	8c	.....	.....	.....	0.02	0.5	D. clouds.	Prof. C. V. A. van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	30.57	776.5	30.64	778.2	3.5	—15.8	87	Calm	0	0	.....	0	0	.....	.....	0.01	0.3	Clear.	G. A. Blair.
Charlottetown, P. E. Island	30.47	773.9	30.52	775.2	18.1	— 7.7	87	W	8	3.6	.....	0	1s	.....	.....	0	0	Fine.	H. J. Cundall, C. E.
Cornwall, Ontario	30.33	770.4	30.54	775.7	14.5	— 9.7	93	S	.....	.....	1	0	1s	.....	.....	0	0	Fine.	James Smith, M. A.
Dalhousie, N. B	30.40	772.1	30.59	777.0	— 2.5	—19.2	.....	W	.....	.....	1	0	0	.....	.....	0	0	Clear.	H. A. Johnson.
Father Point, Quebec	30.58	776.7	30.60	777.2	0.8	—17.3	100	S	9	4.0	.....	0	5n	.....	.....	0.01	0.3	Light snow.	J. McWilliams.
Fredericton, N. B	30.58	776.7	30.65	778.5	9.9	—12.3	92	N	6	2.7	.....	0	0	.....	.....	0	0	Clear.	Prof. Harrison.
Fort Garry, Manitoba	29.10	739.1	30.03	762.7	— 7.7	—22.1	100	NE	12	5.4	.....	.....	10n	.....	.....	0.10	2.5	Light snow.	James Stewart.
Granton, Ontario	29.37	746.0	30.58	776.7	14	—10.0	.....	SW	.....	.....	1	2cs	0	.....	.....	0	0	Fair.	James Grant.
Halifax, N. S	30.36	771.1	30.50	774.7	24.0	— 4.4	74	N	6	2.7	.....	0	0	.....	.....	0.08	2.0	Clear	A. Allison.
Hamilton, Ontario	30.20	767.1	30.60	777.2	18.7	— 7.4	83	NW	.....	.....	1	3ck	0	NW	.....	0	0	Fine.	Geo. Dickson, B. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	30.20	767.1	30.57	776.5	24.7	— 4.1	94	SW	3	1.3	.....	5k	2s	SW	.....	0	0	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	30.43	772.9	30.47	773.9	28.8	— 1.8	79	SW	6	2.7	.....	7k	0	SW	.....	Inap.	Inap.	Snow-flakes.	C. H. Rigby.
Montreal, Quebec	30.38	771.6	30.60	777.2	10.0	—12.2	79	NE	2	0.9	.....	5c	0	N	.....	Inap.	Inap.	Cloudy	C. H. McLeod, C. E.
Moose Factory, Ontario	30.43	772.9	30.47	773.9	—28.3	—33.5	90	SW	.....	.....	1	0	0	.....	.....	0	0	Clear.	J. R. Nerson.
Norwood	29.75	755.6	30.52	775.2	17.1	— 8.8	.....	SW	.....	.....	2	2k	c	.....	.....	0	0	Fair.	Rev. T. F. Fotheringham, M. A.
Parry Sound, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. R. Mosley.
Peterboro, Ontario	29.74	755.4	30.56	776.2	17.6	— 8.0	75	S	.....	.....	1	0	0	.....	.....	0	0	Clear.	J. F. Jeffers, M. A.
Port Dover, Ontario	29.83	757.7	30.58	776.7	20.1	— 6.6	85	W	2	0.9	.....	10k	0	SW	.....	0	0	Fair.	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.86	758.4	30.56	776.2	18.2	— 7.7	84	NW	4	1.8	.....	.....	10ks	.....	SW	0	0	Cloudy	M. Payne.
Quebec, Quebec	30.25	768.3	30.61	777.5	— 1	—18.3	68	N	.....	.....	3	0	0	.....	.....	0	0	Clear.	Capt. Ashe, R. N.
Rockliffe, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. McIntyre.
St. Andrews, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Gove.
St. John, N. B	30.44	773.2	30.62	777.7	15	— 9.4	82	NW	7	3.1	.....	0	0	.....	.....	0	0	Clear.	G. Murdock, C. E.
Saugeen, Ontario	29.71	754.6	30.48	774.2	22.5	— 5.3	88	SW	10	4.5	.....	.....	10s	.....	.....	0.10	2.5	Overcast.	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	29.14	740.1	30.55	776.0	13.3	—10.4	93	SW	5	2.2	.....	1cs	3s	NW	.....	0	0	Fair.	C. J. MacGregor, M. A.
Sydney, C. B	30.40	772.1	30.44	773.2	28.6	— 1.9	80	N	4	1.8	.....	10k	2s	.....	.....	0.29	7.4	Overcast.	T. C. Hill, C. E.
Toronto, Ontario	30.17	766.3	30.59	777.0	19.2	— 7.1	80	SW	6	2.7	.....	0	2s	.....	.....	0	0	Clear.	Magnetic Observatory.
Windsor, N. S	30.42	772.7	30.52	775.2	24.0	— 4.4	100	NE	7	3.1	.....	.....	10k	.....	.....	0.09	2.3	Cloudy	Prof. John E. Oram, M. A.
Woodstock, Ontario	29.42	747.3	30.59	777.0	13.6	—10.2	93	SE	4	1.8	.....	2c	1s	Calm	.....	0	0	Fine.	Prof. J. Montgomery.
Yarmouth, N. S	30.50	774.7	30.56	776.2	27.0	— 2.8	83	N	10	4.5	.....	0	6s	.....	.....	0	0	Cloudy	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	30.12	765.0	30.38	771.6	28	— 2.2	80	NW	.....	.....	.....	5k	10s	.....	.....	Inap.	Inap.	Cloudy	John Delany.
St. Pierre, N. F., Hôpital Maritime	.....	.....	30.26	768.5	29.1	— 1.6	.....	N	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	The Commandant.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.** UNITED STATES SERIES.

Furnished by the co-operation of BVT. BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0–10.	CLOUDS. Amount. Up'er 0–10.	CLOUDS. Amount. Lo'er 0–10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	30.39	771.9	30.64	778.2	23	— 5.0	73	N	3	1.3	.....	8cs	Sm'e	NW	.....	0	0	Fair	
Alpena, Michigan	29.68	753.9	30.38	771.6	20	— 6.7	85	W	10	4.5	.....	.....	8s	.....	W	0.01	0.3	Cloudy	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	29.16	740.7	30.37	771.4	35	1.7	80	E	19	8.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
Atlantic City, New Jersey	30.59	777.0	30.60	777.2	29	— 1.7	78	N	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Augusta, Georgia	30.21	767.3	30.42	772.7	43	6.1	75	NE	6	2.7	.....	.....	10s	.....	NE	0	0	Cloudy	
Baltimore, Maryland	30.60	777.2	30.65	778.5	28	— 2.2	54	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Barnegat, New Jersey	30.59	777.0	30.62	777.7	33	0.6	79	N	4	1.8	.....	5k	0	NE	.....	0	0	Fair	
Bismarck, Dakota	27.89	708.4	29.75	755.6	9	—12.8	100	Calm	0	0	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
Boerne, Texas	28.67	728.2	30.03	762.7	38	3.3	91	NE	2	0.9	.....	.....	10s	.....	Calm	0.06	1.5	Cloudy	
Boise City, Idaho	27.16	689.8	30.12	765.0	35	1.7	90	NW	1	0.4	.....	.....	10s	.....	Calm	0.15	3.8	Cloudy	
Boston, Massachusetts	30.48	774.2	30.66	778.7	25	— 3.9	75	N	5	2.2	.....	1cs	1s	NW	Calm	0	0	Clear	
Brackettville, Texas	28.98	736.1	30.08	764.0	42	5.6	74	E	10	4.5	.....	.....	10s	.....	Calm	0	0	Threatening	
Breckenridge, Minnesota	28.79	731.3	29.86	758.4	10	—12.2	100	SE	20	8.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Brownsville, Texas	29.99	761.7	30.04	763.0	50	10.0	93	NW	8	3.6	.....	.....	10s	.....	NW	0.60	15.2	Cloudy	
Buffalo, New York	29.80	756.9	30.57	776 5	23	— 5.0	66	W	2	0.9	.....	.....	10n	.....	W	Inap.	Inap.	Light snow	
Burkes, Arizona	.....	.....	.....	.....	34	1.1	52	Calm	.....	.....	0	5c	2s	Calm	Calm	0	0	Cloudy	
Burlington, Vermont	30.31	769.9	30.63	778 0	19	— 7.2	69	SE	3	1.3	.....	5ck	5ks	W	NW	Inap.	Inap.	Cloudy	
Cairo, Illinois	30.06	763.5	30.50	774.7	23	— 5.0	73	E	7	3.1	.....	5ck	2s	W	Calm	0	0	Fair	
Campo, California	27.52	699.0	30.09	764.3	30	— 1.1	89	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.41	772.4	30.42	772.7	51	10.6	86	NE	25	11.2	.....	.....	10s	.....	NE	0.14	3.6	Cloudy	
Cape Henry, Virginia	30.51	774.9	30.53	775.4	40	4.4	82	N	20	8.9	.....	.....	10ks	.....	NE	0.13	3.3	Cloudy	
Cape Lookout, N. Carolina	30.38	771.6	30.40	772.1	46	7.8	84	NE	28	12.5	.....	.....	10s	.....	NE	0	0	Cloudy	
Cape May, New Jersey	30.58	776.7	30.61	777.5	28	— 2.2	56	N	13	5.8	.....	0	0	.....	.....	0.01	0.3	Clear	
Castroville, Texas	29.35	745.5	30.08	764.0	43	6.1	51	NE	6	2.7	.....	.....	10s	.....	Calm	0	0	Threatening	
Cedar Keys, Florida	30.17	766.3	30.20	767.1	63	17.2	89	NE	12	5.4	.....	.....	10s	.....	NE	0.06	1.5	Cloudy	
Charleston, South Carolina	30.31	769.9	30.37	771.4	45	7.2	76	NE	16	7.2	.....	.....	10s	.....	Calm	0.10	2.5	Cloudy	
Charlotte, North Carolina	29.60	751.8	30.48	774.2	30	— 1.1	78	NE	8	3.6	.....	5c	Sm'e	Calm	.....	0	0	Fair	
Chattanooga, Tennessee	29.57	751.1	30.43	772.9	30	— 1.1	78	NE	5	2.2	.....	3c;cs	0	Calm;sW	.....	0	0	Clear	
Cheyenne, Wyoming	23.71	602.2	29.65	753.1	28	— 2.2	66	W	20	8.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Chicago, Illinois	29.69	754.1	30.45	773.4	21	— 6.1	43	S	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Cincinnati, Ohio	29.86	758.4	30.57	776.5	24	— 4.4	61	E	4	1.8	.....	8k	2s	W	Calm	Inap.	Inap.	Cloudy	
Cleveland, Ohio	29.80	756.9	30.60	777.2	19	— 7.2	85	SW	4	1.8	.....	10cs	0	Calm	.....	0.02	0.5	Cloudy	
Coleman City, Texas	28.32	719.5	30.08	764.0	32	0.0	59	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Columbus, Ohio	29.67	753.6	30.59	777.0	22	— 5.6	72	E	5	2.2	.....	.....	10s	.....	SE	0	0	Cloudy	
Concho, Texas	28.21	716.5	29.96	761.0	34	1.1	52	SE	.....	.....	1	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.79	756.7	30.29	769.4	34	1.1	61	E	4	1.8	.....	0	5s	.....	Calm	0	0	Fair	
Davenport, Iowa	29.70	754.4	30.40	772.1	18	— 8.3	68	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Dayton, Washington T'y	.....	.....	.....	.....	42	5.6	91	SW	.....	.....	1	.....	10n	.....	Calm	0.22	5.6	Light rain	
Deadwood, Dakota	25.00	635.0	.....	.....	27	— 2.8	76	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas	29.05	737.9	30.27	768.8	42	5.6	74	SE	8	3.6	.....	5cs	0	S	.....	0	0	Cloudy	
Denison, Texas	29.46	748.3	30.30	769 6	33	0.6	61	E	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Denver, Colorado	24.49	622.0	29.71	754.6	27	— 2.8	64	SW	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy	
Des Moines, Iowa	29.27	743.4	30.21	767.3	24	— 4.4	74	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Detroit, Michigan	29.81	757.2	30.55	776 0	16	— 8.9	83	W	4	1.8	.....	0	2s	.....	Calm	0.04	1.0	Clear	
Dodge City, Kansas	27.39	695.7	29.87	758.7	12	—11.1	61	S	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.58	751.3	30.36	771.1	14	—10.0	82	SE	4	1.8	.....	0	1s	.....	Calm	0	0	Clear	
Duluth, Minnesota	29.41	747.0	30.16	766 1	5	—15.0	75	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Eagle Pass, Texas	29.33	745.0	30.09	764.3	42	5.6	91	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Eastport, Maine	30.53	775.4	30.60	777.2	16	— 8.9	66	N	13	5.8	.....	0	0	.....	.....	0	0	Clear	
Edinburg, Texas	.....	.....	.....	.....	49	9.4	93	N	.....	.....	4	.....	10s	.....	N	0.02	0.5	Light rain	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.81	757.2	30.59	777.0	22	— 5.6	86	SW	9	4.0	.....	.....	10s	.....	Calm	0.04	1.0	Cloudy	
Escanaba, Michigan	29.68	753.9	30.42	772.7	4	—15.6	74	W	4	1.8	.....	.....	10s	.....	W	0	0	Cloudy	
Florence, Arizona	28.52	724.4	30.12	765.0	31	— 0.6	79	Calm	0	0	.....	8c	0	SW	.....	0	0	Fair	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.74	704.6	29.71	754.6	6	—14.4	88	NW	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Caster, Montana	26.64	676.6	.....	.....	35	1.7	80	SW	12	5.4	.....	.....	10s	.....	Calm	0.05	1.3	Cloudy	
Fort Davis, Texas	25.11	637.8	30.07	763.8	31	— 0.6	48	E	1	0.4	.....	0	2s	.....	Calm	0	0	Fair	
Fort Gibson, Indian Ter	29.74	755.4	30.32	770.1	29	— 1.7	67	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Grant, Arizona	25.16	639.0	29.96	761.0	32	0.0	40	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	28.88	733.5	30.21	767.3	35	1.7	53	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Keogh, Montana	27.11	688.6	.....	.....	29	— 1.7	52	Calm	0	0	.....	0	2s	.....	.....	0.02	0.5	Fair	
Fort McKavett, Texas	27.81	706.4	29.82	757.4	34	1.1	70	E	6	2.7	.....	0	4s	.....	E	0	0	Fair	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.96	735.6	30.14	765.5	29	— 1.7	67	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Verde, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Yates, Dakota	.....	.....	.....	.....	27	— 2.8	88	W	.....	.....	1	5cs	0	SW	.....	0	0	Fair	
Fredericksburg, Texas	28.31	719.1	29.97	761.2	28	— 2.2	66	N	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Galveston, Texas	30.12	765.0	30.16	766.1	45	7.2	84	NE	26	11.6	.....	.....	10ks	.....	E	0.11	2.8	Cloudy	
Graham, Texas	29.10	739.1	30.21	767.3	36	2.2	80	E	4	1.8	.....	.....	10s	.....	S	0	0	Cloudy	
Grand Haven, Michigan	29.74	755.4	30.45	773.4	22	— 5.6	72	SE	10	4.5	.....	.....	10s	.....	Calm	0.14	3.6	Cloudy	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Indianapolis, Indiana	29.64	752.8	30.49	774.4	20	— 6.7	70	E	4	1.8	.....	0	2ks	.....	E	0.01	0.3	Fair	
Indianola, Texas	30.09	764 3	30.12	765.0	47	8.3	70	NE	29	13.0	.....	.....	10s	.....	NE	0	0	Cloudy	
Jacksboro, Texas	29.08	738.6	30.27	768.8	37	2.8	38	N	6	2.7	.....	.....	10s	.....	N	0	0	Cloudy	
Jacksonville, Florida	30.24	768.1	30.26	768.6	58	14.4	94	NE	14	6.3	.....	.....	10n	.....	Calm	0.02	0.5	Light rain	
Keokuk, Iowa	29.68	753.9	30.35	770.9	21	— 6.1	71	S	5	2.2	.....	0	2s	.....	Calm	0	0	Clear	
Key West, Florida	30.08	764.0	30.12	765.0	75	23.9	90	SE	10	4.5	.....	2k	0	E	.....	0.07	1.8	Fair	
Kittyhawk, North Carolina	30.46	773.7	30.48	774.2	48	8.9	70	NE	34	15.2	.....	10k	0	NE	.....	0.11	2.8	Cloudy	
Knoxville, Tennessee	29.38	746.2	30.47	773.9	26	— 3.3	88	NE	4	1.8	.....	2cs	0	W	.....	0	0	Fair	
La Crosse, Wisconsin	29.43	747.5	30.21	767.3	24	— 4.4	74	S	16	7.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
La Mesilla, New Mexico	26.07	662.2	30.22	767.6	23	— 5.0	60	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.78	756.4	30.15	765.8	34	1.1	79	N	5	2.2	.....	.....	10s	.....	N	0.04	1.0	Cloudy	
Leavenworth, Kansas	29.33	745.0	30.24	768.1	25	— 3.9	75	S	6	2.7	.....	4cs	0	.....	.....	0	0	Fair	
Lewiston, Idaho	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Little Rock, Arkansas	30.04	763.0	30.43	772.9	27	— 2.8	88	NE	6	2.7	.....	2cs	0	Calm	.....	0	0	Fair	
Los Angeles, California	29.69	754.1	30.03	762.7	47.0	8.3	55	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.90	759.4	30.52	775.2	24	— 4.4	74	NNE	7	3.1	.....	2ck	2s	Calm	Calm	Inap.	Inap.	Fair	
Lynchburg, Virginia	29.88	758.9	30.63	778.0	28	— 2.2	88	NE	2	0.9	.....	2cs	0	W	.....	0	0	Clear	
Madison, Wisconsin	29.28	743.7	30.36	771.1	17	— 8.3	67	S	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Marquette, Michigan	29.53	750.0	30.31	769.9	4	—15.6	74	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Mason, Texas	28.49	723.6	30.33	770.4	38	3.3	54	E	4	1.8	.....	10cs	0	SW	.....	0	0	Cloudy	
Memphis, Tennessee	30.05	763.3	30.42	772.7	25	— 3.9	49	NE	8	3.6	.....	0	Sm'e	.....	Calm	0	0	Clear	
Milwaukee, Wisconsin	29.65	753.1	30.46	773 7	15	— 9.4	82	S	7	3.1	.....	0	1s	.....	Calm	0	0	Clear	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mobile, Alabama	30.20	767.1	30.24	768.1	40	4.4	73	N	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
Montgomery, Alabama	30.05	763.3	30.30	769.6	38	3.3	71	NE	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy	
Morgantown, West Virginia	29.52	749.8	30.60	777.2	26	— 3.3	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Mt. Washington, N. H.	23.79	604.3	30.15	765.8	— 5	—20.6	44	NW	42	18.8	.....	0	0	.....	.....	0.03	0.8	Clear	
Nashville, Tennessee	29.87	758.7	30.46	773.7	23	— 5.0	73	NE	3	1.3	.....	2cs	0	Calm	.....	0	0	Fair	
New Haven, Connecticut	30.52	775.2	30.04	778.2	26	— 3.3	88	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
New London, Connecticut	30.58	776.7	30.04	778.2	28	— 2.2	54	N	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
New Orleans, Louisiana	30.16	766.1	30.22	767.6	43	6.1	58	NE	14	6.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Newport, Rhode Island	30.56	776.2	30.63	778.0	27	— 2.8	76	N	10	4.5	.....	0	0	.....	.....	0	0	Clear.	
New River, North Carolina	.....	.....	.....	.....	41	5.0	83	NE	.....	.....	4	.....	10s	.....	NE	.....	.....	.....	
New York, New York	30.45	773.4	30.65	778.5	30	— 1.1	41	NE	11	4.9	.....	Haze	Haze	Calm	Calm	0	0	Dense haze.	
Norfolk, Virginia	30.48	774.2	30.54	775.7	37	2.8	71	N	7	3.1	.....	.....	10s	.....	N	0.16	4.1	Cloudy	
North Platte, Nebraska	26.88	682.7	29.62	752.3	12	—11.1	80	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter.	30.09	764.3	30.13	765.3	49.0	9.4	93	SW	6	2.7	.....	.....	10s	.....	Calm	0.21	5.3	Cloudy	
Omaha, Nebraska	28.89	733.8	30.05	763.3	22	— 5.6	86	S	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Oswego, New York	30.23	767.8	30.58	776.7	30	— 1.1	78	SW	9	4.0	.....	.....	10s	.....	W	0	0	Cloudy	
Pembina, Dakota	28.96	735.6	29.87	758.7	— 1	—18.3	100	SE	8	3.6	.....	.....	10n	.....	Calm	0.16	4.1	Light snow.	
Pensacola, Florida	30.23	767.8	30.26	768.6	45	7.2	84	NE	6	2.7	.....	.....	10s	.....	NE	0	0	Cloudy	
Philadelphia, Pennsylvania	30.58	776.7	30.64	778.2	29	— 1.7	67	NE	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Phœnix, Arizona	28.87	733.3	30.75	781.0	38	3.3	54	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.28	438.9	29.48	748.8	— 3	—19.4	100	W	38	17.0	.....	10cs	0	Calm	.....	0	0	Cloudy	
Pilot Point, Texas	29.47	748.5	30.35	770.9	36	2.2	80	SE	.....	.....	.....	2k	2s	S	SE	0	0	Fair	
Pioche, Nevada	.....	.....	.....	.....	34	1.1	61	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.72	754.9	30.61	777.5	25	— 3.9	75	N	4	1.8	.....	.....	Fog;sm	.....	Calm	0	0	Foggy	
Port Huron, Michigan	29.82	757.4	30.56	776.2	16	— 8.9	83	SW	8	3.6	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Portland, Maine	30.54	775.7	30.60	777.2	25	— 3.9	50	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Portland, Oregon	30.16	766.1	30.24	768.1	49.5	9.7	93	SE	5	2.2	.....	.....	10n	.....	Calm	0.45	11.4	Light rain	
Portsmouth, North Carolina	.....	.....	.....	.....	50	10.0	86	NE	36	16.1	.....	.....	10s	.....	NE	0.12	3.0	Cloudy	
Prescott, Arizona	24.76	628.9	30.12	765.0	21	— 6.1	86	W	.....	.....	1	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.12	765.0	30.14	765.5	72	22.2	90	E	9	4.0	.....	.....	10ks	.....	E	0.03	0.8	Cloudy	
Red Bluff, California	29.88	758.9	30.25	768.3	47	8.3	62	N	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.90	759.4	30.12	765.0	47	8.3	92	N	8	3.6	.....	.....	10n	.....	Calm	0.82	20.8	Light rain.	
Rochester, New York	29.89	759.2	30.56	776.2	25	— 3.9	75	W	4	1.8	.....	.....	10s	.....	W	0.02	0.5	Cloudy	
Roseburg, Oregon	29.78	756.4	30.37	771.4	46.5	8.1	96	Calm	0	0	.....	.....	10n	.....	Calm	0.11	2.8	Light rain	
Sacramento, California	30.11	764.8	30.19	766.8	41	5.0	96	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
St. Louis, Missouri	29.84	757.9	30.47	773.9	19	— 7.2	69	SE	8	3.6	.....	2ck	5s	SW	SW	Inap.	Inap.	Fair	
St. Paul, Minnesota	29.13	739.9	30.02	762.5	17	— 8.3	67	SE	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Salt Lake City, Utah	25.58	649.7	29.91	759.7	35	1.7	70	Calm	0	0	.....	.....	10n	.....	Calm	0.17	4.3	Light snow.	
San Antonio, Texas	29.44	747.8	30.04	763.0	45	7.2	46	NE	8	3.6	.....	.....	10s	.....	NE	Inap.	Inap.	Cloudy	
San Diego, California	29.98	761.5	30.05	763.3	50	10.0	52	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Sandusky, Ohio	29.89	759.2	30.63	778.0	21	— 6.1	86	SW	2	0.9	.....	2c	8s	Calm	SW	0	0	Cloudy	
Sandy Hook, New Jersey	30.60	777.2	30.63	778.0	30	— 1.1	57	NE	15	6.7	.....	0	0	.....	.....	0	0	Clear	
San Francisco, California	30.14	765.5	30.21	767.3	51	10.6	86	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Santa Fé, New Mexico	23.17	588.5	29.71	754.6	14	—10.0	64	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.26	768.6	30.35	770.9	48	8.9	78	NE	5	2.2	.....	.....	10s	.....	NE	0.02	0.5	Cloudy	
Shreveport, Louisiana	30.09	764.3	30.32	770.1	33	0.6	51	NE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.38	771.6	30.42	772.7	42	5.6	83	N	10	4.5	.....	.....	10s	.....	Calm	0.05	1.3	Cloudy	
Socorro, New Mexico	25.39	644.9	29.46	748.3	20	— 6.7	70	N	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Springfield, Illinois	29.75	755.6	30.49	774.4	19.5	— 6.9	63	SE	8	3.6	.....	2c	1s	SW	S	0	0	Fair	
Springfield, Massachusetts	30.51	774.9	30.65	778.5	24	— 4.4	74	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Stockton, Texas	27.00	685.8	30.00	762.0	36	2.2	4	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Thatcher's Island, Mass	30.51	774.9	30.57	776.5	30	— 1.1	78	N	14	6.3	.....	5ck	0	NW	.....	0	0	Fair	
Toledo, Ohio	29.84	757.9	30.60	777.2	20	— 6.7	70	SW	4	1.8	.....	.....	10ks	.....	SW	Inap.	Inap.	Cloudy	
Tucson, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon	29.75	755.6	30.24	768.1	42.0	5.6	95	E	4	1.8	.....	.....	10s	.....	.....	0	0	Cloudy	
Uvalde, Texas	29.22	742.2	30.08	764.0	40	4.4	82	NE	5	2.2	.....	.....	10s	.....	NE	0	0	Cloudy	
Vicksburg, Mississippi	30.07	763.8	30.35	770.9	23	0.6	70	E	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Virginia City, Montana	24.06	611.1	29.54	750.3	26	— 3.3	88	SW	6	2.7	.....	.....	10n	.....	Calm	0.22	5.6	Light snow.	
Visalia, California	29.76	755.9	30.14	765.5	47	8.3	88	SW	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Washington, D. C.	30.51	774.9	30.64	778.2	23	— 5.0	60	NW	6	2.7	.....	0	1s;sm'e	.....	Calm	0	0	Clear.	
Wickenburg, Arizona	.....	.....	.....	.....	31	— 0.6	69	W	.....	.....	1	2c	0	Calm	.....	0	0	Clear.	
Wilmington, North Carolina	30.35	770.9	30.44	773.2	41	5.0	74	NE	11	4.9	.....	.....	10s	.....	Calm	0.14	3.6	Cloudy	
Winnemucca, Nevada	25.76	654.3	30.12	765.0	37	2.8	81	SW	8	3.6	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Wood's Holl, Massachusetts	30.56	776.2	30.60	777.2	29	— 1.7	67	N	18	8.0	.....	0	0	.....	.....	0	0	Clear.	
Yankton, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Yuma, Arizona	29.92	760.0	30.07	763.8	46	7.8	54	W	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
SUB-SERIES.																			
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	30.00	762.0	30.05	763.3	74	23.3	85	Calm	0	0	.....	0	0	.....	.....	0.38	9.7	Clear.	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.13	765.3	30.14	765.5	75	23.9	95	Calm	0	0	.....	.....	5cs	.....	.....	.....	.....	Fair	James Gall.
Navassa, W. I.	29.96	761.0	30.04	763.0	78	25.6	78	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.96	761.0	29.96	761.0	80	26.7	91	E	.....	.....	2	5k	7ks	E	.....	1.280	32.51	Cloudy	C. J. Hering.
Santiago de Cuba, W. I.	30.06	763.5	30.08	764.0	75	23.9	69	NE	6	2.7	.....	0	0	.....	.....	0	0	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich
York Factory, B. A.	29.56	750.8	29.61	752.1	—37.5	—38.6	.....	S	14	6.3	.....	0	0	.....	.....	0	0	Clear.	J. Fortescue & W. Wood
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.19‡	766.8‡	.....	.....	50	10.0	86	NE	9	4.0	.....	.....	10	.....	SE	0.66	16.8	.....	.....	Threatening	
Navy Yard, Portsmouth, N.H.	30.45‡	773.4‡	.....	.....	22	— 5.6	86	NW	3	1.3	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Naval Hospital, Yokohama, Japan.....	30.08‡	764.0‡	.....	.....	55	12.8	53	NE	.....	.....	1	.....	Haze	.....	Calm	0	0	.....	.....	Fair...	
Adams, Mare I'd., Navy Yard, Cal.	30.20‡	767.1‡	.....	.....	50	10.0	93	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Alaska, Arica, Peru.....*	29.97‡	761.2‡	.....	.....	69	20.6	80	NNW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Hazy.....	
Colorado, New York, . Y.....	29.59‡	751.6‡	.....	.....	28.5	— 1.9	72	NNE	5.3	2.4	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Constitution, N. 35° 36′, W. 71° 21′.....	30.33‡	770.4‡	.....	.....	65	18.3	100	NNE	.....	.....	6	.....	10	.....	NNE	.....	.....	Mod'ate	NE	Raining	
Enterprise. Beirut, Syria.....	30.11‡	764.8‡	.....	.....	66	18.9	74	NNW	.....	.....	2	.....	6†	.....	NNW	.....	.....	Smooth	.....	Cloudy.....	
Franklin, Off Navy Yard, Norfolk, Va.	30.53‡	775.4‡	.....	.....	40	4.4	82	ENE	8.6	3.8	.....	.....	10	.....	SW	0.19	4.8	.....	.....	Cloudy.....	
Independence, Mare I'd, Navy Yard, Cal.	30.20‡	767.1‡	.....	.....	58	14.4	82	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Kearsarge, N. 24° 00′, W. 75° 15′.....	30.19‡	766.8‡	.....	.....	77	25.0	69	ESE	.....	.....	4	.....	2	.....	SE	0	0	Smooth	.....	D. clouds.....	
Lackawana, Honolulu, Sandwich Id's.	29.96‡	761.0‡	.....	.....	69	20.6	90	NE	.....	.....	2–4	.....	1	.....	NE	.....	.....	.....	.....	Clear	
Marion, Navy Yard, Brooklyn, N.Y.	30.60‡	777.2‡	.....	.....	30	— 1.1	41	NE	.....	.....	1	.....	1	.....	Calm	.....	.....	.....	.....	Clear	
Michigan, Erie, Pa.....	30.55‡	776.0‡	.....	.....	25	— 3.9	94	SSW	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....	Overcast.....	
Monocacy, Shanghai, China..	30.23‡	767.8‡	.....	.....	46	7.8	84	ESE	.....	.....	0–1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
New Hampshire, Port Royal, S. C.....	30.37‡	771.4‡	.....	.....	49	9.4	78	NE	20	8.9	.....	.....	9	.....	NE	0.200	5.08	.....	.....	Overcast.....	
Nipsic, Norfolk, Va.....	30.51‡	774.9‡	.....	.....	42	5.6	83	N	.....	.....	3	.....	8	.....	NNW	.....	.....	.....	.....	D. clouds.....	
Onward, Callao, Peru ....†.	29.93‡	760.2‡	.....	.....	67	19.4	89	SE	.....	.....	1	.....	8	.....	.....	.....	.....	Mod'ate smooth	W	Hazy.....	
Palos. Tientsin, China.	30.31‡	769.9‡	.....	.....	31	— 0.6	?	NNW	.....	.....	4	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Passaic, Washington, D. C.....	30.64‡	778.2‡	.....	.....	26	— 3.3	75	N	.....	.....	1	.....	2	.....	.....	.....	.....	.....	.....	Clear	
Pensacola, Callao, Peru	29.96‡	761.0‡	.....	.....	68	20.0	79	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Smoo h	.....	Overcast	
Powhatan, Navy Yard, Brooklyn, N.Y.	30.61‡	777.5‡	.....	.....	33	0.6	61	ENE	.....	.....	2	.....	2	.....	ENE	.....	.....	.....	.....	Fair.....	
Quinnebaug, Villafranca, France.....	30.26‡	768.6‡	.....	.....	52	11.1	35	E	.....	.....	4	.....	5	.....	E	.....	.....	.....	.....	Fair.....	
Ranger, N. 30° 06′, W. 162° 35′.....	30.06‡	763.5‡	.....	.....	64	17.8	78	N	.....	.....	5	.....	5?	.....	N	.....	.....	Long	N	Cloudy?.....	
Richmond, Amoy, China.....	30.12‡	765.0‡	.....	.....	60	15.6	71	NE	.....	.....	3	.....	0	.....	.....	.....	.....	Smooth	.....	Clear	
Rio Bravo, Brownsville, Texas... †.	30.21‡	767.3‡	.....	.....	56	13.3	94	NW	2	0.9	.....	.....	10	.....	N	0.38	9.7	.....	.....	Sprinkling...	
Santee. Annapolis, Md	30.61‡	777.5‡	.....	.....	29	— 1.7	.....	NNE	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Clear.	
Shenandoah, S 31° 05′, W. 45° 36′.....	30.05‡	763.3‡	.....	.....	68	20.0	65	NNW	.....	.....	1	.....	1	.....	NNW	.....	.....	Long	NNW	Clear	
St. Louis, League Island, Pa.....	30.57‡	776.5‡	.....	.....	27	— 2.8	88	NNE	2	0.9	.....	.....	2	.....	.....	0	0	.....	.....	Clear	
Tuscarora, Acapulco, Mexico	29.91‡	759.7‡	.....	.....	75	23.9	86	Calm	.....	.....	0	.....	2	.....	Calm	0	0	Smooth	.....	Clear	
Vandalia. Navy Yard, Brooklyn, N.Y.	30.63‡	778.0‡	.....	.....	35	1.7	73	NE	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Wabash, Boston, Mass.....	30.55‡	776.0‡	.....	.....	24	— 4.4	61	N	8	3.6	.....	.....	2	.....	.....	0	0	.....	.....	Fair.....	
Wachusett, Rio de Janeiro, Brazil.†	30.52‡	775.2‡	.....	.....	74	23.3	76	SSE	.....	.....	3	.....	8	.....	SSE	.....	.....	.....	.....	Cloudy.....	
Wyoming, Gibraltar, Mediterranean	30.28‡	769.1‡	.....	.....	61	16.1	61	ENE	.....	.....	0–1	.....	2	.....	E	.....	.....	Smooth	E	Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Anerold. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.			CHARACTER.	DIRECTION FROM—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S. S. Samaria																			Capt. T. Roberts.

NOTE—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitebury.
S. S. Costa Rica																			W. House & R. Lawless.
S. S. Dakota, Capt. H. G. Morse																			Capt. Connolly.
S. S. Georgia																			F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin																			Capt. A. Fuller.
S. S. Wilmington																			R. C. Ghest, 1st Officer.
S. S. Zealandia, Sydney, New South Wales.		29.84‡	757.9‡				NE			3			E					Cloudy	

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The orginals give the barometer as read off; wind-force by the scale 0 to to 12; for the Brittanic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer N. 35° 27′, E. 142° 01′...†		30.04‡	763.0‡	04	17.8	73	E			5		10		E		Moderate.	E	Overcast	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson N. 40° 22′, W. 152° 56′...†		30.14‡	765.5‡	55	12.8		NW			3		n		W	Considerable	Rough	SW	Overcast	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undutsch.
S. S. Leipzig, Capt. F. Pfeiffer, Off Eddy Stone, English Channel.		30.77‡	781.6‡	46.0	7.8	73	ESE			2		10		E		Mod'ate	E	Drizzling	S. Rislus, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness by the scale 0 to 4, do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10	Lo'er 0—10.	Upper. From—	Lower. From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa		30.69‡	779.5‡	35	1.7		ENE			5		2		NE	0			Clear	Capt. R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from, sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents.

S. S. Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

Note.—The originals give the barometer as read off; do not distinguish between upper and lower clouds; sea-swell in general terms, as published. ‡Corrections for temperature, instrumental error and elevation applied at this office.

ALLAN LINE MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12. *The error of the barometer is not known. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES—Miscellaneous.

Furnished by the co-operation of the Observers named.

Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Barkentine "Carrie Heckle" N. 33° 42′, W. 52° 10′	*	30 31‡	769.9‡	67.5	19.7		N			5		10		NNE	0	Long	NE	Cloudy	B. F. Woodbury.
Brigantine "George" of Halifax, N. 33° 10′, W. 72° 40′	†	30.24‡	768.1‡	72	22.2		E			2		8		NW		Mod'ate	SE	Cloudy	N. B. Foss.
Schooner Harry and Fred																			Capt. George Gardner.
Haytian																			
§ Iron Cross																			Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time. *Instrumental error not known.

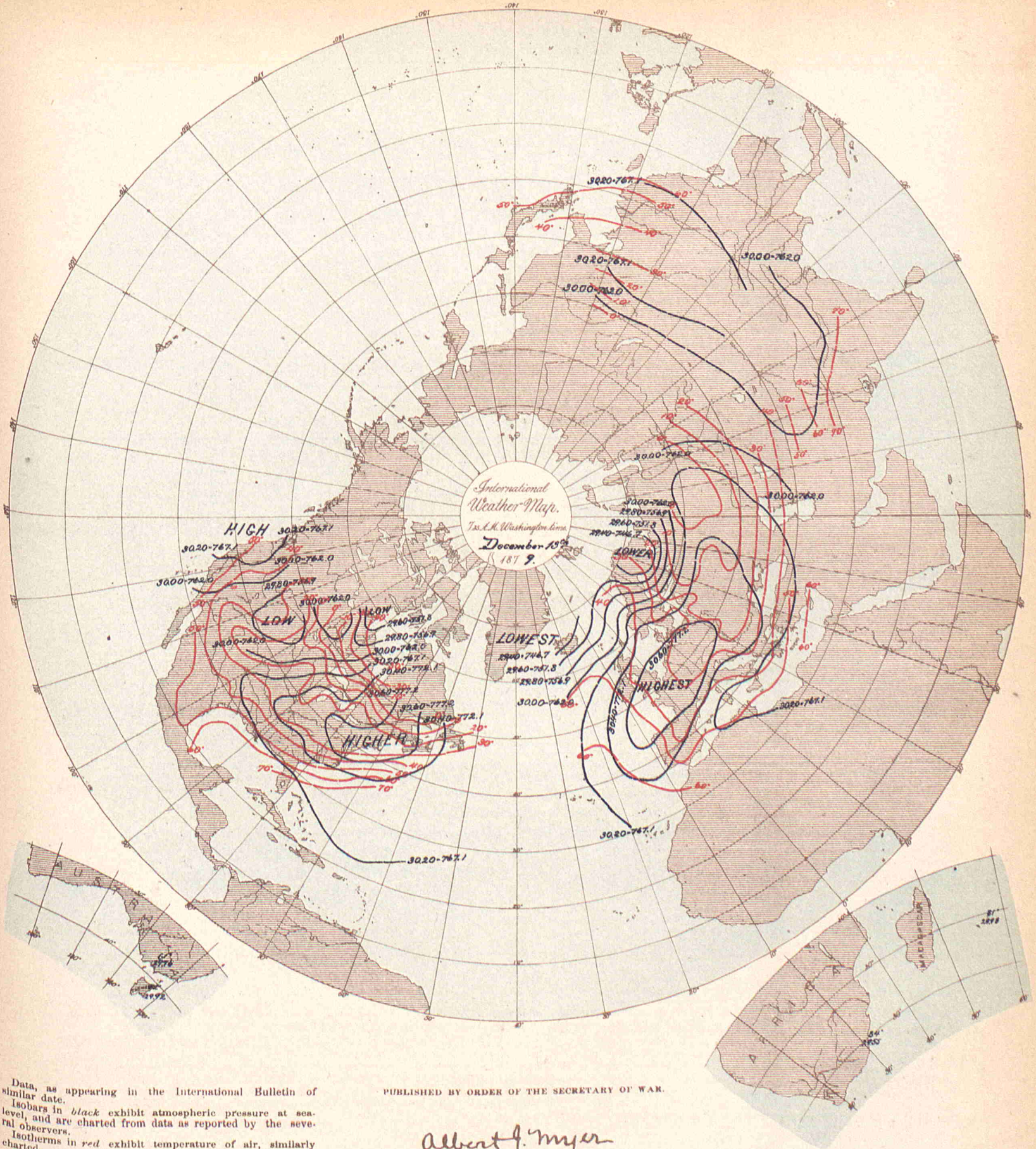
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^{d},) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 14, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:38 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time
1:57 P. M. CAPE TOWN, C. G. H. mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.19	766.9	62.1	16.7	78	NE	.....	.....	2	.....	2	.....	.....	0	0	Fair	Kesxuche.
Nemours	.....	.....	30.27	768.8	59.9	15.5	64	Calm	.....	.....	0	.....	0	.....	.....	0	0	Clear	Kesxuche.
Algiers	.....	.....	30.16	766.1	48.9	9.4	69	N	.....	.....	7	.....	10	.....	.....	0.441	11.2	Covered	Tourilière.
La Calle	.....	.....	29.82	757.5	49.8	9.9	72	ENE	.....	.....	5	.....	10	.....	.....	0.917	23.3	Raining	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.04	763.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Herbin.
Tebessa	.....	.....	30.00	762.0	39.6	4.2	74	NNW	.....	.....	6	.....	10	.....	.....	0.012	0.3	Covered	Watrin.
Geriville	.....	.....	.....	.....	40.1	4.5	49	NW	.....	.....	6	.....	8	.....	.....	0	0	Very cloudy	Brugniuax.
Laghouat	.....	.....	30.15	765.7	43.9	6.6	39	NW	.....	.....	5	.....	10	.....	.....	0	0	Covered	Bertrand.
Biskra	.....	.....	30.02	762.5	50.0	10.0	79	NNW	.....	.....	7	.....	8	.....	.....	0	0	Very cloudy	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount of cloudiness by the scale 0–4; no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	30.03	762.7	30.63	777.9	22.6	— 5.2	85	NE	.....	.....	2	.....	3	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.81	757.1	30.65	778.5	17.2	— 8.2	79	SW	0.2	0.1	.....	.....	1	.....	.....	0	0	.....	Dr. Wierzbicki.
Eperies	29.64	752.9	30.61	777.5	16.9	— 8.4	82	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	Julius Mikolik.
Gratz	29.30	744.2	30.67	779.0	29.8	— 0.2	74	S	.....	.....	2	.....	3	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	29.07	738.4	30.67	779.0	12.4	—10.9	93	ENE	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	29.19	741.4	30.67	779.0	17.6	— 8.9	94	Calm	.....	.....	0	.....	0	.....	.....	0.098	2.5	.....	Prof. C. Wagner.
Lemberg	29.52	749.9	30.61	777.5	19.8	— 6.8	100	SW	.....	.....	1	.....	8	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	30.30	769.7	30.43	772.8	32.4	0.2	96	ENE	.....	.....	6	.....	0	.....	.....	0	0	.....	I.R.Hydrographic Office
Szathmar	30.15	765.9	30.67	779.1	9.3	—12.6	92	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Pet. Pancsics, S. J.
Szegedin	30.30	769.7	30.62	777.7	10.9	—11.7	.....	N	.....	.....	1	.....	0	.....	.....	0	0	.....	Karl Stancel.
Trieste	30.40	772.2	30.50	774.8	28.8	— 1.8	68	ENE	.....	.....	4	.....	0	.....	.....	0	0	Clear	P. Busin.
Vienna	29.89	759.2	30.65	778.5	23.0	— 5.0	81	Calm	.....	.....	0	.....	3	.....	.....	0	0	.....	I.R.Central Met. Ob'sy
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C., as Second-Class Matter

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Corrected for instrum'tal error and temperature. Millimeters.	Reduced to sea-level. Inches.	Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Amount. Lw'r 0—10.	Direction. Upper. From—	Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.01	762.2	30.11	764.8	42.0	5.6	.....	SSW	6	2.7	.....	.....	6	.....	.....	0	0	Misty	W. Boswell.
Ardrossan	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Wm.McNeil & G.Carrick
Armagh, (Observatory)	30.12	765.0	30.36	771.1	44.4	6.9	.....	SW	16	7.2	.....	.....	.....	.....	.....	.....	.....	.....	S. Call.
Bidston (Liverpool Obs)	.....	.....	30.44	773.2	43.7	6.5	.....	SW	12	5.4	.....	.....	10	.....	.....	.....	.....	Overcast	John Hall up.
Bolton (Sharples)	29.86	758.4	30.40	772.1	37.2	2.9	.....	SW	6	2.7	.....	.....	10	.....	.....	.....	.....	Foggy	Thomas M. ckereth.
Bradford, Yorkshire	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J McLandsborough.
Bridgetown, Barbadoes	29.91	759.7	29.94	760.5	80	26.7	.....	NE	.....	.....	2	.....	3	.....	.....	0	0	D. clouds	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	30.41	772.4	30.51	774.9	36.0	2.2	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	H. Todd.
Cardington	.....	.....	30.51	774.9	37.0	2.8	.....	W	.....	.....	0–1	.....	10	.....	.....	.....	.....	Overcast	John McLaren.
Chatham (School M. E.)	30.43	772.9	30.57	776.5	38.1	3.4	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Foggy	J. Carmell, Sapper, R.E.
Donaghadee	30.28	769.1	30.32	770.1	46	7.8	.....	WSW	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	J. Mac Gowan.
Dover	30.50	774.7	30.54	775.7	40	4.4	.....	W	.....	.....	1	.....	6	.....	.....	.....	.....	Misty	J. Costello.
Falmouth (Observatory)	30.34	770.6	30.58	776.7	45.6	7.6	.....	SW	.....	.....	0	.....	10	.....	.....	.....	.....	Foggy	The Staff.
Fort Napier, Natal	27.35	694.7	29.67	753.6	63.6	17.6	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Drizzling	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Galway (Queen's College)	.....	.....	30.31	769.9	50	10.0	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Prof. A. H. Curtis.
Gibraltar, Mediterranean	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Sergt.Wm. Allen, A. H.
Glasgow, (Observatory)	30.03	762.7	30.23	767.8	44.8	7.1	.....	SW	.....	.....	3	.....	10	.....	.....	.....	.....	Gloomy	D. G. Maclean. [C.
Great Yarmouth	30.50	771.7	30.51	774.9	35	1.7	.....	WSW	.....	.....	3	.....	8	.....	.....	.....	.....	Foggy	G. T. Watson.
Greenwich (Royal Obs'y)	30.37	771.4	30.55	776.0	39.1	3.9	.....	WSW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	The Staff, for G.B.Airy.
Guernsey	30.36	771.1	30.59	777.0	42.5	5.8	.....	SSW	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds	Dr.S.E Hoskins, F.R.S.
Helston	30.68	779.3	30.82	782.8	40	4.4	.....	SW	.....	.....	1	.....	10	.....	.....	0	0	Gloomy	M. P. Moyle.
Holyhead	30.37	771.4	30.42	772.7	49	9.4	.....	SW	.....	.....	3	.....	1	.....	.....	.....	.....	Blue sky	John Tilston.
Jersey	30.34	770.6	30.64	778.2	37.9	3 3	.....	WSW	.....	.....	2	.....	10	.....	.....	.....	.....	Gloomy	J. Fisher.
Kew (Observatory)	30.52	775.2	30.56	776.2	38.2	3.4	.....	SW	5	2.2	.....	.....	10	.....	.....	.....	.....	Foggy	The Met'g'l Office.
Leicester (Museum)	30.21	767.3	30.48	774.2	38.5	3.6	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	29.89	759.2	29.97	761.2	51	10.6	.....	W	.....	.....	2	.....	8n	.....	.....	Blank	Blank	Overcast	A. King.
Nairn	29.94	760.5	30.04	763.0	49	9.4	.....	WSW	.....	.....	4	.....	8	.....	.....	.....	.....	¾ clouded	W. D. Penny.
Nassau, Bahamas	.....	.....	30.18	766.6	75.5	24.2	.....	SE	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham (Observatory)	30.27	768.8	30.47	773.9	39.0	3.9	.....	SW	.....	.....	1	.....	10	.....	.....	0	0	Overcast	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.94	760.5	30.49	774.4	39.0	3.9	.....	SSW	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)	.....	.....	30.54	775.7	38	3.3	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	H. E. Bellamy.
Plymouth	30.49	774.4	30.57	776.5	39.7	4.3	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Foggy	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	30.40	772.1	30.48	774.2	49	9.4	.....	SW	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	Wm. Kennedy.
St. Ann's Head	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John C. Walker.
Sandwick Manse, Orkneys	.....	.....	29.94	760.5	51.5	10.8	.....	SW	30	13.4	.....	.....	5	.....	.....	.....	.....	D. clouds	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	30.25	768.3	30.32	770.1	39.6	4.2	.....	NNE	.....	.....	2	.....	10	.....	.....	.....	.....	Raining	Serg't W. H. L ne.
Sheffield	30.16	766.1	30.46	773.7	44.2	6.8	.....	SW	.....	.....	1	.....	9	.....	.....	0	0	Overcast	W. F. Cooper.
Silloth Rectory	30.27	768.8	30.30	769.6	44.9	7.2	93	SW	.....	.....	5	.....	9	.....	.....	0	0	D. clouds	Francis Redford, A. M.
Stonyhurst (Observatory)	.....	.....	30.38	771.6	40.6	4.8	.....	WSW	12	5.4	.....	.....	10	.....	.....	.....	.....	Overcast	Rev. S. J. Perry.
Straffield, Turgiss	30.34	770.6	30.56	776.2	38.4	3.6	.....	SW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	30.50	774.7	30.60	777.2	43	6.1	.....	W	.....	.....	0	.....	10	.....	.....	.....	.....	Gloomy	W. Newcombe.
Valencia Observatory)	30.40	772.1	30.42	772.7	50 7	10.4	.....	SW	20	8.9	.....	.....	10	.....	.....	.....	.....	D. clouds	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.42	645.7	.....	.....	80	26.7	.....	S	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	Robert Burnet.
Constable, Cape Colony	26.70	678.2	.....	.....	62	16.7	.....	SW	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Hobart Town, Tasmania	.....	.....	29.78	756.4	64.0	17.8	78	S	.....	.....	2	.....	6k	.....	.....	0	0	.....	Andrew Gibb.
Leith(RestalrigPark)Sc'tl'd	.....	.....	30.21	767.3	47.2	8.4	.....	W	.....	.....	4	.....	8k	.....	.....	0	0	Cloudy	C. Meldrum.
Mauritius (Observatory)	29.72	754.9	29.91	759.6	81.0	27.2	54	ENE	18.0	8.0	.....	0	4	.....	E	0.04	1.0	Squally	R. L. J. Ellery.
Melbourne (Observatory)	29.62	752.3	29.71	754.6	64.0	17.8	77	W	16	7.2	.....	.....	4	.....	.....	0	0	.....	J. Youngclause.
Monach Lt-house, Hebrides	.....	.....	30.01	762.2	50	10.0	.....	WSW	.....	.....	6	.....	10	.....	.....	0.3	8.	.....	
North Unst, Shetland Is	.....	.....	29.77	756.1	.....	.....	.....	WSW	.....	.....	6	10	10	.....	.....	0	0	Foggy	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters; Prince Town, 1,400 feet, or 427 meters; Colesberg Bridge and Constable, unknown.

BRITISH MARINE SERIES. VESSELS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Reduced to sea-level. Inches.	Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—12.	Clouds. Amount. 0—10.	Direction. From—	Sea or swell. Height by scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. Alert, Tom Bay, Patagonia	.....	.....	29.35‡	745.5‡	52.5	11.4	.....	ENE	.....	.....	2–5	6	.....	.....	.....	Squally	Capt. J. P. Maclear, R.N.
H. M. Sloop Gannet, S. 18° 28′, W. 70° 21′	.....	.....	29.99‡	761.7‡	69	20.6	.....	Calm	.....	.....	0	1	.....	.....	.....	Blue sky	Commander E. Bourke, R. N.
H. M. S. Magpie, Shanghai, China	.....	.....	30.35‡	770.9‡	45.0	7.2	.....	NNW	.....	.....	3	0	.....	.....	.....	Misty	Capt. R. H. Napier, R.N.
Brig Alliance, N. 50° 15′, W. 20° 00′	.....	.....	30.23	767.8‡	56	13.3	.....	S	.....	.....	4	10	.....	.....	.....	Overcast	Capt. W. Scott.
Barque Belle-Isle, N. 32° 45′, W. 68° 20′	.....	.....	30.38	771.6	72	22.2	.....	SE	.....	.....	3	2	.....	2	NE	Blue sky	Capt. A. J. Brown
City of Cashmere, N. 5° 57′, W. 126° 15′	.....	.....	29.91‡	759.7‡	77	25.0	.....	SE	.....	.....	2	8	.....	.....	.....	Showery	Capt. W. M. Grieve.
S. S. Ethiopia, N. 55° 25′, W. 11° 20′	.....	.....	30.11	764.8	52	11.1	.....	SSW	.....	.....	6	10	.....	4	SSW	Drizzling	Capt. Campbell.
Barque Fedalma, N. 21° 45′, W. 64° 35′	.....	.....	30.13	765.3	77	25.0	.....	NE	.....	.....	7	5	.....	7	NE	D. clouds	Capt. H. L. Fox.
S. S. Iron Cross, N. 31° 15′, W. 78° 20′	.....	.....	30.18	766.6	75	23.9	.....	S	.....	.....	5	4	.....	5	NE;S	D. clouds	Capt. W. Randall.
S. S. Strathleven, S. 34° 55′, E. 115° 35′	.....	.....	29.72‡	754.9‡	64.5	18.1	.....	W	.....	.....	5	5	.....	.....	.....	D. clouds	Capt. C. W. Pearson.
Light House Tender Richmond	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. H. Stewart.
S. S. Gordon Castle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Wm. Waring.
German Brig "W. von Freeden"	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. Y. Freeden.
S. S. Sunbeam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. M. Dobson.
S. S. Peruvian	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. H. Smith

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.22	666.0	29.94	760.5	66.2	19.0	88	NE			2		8cs		NE	0	0		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,146 meters, or 3,707 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.24	768.2	30.29	769.4	36.3	2.4	94	NW			2		10						
Farõe	30.31	769.8	30.33	770.3	38.5	3.6		W			4		10						
Godthaab (Greenland)																			
Stykkisholm (Iceland)	29.12	739.6	29.16	740.7	36.7	2.6	85	SW			8		5						
Thorshavn (Farõe)	29.57	751.1	29.61	752.0	45.3	7.4	66	W			6		6					Snowing	
Vestervig	30.12	765.1	30.23	767.9	36.7	2.6	96	SW			4		10					Foggy	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	30.09	764.3	30.64	778.3	30.2	— 1	80	NE			1		0			0	0	Clear	Collignon, Director.
Amiens, Normal School	30.41	772.3	30.52	775.3	30.9	— 0.6	77	S			1		5		E	0	0	Cloudy	Vaillant, Director.
Arras, Engin'r School	30.33	770.3	30.59	777.0	27.5	— 2.5	79	W			1					0	0		Klein, Commandant.
Avignon, Normal School	30.34	770.5	30.41	772.5	32.5	0.3	77	NNW			1		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	30.03	762.7	30.65	778.5	13.1	—10.5		NE			1		0			0	0	Clear	C. Saillard, Director.
Beauvais, Normal School	30.32	770.1	30.60	777.3	28.2	— 2.1	94	ENE			1		10			0	0	Covered	Frère Eugene Marie.
Besançon, Normal School	29.61	752.0	30.61	777.6	23.4	— 4.8		NE			1		0			0	0	Clear	A. Carré, Director.
Bourg-en-Bresse, N. School	29.66	753.4	30.58	776.7	15.8	— 9	100	N			1		10n	N	N	0	0	Covered	Marlot, Diretor.
Bourges, Normal School	30.01	762.3	30.63	778.0	30.2	— 1.0	85	W			3		1		W	0	0	Clear	M. Gence, Director.
Brest, Naval Observatory	30.37	771.4	30.61	777.5	32.4	0.2	82	S			1		10		S	0	0	Misty	Ch. de Rermaré, Dir.
Caen, Normal School	30.51	774.9	30.59	777.0	35.2	1.8	81	WSW			0–1				NE	0	0		M. Bietrin, Director.
Carcassonne, N. School	30.03	762.8	30.48	774.1	30.6	— 0.8	81	W			3		10	W	W	0	0	Covered	September, Director.
Châlons-sur-Marne, N. Sch'l	30.34	770.5	30.69	779.6	12.9	—10.6		NE			1		0					Clear	Jadot, Director.
Chartres, Normal School	29.99	761.7	30.61	777.4	21.6	— 5.8	95	NE			1		10			0	0	Foggy	Vergier, Director.
Clermont-Fd, Puy de D. Obs	29.11	739.3	30.00	777.2	19.2	— 7.1	97	NW			1		10			0	0		Alluard, Director.
Commercy, Normal School	29.70	754.4	30.67	778.9	12.2	— 11		NE			1		0			0	0	Clear	Dr. Coullet, Director.
Commune de Gréasque*	29.22	742.3	30.37	771.3	40.3	4.6	49	NE			2		5		N	0	0		L. Kina, Director.
Grenoble, Normal School	29.69	754.1	30.52	775.1	27.7	— 2.4		ENE			1		5kn		NW	0	0	Cloudy	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.38	771 7	30.61	777.6	31.3	— 0.4	70	NNE			1		0			0	0	Clear	Moulliot, Director.
Le Mans, Normal School	30.31	769.9	30.65	778.4	27.0	— 2.8	82	E			1		0			0	0	Clear	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.55	750.6	30.49	774.5	15.1	— 9.4	69	N			1		0			0	0	Clear	A. Baudry, Director
Lorient, Naval Observatory	30.50	774.8	30.61	777.6	35.6	2.0	74	NE			1		0			0	0	Clear	Lt. T. Carré, Director
Lyons Obs'y (Park Station)	29.87	758.8	30.55	775.9	22.3	— 5.4	82	NNE			1		1		N	0	0	Clear	Ch. André, Director
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	30.03	762.7	30.31	769.8	44.2	6.8	51	NW			1		1		WNW	0	0		E. Stephan, Director.
Mirecourt, Normal School	29.48	748.8	30.65	778.4	13.3	—10.4	86	N			1		n		N	0	0		Barbier, Director.
Mont-Louis	25.00	635.0	30.32	770.0	33.8	1.0	96	N	7.4	3.3			5		NW	0	0		M. Cave.
Nismes, Normal School	30.31	769.8	30.34	770.7	45.9	7.7	41	ENE			4		1	W	ENE	0	0	Clear	M. Boissière, Director.
Paris, Montsouris Obs'y	30.22	767.6	30.44	773.1	35.2	1.8	69	N			3		0			0	0	Clear	M. Boyer, Director.
Perpignan	30.35	771.0			18.5	— 7.5	90	E			1		10			0	0		Marié Davy, Director.
Pic du Midi (Plantade) H. P.	30.27	768.8	30.38	771.6	41.7	5.4	29	NE	15.0	6.7			1	NNE	N	0	0		Dr. Fines.
Pic du Midi (Summit) H. P.	22.61	574.3			23.2	— 4.9									NE	0	0		Gen'l de Nansouty.
Privas, Normal School																			M. Baylac.
Puy de Dome (Summit) Obs	29.36	745.8	30.50	774.8	30.2	— 1		N			1		2	N	N	0	0	Slightly cld'y	M. Tailleu
Rochefort, Naval Obs'y	25.28	642.2			17.6	— 8.0	29	NE			7		0			0	0	Rain at distance	Alluard, Director.
Rouen, Normal School	30.56	776.3	30.60	777.1	32.4	0.2	96	NE			2		2	NE	NE	0	0	¾ covered	Lt E. Decante, Director
Saint Malo (Port) Obs'y	30.59	776.9	30.67	779.1	29.5	— 1.4	84	E			1		8		NE	0	0	Very cloudy	Frere Lucard, Director.
Saint Maur (near Paris)	30.58	776.6	30.61	777.4	36.3	2.4	72	SE			1		1	SE	SE	0	0	Clear	Lt. Hercouet, Director
Tarbes, Normal School	30.49	774.4	30.65	778.6	15.8	— 9.0	100	NE			1		10			0	0	Foggy	E. Renou, Director.
Toulouse, Observatory	29.86	745.7	30.50	774.7	35.6	2	82	WSW			3		0			0	0	Clear	T. Huguet, Director.
Tours	29.79	756.6	30.52	775.2	25.9	— 3.4		NNW			1		0			0	0	Clear	M. Julier Mercadier.
Versailles, Observatory	30.43	772.8	30.62	777.8	20.7	— 6.3		E			1		10			0	0	Misty	Cousin-Marquet.
Villefranche-sur-Saone, N.S	30.11	764.8	30.60	777.3	20.5	— 6.4	94	E			1		10			0	0	Covered	Dr. A. Berigny, Director
SUB-SERIES.	29.84	758.0	30.62	777.8	24.8	— 4	92	ENE			1		0			0	0	Clear	Nicot, Director.
Fort de France, Martinique	29.98	761.4	30.00	762.1	77.4	25.2										0.08	2.		L'Abbé Marchésl
Zi-Ka-Wei (near Shanghai	30.31	769.8	30.33	770.4	41.9	5.5	80	N	4.9	2.2			8			0	0	Fair	Marc Dechevrens.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P,) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:58 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,278 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,360 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 136.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity Miles per hour.	Wind. Velocity Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.72	754.8	30.58	776.7	10.4	—12.0	78	NW	.....	.....	4	.....	2s	.....	.....	0.012	0.3	Snowing.....	Prof. Dr. Hoh.
Berlin	30.32	770.2	30.51	774.9	31.1	— 0.5	72	SW	.....	.....	1	.....	7	.....	.....	0	0	.....	Prof. Dr. Arndt.
Breslau	30.05	763.3	30.60	777.1	26.8	— 2.9	78	W	.....	.....	1	.....	10	.....	.....	.....	.....	Snow-flakes.	Royal University Obs'y.
Carlsruhe	30.18	766.6	30.66	778.8	15.6	— 9.1	97	NE	.....	.....	0	.....	0	.....	.....	0	0	.....	Albert Senz.
Cassel	30.02	762.4	30.63	778.1	16.5	— 8.6	85	WNW	.....	.....	3	.....	3	NE	.....	0	0	.....	Dr. H. Möhl.
Emden	.....	.....	30.47	773.8	27.5	— 2.5	97	S	.....	.....	3	.....	10	.....	.....	0	0	.....	Prof. Dr. Prestel.
Frankfort on the Main	30.34	770.6	30.73	780.6	15.3	— 9.3	81	NNE	.....	.....	0	.....	10	.....	.....	0	0	.....	Physical Society.
Friedrichshafen	29.07	738.3	30.64	778.2	17.2	— 8.2	65	NE	.....	.....	4	.....	0	.....	.....	0	0	.....	Chief Telegrapher Wilhelm.
Hamburg	30.41	772.4	30.48	774.2	28.0	— 2.2	92	WSW	.....	.....	3	.....	10	.....	.....	0.020	0.5	Stormy	Capt. P. F. A. Hegerman.
Kiel	30.41	772.4	30.43	772.8	31.5	— 0.3	95	SW	.....	.....	3	.....	10	.....	.....	0	0	.....	Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.25	768.3	30.34	770.5	28.4	— 2.0	90	SW	.....	.....	7	.....	10	.....	.....	0	0	.....	Prof. E. Luther.
Köslin	.....	.....	30.40	772.1	28.4	— 2.0	.....	SW	.....	.....	2	.....	4	.....	.....	0	0	.....	H. Müller.
Leipsic Observatory	30.18	766.6	30.64	778.2	24.8	— 4.0	80	SW	.....	.....	3	.....	9	.....	.....	0	0	.....	Prof. Dr. Bruhns, Privy Counselor
Magdeburg	30.35	771.0	30.59	776.9	30.2	— 1.0	74	W	.....	.....	2	.....	9ks	NNW	.....	0	0	.....	Dr. Assmann.
Memel	30.18	766.5	30.23	767.7	35.8	2.1	96	WSW	.....	.....	5.6	.....	10n	.....	.....	.....	.....	Rain-show'rs	Reinbrecht & Issermann.
Munich (München)	28.67	728.2	30.57	776.4	12.0	—11.1	95	NE	.....	.....	2	.....	0	.....	.....	0.008	0.2	.....	Dr. C. Lang.
Neufahrwasser	30.34	770.5	30.35	770.9	30.4	— 0.9	86	WSW	.....	.....	4	.....	10	.....	.....	0	0	.....	A. Lothes.
Neustadt (Palatinate)	30.10	764.4	30.63	778.1	16.0	— 8.9	.....	NW	.....	.....	1	.....	7	W	.....	0	0	.....	Reallehrer Dicknether.
Posen	30.21	767.4	30.52	775.3	28.9	— 1.7	90	SW	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. Dr. Magener.
Strassburg (in Alsace)	30.08	764.1	30.70	779.8	14.2	— 9.9	100	NE	.....	.....	2	.....	10	.....	.....	0	0	.....	Imp. University Observatory.
Stuttgart	29.62	752.3	30.65	778.6	14.9	— 9.5	90	NE	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. Dr. Schoder.
Weissenburg (Bavaria)	29.01	736.9	30.60	777.3	10.6	—11.9	93	Calm	.....	.....	0	.....	3k	.....	E	0	0	Foggy	Reallehrer J. Hopfner
Wustrow	30.38	771.6	30.42	772.7	32.0	0.0	96	SW	.....	.....	6	.....	10s	.....	.....	0	0	.....	E. Schütz, Director.
German Naval Series.																			
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NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.82	757.5	30.23	767.7	47.7	8.7	.....	NE	.....	.....	2-0	.....	5	.....	.....	.....	.....	½ Clear	Dr. J. F. J. Schmidt.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kuriachee	29.94	760.6	30.00	761.9	71.1	21.7	48	WSW	22	9.8	.....	.....	0	.....	.....	0	0	Blue sky.....	
Deesa	29.52	749.7	30.00	761.9	77.0	25.0	16	N	7.4	3.3	.....	.....	0	.....	.....	0	0	Blue sky.....	
Bombay	29.82	756.5	29.86	758.5	77.5	25.3	72	NNW	16	7.2	.....	.....	0	.....	.....	0	0	Blue sky.....	
Poona (Yarrowda)	28.03	711.9	29.89	759.2	76.5	24.7	21	ENE	10	4.5	.....	.....	0	.....	.....	0	0	Blue sky.....	
Belgaum	27.32	694.0	29.86	758.5	76.0	24.4	39	ENE	6	2.7	.....	.....	0	.....	.....	0	0	Blue sky.....	
Lahore	29.30	744.3	30.08	764.0	62.1	16.7	41	Calm	1.2	0.5	.....	.....	2	.....	.....	0	0	Blue sky.....	
Roorkee	29.15	740.3	30.09	764.4	59.8	15.4	65	SW	2.3	1.0	.....	.....	0	.....	.....	0	0	Blue sky	
Agra	29.47	748.5	30.06	763.4	64.8	18.2	44	E	4.3	1.9	.....	.....	0	.....	.....	0	0	.....	
Nagpur	28.92	734.4	29.98	761.6	68.9	20.5	35	NE	2.9	1.3	.....	.....	0	.....	.....	0	0	Blue sky.....	
Jubbulpore	28.60	726.3	30.01	762.2	64.6	18.1	37	E	1.3	0.6	.....	.....	0	.....	.....	0	0	Blue sky.....	
Lucknow	29.66	753.4	30.06	763.4	60.3	15.7	57	Calm	0.6	0.3	.....	.....	0	.....	.....	0	0	Blue sky.....	
Allahabad	29.74	755.3	30.07	763.7	56.7	13.7	63	Calm	0.5	0.2	.....	.....	0	.....	.....	0	0	Blue sky.....	
Patna	29.86	758.4	30.05	763.2	65.6	18.7	61	Calm	0.2	0.1	.....	.....	0	.....	.....	0	0	Blue sky.....	
Hazaribagh	27.95	710.0	30.06	763.4	57.8	14.3	39	NW	2	0.9	.....	.....	0	.....	.....	0	0	Blue sky.....	
Cuttack	29.93	760.2	30.01	762.3	65.9	18.8	80	ENE	2.0	0.9	.....	.....	0	.....	.....	0	0	Blue sky.....	
Calcutta (Alipore)	29.97	761.1	29.99	761.7	64.6	18.1	81	Calm	.....	.....	.....	.....	0	.....	.....	0	0	Blue sky.....	
Goalpara	29.62	752.3	30.02	762.5	68.5	20.3	58	ENE	4.4	2.0	.....	.....	0	.....	.....	0	0	Blue sky.....	
Chittagong	29.86	758.5	29.96	760.8	73.0	22.8	83	Calm	2.1	0.9	.....	.....	0	.....	.....	0	0	.....	
Sibsagar	29.70	754.3	30.04	763.1	69.6	20.9	64	E	1.2	0.5	.....	.....	0	.....	.....	0	0	Blue sky.....	
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NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufor: notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	30.10	764.5	30.54	775.7	27.0	— 2.8	60	E	6.9	3.1	.....	.....	0	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.96	761.0	30.52	775.2	28.8	— 1.8	98	W	.....	.....	2	.....	4	SE	.....	0	0	.....	Prof. Schiaparelli.
Padua	30.41	772.5	30.53	775.5	28.2	— 2.1	79	NNE	8.1	3.6	.....	.....	0	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.55	750.5	30.53	775.4	28.4	— 2.0	75	NE	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	30.25	768.4	30.46	773.6	34.7	1.5	32	N	4.3	1.9	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.45	722.5	30.48	774.1	24.6	— 4.1	77	W	.....	.....	2	.....	8	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.32	770.0	30.37	771.3	36.9	2.7	57	NE	31.1	13.9	.....	.....	9	NE	.....	0	0	.....	Prof. Luigi Guidi.
Florence	30.11	764.8	30.39	771.8	33.8	1.0	74	NE	.....	.....	6	.....	5	NE	.....	0	0	.....	Cav. F. Meucci.
Leghorn	30.32	770.0	30.41	772.3	36.7	2.6	43	ENE	16.8	7.5	.....	.....	0	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.98	761.4	30.16	766.1	42.8	6.0	25	ENE	11.2	5.0	.....	.....	5	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.93	760.2	30.19	766.9	45.0	7.2	47	NNE	10.5	4.7	.....	.....	5	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.24	742.8	30.18	766.5	39.4	4.1	74	SE	1.3	0.6	.....	.....	9	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.75	755.7	29.95	760.8	41.9	5.5	81	NE	.....	.....	2	.....	10	.....	.....	0.913	23.2	.....	Prof. A. Pacinotti.
Palermo	29.73	755.1	29.99	761.8	46.4	8.0	70	E	8.7	3.9	.....	.....	10	.....	.....	0.827	21.0	.....	Prof. G. Ciacciatore.
Syracuse	29.99	761.8	30.07	763.6	51.4	10.8	80	S	6.3	2.8	.....	.....	10	S	.....	0.472	12.0	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.61	752.0	30.15	765.8	38.8	3.8	48	NE	6.3	2.8	.....	.....	10	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.07	763.8	30.09	764.3	43.0	6.1	85	NNE	7.3	3.3	.....	0	0	.....	.....	0	0	Clear.	K. Sasaki.
Nagasaki, I. M. Obs'y	29.94	760.5	30.15	765.8	46.0	7.8	92	W	0.7	0.3	.....	.....	0	.....	.....	0	0	Clear.	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.98	761.5	30.05	763.3	45.5	7.5	88	NNE	5.4	2.4	.....	0	0	.....	.....	0	0	Very clear.	The Staff.
Wakayama	30.02	762.5	30.07	763.8	40.6	4.8	89	NW	3.4	1.5	.....	.....	0	.....	.....	0	0	Clear.	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	25.12	638.1	30.41	772.4	35.6	2.0	58	SW	.....	.....	1	.....	0	.....	.....	0	0	Fine.	Prof. L. Perez.
Leon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Leal.
Mazatlan	29.83	757.6	30.09	764.3	61.9	16.6	64	N	.....	.....	2	0	0	.....	.....	0	0	Fine.	I. Guerrero, C. E.
Mexico, Central Observatory	23.08	586.3	30.21	767.2	47.5	8.6	66	Calm	0	0	.....	.....	10k	.....	.....	0	0	Covered.	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	41.5	5.3	67	Calm	.....	.....	0	1s	0	.....	.....	0	0	Clear.	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.41	594.5	30.29	769.3	45.5	7.5	22	Calm	0	0	.....	3c	0	NE	.....	0	0	Clear.	Prof. P. Spina.
San Luis Potosi	24.22	615.3	30.37	771.3	45.7	7.6	65	SW	.....	.....	1	2	0	W	.....	0	0	Clear.	G. Barroeta, M. D.
Tlacotalpam	29.97	761.1	29.98	761.4	71.4	21.9	90	W	.....	.....	1	.....	10	.....	SW	0	0	Threatening	Prof. M. M. Châzaro
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell
Zacatecas	22.53	572.2	30.17	766.2	45.5	7.5	60	Calm	0	0	.....	0	0	.....	.....	0	0	Fine.	J. C. Castrillon

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column; the instrumental correction —0.88 mm., or —0.035 inch, has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Groningen	30.59	776.9	30.59	776.9	29.8	— 1.2	.....	S	.....	.....	3	.....	.....	.....	.....	0	0	.....	.....
Helder	30.46	773.6	30.51	775.0	.....	.....	.....	SW	.....	.....	2	.....	.....	.....	.....	0	0	.....	.....
Hellevoetsluis	30.47	774.0	30.47	774.0	34.9	1.6	.....	SSW	.....	.....	4	.....	.....	.....	.....	0	0	.....	.....
Utrecht	30.57	776.5	30.57	776.5	27.5	— 2.5	96	SSW	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	.....
	30.53	775.5	30.59	776.7	23.7	— 4.6	90	S	.....	.....	2	.....	10	.....	.....	0	0	Overcast.	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.15	765.7	30.20	767.1	39.9	4.4	100	SSE	30.6	13.7	.....	.....	10	.....	.....	0.709	18.0	Raining.....	
Brönö	29.36	745.7	29.40	746.7	43.2	6.2	96	SW	29	13	.....	.....	10	.....	.....	0.634	16.1	Raining.....	
Christiana	29.81	757.2	29.97	761.2	24.6	— 4.1	100	Calm	0	0	.....	.....	10	.....	.....	0	0	Foggy	
Tromsö	28.91	734.4	28.96	735.5	40.5	4.7	73	SW	27	12	.....	.....	10	.....	.....	0.579	14.7	Raining	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	29.81	757.2	30.00	762.1	63.7	17.6	92	E	12.5	5.6	.....	.....	8	.....	.....	0.059	1.5	.....	Dr. J. A. Sampaio.
Campo Major	29.32	744.6	30.35	770.9	48.2	9.0	46	ENE	8.7	3.9	.....	.....	1	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Madeira)	30.10	764.4	30.18	766.6	66.9	19.4	74	E	6.9	3.1	.....	.....	7	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.98	761.4	30.35	770.9	47.3	8.5	60	ENE	9.8	4.4	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.01	762.2	30.08	764.0	64.4	18.0	90	ESE	15.4	6.9	.....	.....	10	.....	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.																Sea or swell. Height scale 0-9	Sea or swell. Direction form—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Rio Lima. Capt. S. C. da Silva Costa. Santiago, Cape Verd Ids.	.....	.....	.....	.....	77.4	25.2	.....	Calm	.....	.....	0	.....	10	.....	.....	1	E	Overcast	A. D. de Fonseca Sarurento
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Comd't.
Sado, Capt. J. A. de Brito Capello, St. Paul de Loando	.....	.....	29.82	757.5	81.5	27.5	.....	W	.....	.....	4	.....	7	.....	SSW	.....	.....	D. clouds	Luiz Aprá, Q. M.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	.....	.....	30.13	765.2	68.0	20.0	.....	N	.....	.....	1	.....	0	.....	.....	0	.....	Blue sky	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds: no humidity; duration of rain-fall in hours. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	29.68	753.8	29.70	754.3	9.0	—12.8	96	WNW	2	1	.....	.....	8ks	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Astrakhan	30.56	776.3	30.48	774.2	20.5	— 6.4	87	W	11	5	.....	.....	10ks	.....	.....	.....	.....	.....	Capt. Wisganow.
Barnaul	29.29	744.0	29.84	757.9	5.9	—14.5	96	NW	4	2	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	29.75	755.7	30.00	762.1	33.8	1.0	98	WSW	11	5	.....	.....	10n	.....	.....	.....	.....	Light clouds	Prof. Dr. Weihrauch.
Ekaterinburg	28 51	724.1	29.55	750.5	8.1	—13.3	69	SW	31	14	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	29.59	751.5	29.88	758.9	14.5	— 9.7	91	WSW	16	7	.....	.....	10	.....	.....	.....	.....	Snowing	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.87	758.6	30.85	776.6	7.0	—13.9	96	WNW	2	1	.....	.....	3cks	.....	.....	.....	.....	Hazy	Physical Cabinet.
Krotkowo*	29.61	752.1	30.13	765.3	9.7	—12.4	78	W	0	0	.....	.....	9	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	30.28	769.1	30.50	774.8	15.1	— 9.4	91	WSW	9	4	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Moscow	29.51	749.6	30.11	764.8	17.4	— 8.1	80	S	13	6	.....	.....	10s	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	27.69	703.3	30.19	766.7	6.3	—14.3	78	SE	7	3	.....	.....	10	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Nikolaiev	30.58	776.8	30.65	778.6	14.5	— 9.7	87	NNE	13	6	.....	.....	0	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	30.07	763.6	30.31	769.8	32.4	0.2	85	Calm	0	0	.....	.....	8ks	.....	.....	.....	.....	.....	.....
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	30.23	767.9	30.37	771.5	25.3	— 3.7	65	Calm	0	0	.....	.....	3k	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	29.82	757.3	29.83	757.7	32.7	— 0.4	100	WNW	13	6	.....	.....	10n	.....	.....	.....	.....	.....	Central Physical Obs.
Tashkend	28.54	725.0	30.16	766.1	41.9	5.5	65	.....	.....	.....	.....	.....	10	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.97	735.9	30.44	773.2	42.6	5.9	75	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	30.07	763.7	30.62	775.3	22.1	— 5.5	80	SW	16	7	.....	.....	10ks	.....	.....	.....	.....	Light snow.	Astronomical Obs.
Wilna	29.90	759.4	30.35	770.9	24.4	— 4.2	88	SW	7	3	.....	.....	10	.....	.....	.....	.....	Heavy clouds.	Astronomical Obs.
Yenisiesk	29.89	759.2	30.23	767.9	—27.6	—33.1	79	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. * N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	30.22	767.6	30.33	770.4	41.7	5.4	50	N	2.9	1.28	.....	.....	2	.....	.....	0	0	Clear.	Antonio Rave, Director
Bilbao, Met. Obs'y	30.42	772.7	30.48	774.2	40.6	4.8	77	SE	1.7	0.78	.....	0	0	.....	.....	0	0	Clear.	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.37	695.3	.....	.....	42.8	6.0	22	NE	9.5	4.26	.....	0	0	.....	.....	0	0	Clear.	Domingo Martin y Perez.
Madrid, Royal Observatory	28.06	712.7	30.39	772.0	39.6	4.2	59	S	3.0	1.33	.....	0	0	.....	.....	0	0	Clear.	The Staff.
Murcia, Met. Obs'y	30.19	766.7	30.34	770.6	53.2	11.8	57	SW	1.7	0.78	.....	0	0	.....	.....	0	0	Clear.	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.44	747.7	30.35	770.9	52.9	11.6	34	E	8.7	3.9	.....	.....	0	.....	.....	0	0	Clear.	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.08	764.0	30.14	765.7	68.8	20.4	89	ESE	3.1	1.4	.....	1cks	0	.....	.....	0	0	Hazy	Benito Vines S. J.
Manilla, Phillippine Islands	29.81	757.1	29.86	758.4	81.5	27.5	76	NE	3.8	1.7	.....	0	1s	.....	.....	0	0	Fine	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.19	766.7	30.29	769.3	58.6	14.8	59	ESE	15.2	6.8	.....	0	5	.....	ESE	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	30.01	762.2	30.10	764.5	73.0	22.8	97	NE	28.0	12.50	.....	8kn	6kn	NE	NE	0.126	3.20	Raining	Enriquefiadea, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.43	747.6	29.47	748.6	28.4	— 2.0	.....	SE	.....	.....	4	.....	9	.....	.....	0	0	.....	
Umea	29.58	751.3	29.63	752.6	37.4	3.0	90	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	
Hernosand	29.67	753.6	29.72	754.9	39.6	4.2	68	SSW	.....	.....	2	.....	10	.....	.....	0	0	.....	
Stockholm	29.82	757.3	29.99	761.8	33.1	0.6	89	WSW	.....	.....	2	.....	10	.....	.....	0	0	.....	
Wisby	29.97	761.1	30.02	762.6	37.0	2.8	93	W	.....	.....	3	.....	10	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.84	757.9	29.93	760.1	33.1	0.6	91	SW	13.2	5.9	.....	.....	0	.....	.....	0.002	0.04	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.99	736.3	30.51	775.0	28.4	— 4.8	77	ENE	.....	.....	3	.....	5	.....	.....	0	0	Cloudy..	The Observatory.
Zurich	28.84	732.4	30.60	777.2	19.4	— 7.0	85	E	.....	.....	2	.....	1	.....	.....	0	0	Clear.	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +3.9 mm.; Thermometer, —7.3 Cent.; Relative Humidity, —3 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.39	772.0	39.2	4.0	84	N	27	12.0	.....	.....	10	.....	N	0.252	6.4	Raining.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.14	765.5	48.4	9.1	.....	NW	.....	.....	1	.....	2	.....	.....	0	0	Slightly cl'y	A. Bertrand.
Sub-series.																			
Beirut, (Syria) Lee Obs'y	29.92	760.0	30.04	762.9	65.1	18.4	69	NNE	.....	.....	1	.....	0	.....	.....	0	0	Blue sky.....	Prof. C. V. A. van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B.	30.68	779.3	30.74	780.8	11.3	—11.6	90	SW	.....	.....	.....	2k	8ks	SW	.....	0	0	Cloudy.....	G. A. Blair.
Charlottetown, P. E. Island	30.70	779.8	30.75	781.0	17.4	— 8.1	79	W	6	2.7	.....	cs	8s	W	.....	0	0	Fair.....	H. J. Cundall, C. E.
Cornwall, Ontario	30.23	767.8	30.44	773.2	20.2	— 6.6	100	NE	.....	.....	1	.....	10s	.....	.....	0	0	Cloudy.....	James Smith, M. A.
Dalhousie, N. B.	30.52	775.2	30.71	780.0	2.0	—16.7	.....	W	.....	.....	1	0	0	.....	.....	0	0	Clear.	H. A. Johnson.
Father Point, Quebec	30.57	776.5	30.60	777.2	14.7	— 9.6	55	S	9	4.0	.....	.....	10s	.....	.....	0	0	Threatening	J. McWilliams.
Fredericton, N. B.	30.69	779.5	30.76	781.3	11.1	—11.6	94	Calm	0	0	.....	.....	Haze	.....	.....	0.10	2.5	Hazy..	Prof. Harrison.
Fort Garry, Manitoba	29.56	750.8	30.57	776.5	—20.0	—33.9	100	N	8	3.6	.....	0	0	.....	.....	0.07	1.8	Clear.	James Stewart.
Granton, Ontario	29.08	738.6	30.24	768.1	27	— 2.8	.....	E	.....	.....	2	.....	10n	.....	.....	0	0	Cloudy.....	James Grant.
Halifax, N. S.	30.65	778.5	30.80	782.3	18.9	— 7.3	86	NE	3	1.3	.....	.....	10ks	.....	.....	0	0	Cloudy.....	A. Allison.
Hamilton, Ontario	29.89	759.2	30.29	769.4	28.7	— 1.8	82	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear.	Geo. Dickson, B. A.
Heart's Content, N. F.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	30.04	763.0	30.40	772.1	24.7	— 4.4	96	SE	7	3.1	.....	.....	10s	.....	.....	0	0	Cloudy.....	S. Woods, M. A.
Little Glace Bay, N. S.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. H. Rigby.
Montreal, Quebec	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. H. McLeod, C. E.
Moose Factory, Ontario	30.27	768.8	30.31	769.9	— 1.4	—18.6	90	N	.....	.....	5	.....	10n	.....	.....	0.50	12.7	.....	J. R. Nelson.
Norwood	29.58	751.3	30.32	770.1	25.0	— 3.9	.....	NE	.....	.....	1	.....	10s	.....	.....	0.20	5.1	Snowing.....	Rev. T. F. Fotheringham, M. A.
Parry Sound, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	Gloomy.....	Rev. R. Mosley.
Peterboro, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. Jeffers, M. A.
Port Dover, Ontario	29.53	750.0	30.25	768.3	34.0	1.1	71	SE	4	1.8	.....	.....	Haze	.....	.....	0	0	Cloudy.....	H. Morgan.
Port Hastings, N. S.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.54	750.3	30.21	767.3	34.2	1.2	79	E	10	4.5	.....	.....	10n	.....	SW	0	0	Cloudy.....	M. Payne.
Quebec, Quebec	30.27	768.8	30.62	777.7	16	— 8.9	91	Calm	.....	.....	0	.....	Fog	.....	.....	0	0	Foggy.....	Capt. Ashe, R. N.
Rockliffe, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. McIntyre.
St. Andrews, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Gove.
St. John, N. B.	30.57	776.5	30.75	781.0	17	— 8.3	67	NE	2	0.9	.....	7ck	0	.....	.....	0.06	1.5	Fair.....	G. Murdock, C. E.
Saugeen, Ontario	29.53	750.0	30.30	769.6	22.0	— 5.6	90	E	7	3.1	.....	.....	10s	.....	.....	0.03	0.8	Overcast....	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.86	733.0	30.21	767.3	25.3	— 3.7	95	SE	5	2.2	.....	.....	10s	.....	.....	0	0	Cloudy.....	C. J. MacGregor, M. A.
Sydney, C. B.	30.71	780.0	30.75	781.0	22.0	— 5.6	73	NW	5	2.2	.....	10k	0	N	.....	0	0	Cloudy.....	T. C. Hill, C. E.
Toronto, Ontario	29.88	758.9	30.28	769.1	30.8	— 0.7	88	SE	4	1.8	.....	0	10s	.....	.....	0	0	Cloudy.....	Magnetic Observatory.
Windsor, N. S.	30.04	778.2	30.74	780.8	16.6	— 8.6	92	W	4	1.8	.....	0	8ks	.....	.....	0.05	1.3	Fair.....	Prof. John E. Oram, M. A.
Woodstock, Ontario	29.10	739.1	30.23	767.8	26.7	— 2.9	90	NE	7	3.1	.....	.....	10ks	.....	.....	0.30	7.6	Overcast....	Prof. J. Montgomery.
Yarmouth, N. S.	30.06	778.7	30.73	780.5	20.6	— 6.4	84	E	10	4.5	.....	8k	3n	W	.....	0	0	Cloudy.....	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	30.40	772.1	30.67	779.0	18	— 7.8	84	N	.....	.....	.....	0	5s	.....	.....	0	0	Fair.....	John Delany.
St. Pierre, N. F., l'Hopital Maritime.	.....	.....	30.51	774.9	21.2	— 6	.....	NW	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	The Commandant
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of BVT. BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature.		BAROMETER. Reduced to sea-level.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND. Direction.	WIND. Velocity.		WIND. Force.	CLOUDS. Amount.		CLOUDS. Direction.		RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.		WEATHER.	OBSERVER.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0–10.	Up'er 0–10.	Lo'er 0–10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
Albany, New York	30.31	769.9	30.56	776.2	30	— 1.1	68	S	4	1.8			10s		Calm	0	0	Cloudy	
Alpena, Michigan	29.56	750.8	30.26	768.6	20	— 6.7	85	SW	2	0.9			10s		W	0	0	Cloudy	
Atcha, Aleutian Is., Alaska																			
Atlanta, Georgia	28.91	734.3	30.10	764.5	36	2.2	100	E	21	9.4			10n		Calm	2.07	52.6	Light rain	
Atlantic City, New Jersey	30.31	769.9	30.32	770.1	44	6.7	100	NE	32	14.3			10n		NE	1.98	50.3	Heavy rain	
Augusta, Georgia	30.02	762.5	30.23	767.8	43	6.1	83	NE	4	1.8			10n		NE	0.17	4.3	Light rain	
Baltimore, Maryland	30.27	768.8	30.32	770.1	37	2.8	90	NE	10	4.5			10n		NE	0.54	13.7	Light rain	
Barnegat, New Jersey	30.36	771.1	30.38	771.6	43	6.1	100	E	35	15.6			10n		E	0.38	9.7	Light rain	
Bismarck, Dakota	28.54	724.9	30.40	772.1	—16	—26.7	100	NW	3	1.3		0	0			0	0	Clear	
Boerne, Texas	28.57	725.7	29.94	760.5	36	2.2	61	NW	3	1.3		0	0			0.04	1.0	Clear	
Boise City, Idaho	27.43	696.7	30.39	771.9	43	6.1	83	NW	4	1.8			10s		Calm	0.05	1.3	Cloudy	
Boston, Massachusetts	30.45	773.4	30.62	777.7	32	0.0	79	N	5	2.2			10s		NE	Inap.	Inap.	Cloudy	
Brackettville, Texas	28.89	733.8	29.98	761.5	44	6.7	92	W	6	2.7			10s		Calm	0	0	Threatening	
Breckenridge, Minnesota	29.21	741.9	30.39	771.9	—18	—27.8	100	N	22	9.8		0	5s		N	0.01	0.3	Fair	
Brownsville, Texas	30.07	763.8	30.12	765.0	45	7.2	92	NW	4	1.8			10s		Calm	Inap.	Inap.	Cloudy	
Buffalo, New York	29.54	750.3	30.28	769.1	31	— 0.6	69	SE	3	1.3			10s		Calm	0.01	0.3	Cloudy	
Burkes, Arizona					36	2.2	53	Calm			0	2c	5s	Calm	Calm	0	0	Cloudy	
Burlington, Vermont	30.22	767.6	30.53	775.4	27	— 2.8	64	SE	5	2.2			10s		SW	0	0	Cloudy	
Cairo, Illinois	29.70	754.4	30.11	764.8	33	0.6	89	NE	3	1.3			10s		NE	0.04	1.0	Threatening	
Campo, California	27.58	700.5	30.15	765.8	28	— 2.2	88	E	3	1.3		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	30.19	766.8	30.19	766.8	62	16.7	94	S	8	3.6			10s		SW	0.17	4.3	Cloudy	
Cape Henry, Virginia	30.14	765.5	30.16	766.1	53	11.7	93	NE	20	8.9			10n		NE	1.55	39.4	Light rain	
Cape Lookout, N. Carolina	30.17	766.3	30.19	766.8	60	15.6	100	SW	8	3.6			10ks		SW	0	0	Cloudy	
Cape May, New Jersey	30.24	768.1	30.27	768.8	45	7.2	92	NE	30	13.4			10n		NE	0.30	7.6	Heavy rain	
Castroville, Texas	29.27	743.4	29.99	761.7	45	7.2	92	NW	8	3.6			10s		Calm	0	0	Cloudy	
Cedar Keys, Florida	30.10	764.5	30.12	765.0	68	20.0	95	SE	15	6.7		0	0			0.21	5.3	Clear	
Charleston, South Carolina	30.16	766.1	30.22	767.6	50	10.0	86	N	4	1.8			10s		Calm	0.15	3.8	Cloudy	
Charlotte, North Carolina	29.34	745.2	30.19	766.8	34	1.1	100	NE	8	3.6			10n;fog		NE;Calm	0.01	0.3	Light rain	
Chattanooga, Tennessee	29.24	742.7	30.06	763.5	40	4.4	100	NE	6	2.7			10n		Calm	0.77	19.6	Light rain	
Cheyenne, Wyoming	23.98	609.1	29.92	760.0	20	— 6.7	85	NW	3	1.3			10s		Calm	0.06	1.5	Cloudy	
Chicago, Illinois	29.40	746.7	30.12	765.0	33	0.6	61	SE	2	0.9			10s		Calm	0	0	Cloudy	
Cincinnati, Ohio	29.46	748.3	30.13	765.3	36	2.2	85	NE	3	1.3			10n		Calm	0.03	0.8	Light rain	
Cleveland, Ohio	29.43	747.5	30.18	766.6	33	0.6	79	SE	11	4.9			10s		Calm	0	0	Cloudy	
Coleman City, Texas	28.18	715.8	29.92	760.0	31	— 0.6	69	SW	8	3.6		0	0			0	0	Clear	
Columbus, Ohio	29.27	743.4	30.14	765.5	34	1.1	79	E	2	0.9			10n		E	0.01	0.3	Light rain	
Concho, Texas	28.18	715.8	29.93	760.2	35	1.7	70	Calm			0	0	0			0	0	Clear	
Corsicana, Texas	29.58	751.3	30.06	763.5	36	2.2	71	NE	4	1.8		0	0			0.04	1.0	Clear	
Davenport, Iowa	29.43	747.5	30.10	764.5	27	— 2.8	76	SE	3	1.3			10s		S	0	0	Cloudy	
Dayton, Washington T'y					46	7.8	85	SW			2		10s		SW	0.01	0.3	Cloudy	
Deadwood, Dakota	25.40	645.2			5	—15.0	50	Calm	0	0		0	0			0.16	4.1	Clear	
Decatur, Texas	29.01	736.8	30.23	767.8	37	2.8	63	NW	8	3.6		0	0			0	0	Clear	
Denison, Texas	29.26	743.2	30.10	764.5	32	0.0	69	Calm	0	0		0	2s		Calm	0	0	Fair	
Denver, Colorado	24.76	628.9	29.98	761.5	20	— 6.7	85	E	2	0.9			10s		Calm	0.01	0.3	Cloudy	
Des Moines, Iowa	29 09	738.9	30.00	762.0	30	— 1.1	78	Calm	0	0			10s		Calm	0	0	Cloudy	
Detroit, Michigan	29.48	748.8	30.19	766.8	29	— 1.7	89	E	3	1.3			10s		Calm	0	0	Cloudy	
Dodge City, Kansas	27.49	698.2	29.93	760.2	22	— 5.6	72	N	10	4.5			10s		Calm	0	0	Cloudy	
Dubuque, Iowa	29.34	745.2	30.08	764.0	25	— 3.9	75	SE	4	1.8			10s		Calm	0	0	Cloudy	
Duluth, Minnesota	29.34	745.2	30.06	763.5	17	— 8.3	92	N	8	3.6			10n		N	0.11	2.8	Heavy snow	
Eagle Pass, Texas	29.32	744.7	30.08	764.0	44	6.7	92	SW	1	0.4			10s		Calm	0	0	Cloudy	
Eastport, Maine	30.64	778.2	30.71	780.0	27	— 2.8	76	E	6	2.7		10cs	2ks;hz	W	S;Calm	0	0	Cloudy	
Edinburg, Texas					51	10.6	93	W			1		10s		Calm	0.01	0.3	Cloudy	
El Paso, Texas																			
Erie, Pennsylvania	29.49	749.0	30.23	767.8	35	1.7	61	SE	9	4.0			10s		Calm	0	0	Cloudy	
Escanaba, Michigan	29.44	747.8	30.14	765.5	24	— 4.4	74	SW	6	2.7			10s		SW	Inap.	Inap.	Cloudy	
Florence, Arizona	28.65	727.7	30.25	768.3	38	3.3	72	Calm	0	0		8cs	0	W		0	0	Fair	
Fort Assiniboine, Montana																			
Fort Buford, Dakota	28.33	719.6	30.48	771.2	—12	—24.4	100	Calm	0	0			10n		Calm	Inap.	Inap.	Light snow	
Fort Custer, Montana	27.01	686.0			7	—13.9	77	N	20	8.9			10n		Calm	0.15	3.8	Light snow	
Fort Davis, Texas	25.17	639.3	30.13	765.3	43	6.1	28	W	5	2.2		0	5s		Calm	0	0	Fair	
Fort Gibson, Indian Ter	29.49	749.0	30.06	763.5	27	— 2.8	88	Calm	0	0		0	0			0	0	Clear	
Fort Grant, Arizona	25.25	641.3	30.05	763.3	33	0.6	61	E	2	0.9		0	0			0	0	Clear	
Fort Griffin, Texas	28.74	730.0	30.08	764.0	28	— 2.2	62	Calm	0	0		0	0			0	0	Clear	
Fort Keogh, Montana	27.67	702.8			— 2	—18.9	43	NW	8	3.6			10s		NE	0	0	Threatening	
Fort McKavett, Texas	27.75	704.8	29.75	755.6	35	1.7	90	SW	11	4.9			10s		SW	Inap.	Inap.	Cloudy	
Fort St. Michael, Alaska																			
Fort Shaw, Montana																			
Fort Sill, Indian Territory	28.82	732.0	30.00	762.0	23	— 5.0	60	N	6	2.7		0	0			0	0	Clear	
Fort Stevenson, Dakota	28.55	725.2			-15	—26.1	72	N	4	1.8		5c	0	Calm		0	0	Fair	
Fort Verde, Arizona					30	— 1.1	89	W			1	0	0			0	0	Clear	
Fort Yates, Dakota																			
Fredericksburg, Texas	28.24	717.3	30.17	766.3	45	7.2	61	SW	4	1.8			10s		Calm	Inap.	Inap.	Cloudy	
Galveston, Texas	29.97	761.2	30.02	762.5	46	7.8	92	N	8	3.6			10s		N	0.56	14.2	Cloudy	
Graham, Texas	28.93	734.8	30.06	763.5	20	— 6.7	70	Calm	0	0		0	5s		Calm	0	0	Fair	
Grand Haven, Michigan	29.50	749.3	30.19	766.8	23	— 5.0	73	E	6	2.7		0	5s		Calm	0	0	Fair	
Helena, Montana																			
Henrietta, Texas																			
Indianapolis, Indiana	29.27	743.4	30.08	764.0	33	0.6	79	NE	2	0.9			10s		NE	0	0	Cloudy	
Indianola, Texas	30.06	763.5	30.09	764.3	43	6.1	92	NW	9	4.0			10s		NW	0.21	5.3	Cloudy	
Jacksboro, Texas	28.88	733.5	30.08	764 0	30	— 1.1	78	S	1	0.4		0	0			0	0	Clear	
Jacksonville, Florida	30.13	765.3	30.15	765.8	66	18.9	94	SE	8	3.6			Fog		Calm	0.02	0.5	Foggy	
Keokuk, Iowa	29.38	746.2	30.02	762.5	30	— 1.1	78	SE	4	1.8			10s		SW	0	0	Cloudy	
Key West, Florida	30.11	764.8	30.14	765.5	75	23.9	72	SE	13	5.8		1k	0	SE		0	0	Clear	
Kittyhawk, North Carolina	30.20	767.1	30.22	767.6	59	15.0	76	SW	5	2.2			Fog		Calm	0.45	11.4	Foggy	
Knoxville, Tennessee	29.05	737.9	30.08	764.0	43	6.1	100	NE	1	0.4			10n		Calm	0.69	17.5	Light rain	
La Crosse, Wisconsin	29.26	743.2	30.03	762.7	28	— 2.2	77	S	2	0.9			10s		Calm	0	0	Cloudy	
La Mesilla, New Mexico	26.12	663.4	30.27	768.8	26	— 3.3	52	NW	1	0.4		0	2s		Calm	0	0	Fair	
Laredo, Texas	29.72	754.9	30.07	763.8	41	5.0	91	NW	1	0.4			10n		NW	0.02	0.5	Light rain	
Leavenworth, Kansas	29.12	739.6	30.01	762.2	27	— 2.8	88	S	4	1.8		0	0			0	0	Clear	
Lewiston, Idaho																			
Little Rock, Arkansas	29.71	754.6	30.09	764.3	35	1.7	90	NW	5	2.2			10n		Calm	0.17	4.3	Light rain	
Los Angeles, California	29.81	757.2	30.16	766.1	46.5	8.1	62	NE	5	2.2		0	0			0	0	Clear	
Louisville, Kentucky	29.52	749.8	30.10	764.5	34	1.1	79	N	4	1.8			10n		Calm	0.12	3.0	Light rain	
Lynchburg, Virginia	29.57	751.1	30.28	769.1	37	2.8	90	N	2	0.9			10n		Calm	2.00	50.8	Light rain	
Madison, Wisconsin	29.05	737.9	30.08	764.0	26	— 3.3	75	SE	5	2.2			10s		Calm	0	0	Cloudy	
Marquette, Michigan	29.32	744.7	30.06	763.5	22	— 5.6	72	S	12	5.4			10s		SW	0	0	Cloudy	
Mason, Texas	28.38	720.8	30.19	766.8	41	5.0	82	W	9	4.0			10s		Calm	0	0	Cloudy	
Memphis, Tennessee	29.70	754.4	30.05	763.3	35	1.7	100	W	5	2.2			10n		Calm	0.61	15.5	Light rain	
Milwaukee, Wisconsin	29.35	745.5	30.12	765.0	26	— 3.3	88	S	8	3.6			10s		Calm	3	0	Cloudy	

UNITED STATES SERIES—Continued.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mobile, Alabama	29.92	760.0	29.97	761.2	49	9.4	100	N	4	1.8	.....	.....	10n	.....	Calm	0.46	11.7	Light rain..	
Montgomery, Alabama	29.79	756.7	30.03	762.7	44	6.7	96	E	8	3.6	.....	.....	10ks	.....	E	1.21	30.7	Threatening	
Morgantown, West Virginia	29.14	740.1	30.15	765.8	43	6.1	83	E	6	2.7	.....	.....	10n	.....	Calm	0.53	13.5	Light rain...	
Mt. Washington, N. H.	23.97	608.8	30.33	770.4	14	—10.0	63	W	24	10.7	.....	10k	0	Calm	.....	0	0	Cloudy.....	
Nashville, Tennessee	29.52	749.8	30.07	763.8	41	5.0	100	Calm	0	0	.....	.....	10n	.....	Calm	0.95	24.1	Light rain..	
New Haven, Connecticut	30.41	772.4	30.54	775.7	30	— 1.1	89	NE	15	6.7	.....	.....	10n	.....	E	Inap.	Inap.	Sleeting.....	
New London, Connecticut	30.51	774.9	30.56	776.2	34	1.1	79	NE	7	3.1	.....	.....	10n	.....	Calm	0.01	0.3	Light sleet..	
New Orleans, Louisiana	29.88	758 9	29.94	760.5	53	11.7	100	E	6	2.7	.....	.....	Fog	.....	SE	1.33	33.8	Foggy	
Newport, Rhode Island	30.50	774.7	30.56	776.2	37	2.8	81	NE	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
New River, North Carolina	.....	.....	.....	.....	49	9.4	93	NE	.....	.....	1	.....	10s	.....	Calm	.....	.....	Cloudy.....	
New York, New York	30.32	770.1	30.51	774.9	35	1.7	100	NE	19	8.5	.....	.....	10n	.....	Calm	0.08	2.0	Light rain...	
Norfolk, Virginia	30.10	764.5	30.16	766.1	49	9.4	93	N	8	3.6	.....	.....	10s	.....	Calm	0.40	10.2	Cloudy.....	
North Platte, Nebraska	27.21	691.1	30.03	762.7	9	—12.8	68	NW	14	6.3	.....	0	0	.....	.....	0	0	Clear.	
Olympia, Washington Ter.	30.28	769.1	30.32	770.1	51.0	10.6	90	S	8	3.6	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy.....	
Omaha, Nebraska	28.92	734.6	30.13	765.3	6	—14.4	76	NW	20	8.9	.....	.....	10n	.....	Calm	Inap.	Inap.	Light snow.	
Oswego, New York	30.07	763.8	30.41	772.4	32	0.0	79	SE	14	6.3	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Pembina, Dakota	29.56	750.8	30.55	776.0	—28	—33.3	100	NW	10	4.5	.....	0	0	.....	.....	0.08	2.0	Clear	
Pensacola, Florida	29 96	761.0	30.00	762.0	55	12.8	96	N	3	1.3	.....	.....	10s	.....	Calm	0.23	5.8	Cloudy.	
Philadelphia, Pennsylvania	30.37	771.4	30.42	772.7	34	1.1	100	NE	20	8.9	.....	.....	10n	.....	Calm	0.36	9.1	Light rain...	
Phœnix, Arizona	28.97	735.8	30.86	783.8	40	4.4	48	E	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Pike's Peak, Colorado	17.44	443.1	29.65	753.1	— 3	—19.4	100	W	14	6.3	.....	.....	Fog	.....	Calm	0	0	Foggy...	
Pilot Point, Texas	29.32	744.7	30.19	766.8	36	2.2	54	SE	.....	.....	.....	0	0	.....	.....	0	0	Clear.	
Pioche, Nevada	.....	.....	.....	.....	37	2.8	53	NW	14	6.3	.....	0	0	.....	.....	0	0	Clear.	
Pittsburg, Pennsylvania	29.38	746 2	30.23	767.8	35	1.7	80	E	4	1.8	.....	.....	10s	.....	Calm	0	0	Threatening	
Port Huron, Michigan	29.50	749.3	30.20	767.1	27	— 2.8	76	E	4	1.8	.....	10cs	0	Calm	.....	0	0	Cloudy.....	
Portland, Maine	30.62	777.7	30.67	779.0	27	— 2.8	64	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Portland, Oregon	30.36	771.1	30.43	772.9	51.5	10.8	90	SE	7	3.1	.....	.....	10s	.....	.....	0.01	0.3	Cloudy..	
Portsmouth, North Carolina	.....	.....	.....	.....	55	12.8	100	Calm	0	0	.....	8k	0	S	.....	0.21	5.3	Cloudy	
Prescott, Arizona	24.76	628.9	30.12	765.0	29	— 1.7	78	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear.	
Punta Rassa, Florida	30.13	765.3	30.15	765.8	68	20.0	79	E	12	5.4	.....	1c	0	Calm	.....	0	0	Clear	
Red Bluff, California	29.92	760.0	30.29	769.4	48	8.9	70	N	7	3.1	.....	0	0	.....	.....	0	0	Clear.	
Rio Grande City, Texas	30.01	762.2	30.24	768.1	42	5.6	91	NW	3	1.3	.....	5cs	2s	Calm	Calm	0.09	2.3	Clearing.....	
Rochester, New York	29.65	753.1	30.30	769.6	32	0.0	79	S	12	5.4	.....	10cs	0	SE	.....	0	0	Cloudy.....	
Roseburg, Oregon	29.92	760.0	30.51	774.9	48	8.9	92	S	1	0.4	.....	.....	10s;fg	.....	Calm	0.08	2.0	Cloudy.....	
Sacramento, California	30.19	766.8	30.27	768.8	43	6.1	92	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
St. Louis, Missouri	29.50	749.3	30.10	764.5	30	— 1.1	78	SE	2	0.9	.....	.....	10ks	.....	Calm	0	0	Cloudy.....	
St. Paul, Minnesota	29.12	739.6	29.98	761.5	25	— 3.9	88	SE	5	2.2	.....	.....	10n	.....	SE	Inap.	Inap.	Light snow.	
Salt Lake City, Utah	25.77	654.6	30.10	764.5	38	3.3	81	Calm	0	0	.....	.....	10s	.....	Calm	0.26	6.6	Threatening	
San Antonio, Texas	29.40	746.7	30.00	762.0	45	7.2	92	W	2	0.9	.....	.....	10s	.....	Calm	0.09	2.3	Cloudy.....	
San Diego, California	30.09	764.3	30.16	766.1	51	10.6	59	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Sandusky, Ohio	29.48	748.8	30.18	766.6	34	1.1	90	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Sandy Hook, New Jersey	30.43	772.9	30.46	773.7	37	2.8	100	E	34	15.2	.....	.....	10n	.....	E	0.21	5.3	Heavy rain..	
San Francisco, California	30.17	766.3	30.24	768.1	53	11.7	73	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear.	
Santa Fé, New Mexico	23.21	589.5	29.75	755.6	18	— 7.8	37	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Savannah, Georgia	30.09	764.3	30.18	766.6	48	8.9	93	NE	1	0.4	.....	.....	Fog	.....	.....	Inap.	Inap.	Foggy	
Shreveport, Louisiana	29.80	756.9	30.03	762.7	39	3.9	91	NE	6	2.7	.....	.....	10s	.....	Calm	0.64	16.3	Cloudy.....	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.17	766.3	30.20	767.1	51	10.6	100	N	4	1.8	.....	5k	5ks	S	SE	0.24	6.1	Cloudy.....	
Socorro, New Mexico	25.43	645.9	29.49	749.0	26	— 3.3	40	S	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Springfield, Illinois	29.42	747.3	30.12	765.0	31.5	— 0.3	74	Calm	0	0	.....	.....	10s	.....	S	0	0	Cloudy.....	
Springfield, Massachusetts	30.46	773 7	30.61	777.5	31	— 0.6	69	NE	4	1.8	.....	.....	10s	.....	E	0	0	Threatening	
Stockton, Texas	27.02	686.3	30.02	762.5	39	3.9	19	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	30.53	775.4	30.59	777.0	38	3.3	100	E	16	7.2	.....	.....	10s	.....	SE	0	0	Cloudy.....	
Toledo, Ohio	29 45	748.0	30.17	766.3	32	0.0	79	E	4	1.8	.....	.....	10s	.....	W	0	0	Threatening	
Tucson, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon	29.93	760.2	30.43	772.9	51.0	10.6	65	W	28	12.5	.....	.....	10s	.....	.....	0	0	Cloudy.....	
Uvalde, Texas	29.20	741.7	30.05	763.3	43	6.1	67	W	6	2.7	.....	.....	10s	.....	NW	0	0	Cloudy.....	
Vicksburg, Mississippi	29.73	755.1	30.00	762.0	40	4.4	73	NE	12	5.4	.....	.....	10n	.....	Calm	2.25	57.1	Light rain...	
Virginia City, Montana	24.22	615.6	29.70	754.4	26	— 3.3	88	Calm	0	0	.....	.....	10n	.....	Calm	0.81	20.6	Light snow..	
Visalia, California	29.83	757.7	30.22	767.6	36	2.2	95	E	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Washington, D. C.	30.17	766.3	30.29	769.4	35	1.7	100	N	12	5.4	.....	.....	10n	.....	N	1.00	25.4	Heavy rain..	
Wickenburg, Arizona	.....	.....	.....	.....	31	— 0.6	79	NW	.....	.....	1	5c	0	W	.....	0	0	Fair	
Wilmington, North Carolina	30.10	764.5	30.19	766.8	47	8.3	92	NE	3	1.3	.....	.....	10n	.....	Calm	0.33	8.4	Light rain...	
Winnemucca, Nevada	25.94	658.9	30.30	769.6	32	0.0	79	SW	10	4.5	.....	0	0	.....	.....	0	0	Clear.	
Wood's Holl, Massachusetts	30.51	774.9	30.54	775.7	46	7.8	85	E	8	3.6	.....	.....	10ks	.....	SE	0	0	Cloudy.....	
Yankton, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Yuma, Arizona	29.99	761.7	30.15	765.8	44	6.7	52	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	30.07	763.8	30.12	765.0	73	22.8	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.14	765.5	30.15	765.8	72	22.2	95	Calm	0	0	.....	2c	8cs	Calm	.....	.....	.....	Fair	James Gall.
Navassa, W. I.	29.97	761.2	30.05	763.3	78	25.6	70	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.94	761.0	29.96	761.0	77	25.0	91	E	.....	.....	2	5c	8ks	E	.....	0.080	2.03	Cloudy.....	C. J. Hering.
Santiago de Cuba, W. I.	30.08	764.0	30.10	764.5	75	23.9	76	NNE	10.8	4.8	.....	0	0	.....	.....	0	0	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	30.12	765.0	30.18	766.6	—35.0	—37.2	.....	E	11	4.9	.....	5k	0	SW	.....	0	0	Fair.....	J. Fortescue & W. Wood
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,030 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1 040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1.856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3.488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	29.99‡	761.7‡	.....	.....	56	13.3	100	NE	3	1.3	.....	.....	10	.....	S	3.35	85.1	.....	.....	Storming.....	
Navy Yard, Portsmouth, N.H.	30.04‡	763.0‡	.....	.....	32	0.0	79	SE	4	1.8	.....	.....	10	.....	.....	.....	.....	.....	.....	Rain & snow	
Naval Hospital, Yokohama, Japan.....	30.04‡	763.0‡	.....	.....	47	8.3	92	WNW	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Clear	
Adams. Mare I'd., Navy Yard, Cal.	30.21‡	767.3‡	.....	.....	52	11.1	93	SE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Alaska, Arica, Peru.....*	30.01‡	762.2‡	.....	.....	74	23.3	59	SW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Hazy.....	
Colorado, New York, N. Y.....	29.46‡	748.0‡	.....	.....	36	1.7	100	NE	3	1.3	.....	.....	10	.....	.....	.....	.....	.....	.....	Raining.....	
Constitution, N. 35° 04′, W. 70° 43′.....	30.29‡	769.4‡	.....	.....	71	21.7	90	S	.....	.....	4	.....	5	.....	S	.....	.....	Light	S	Cloudy.....	
Enterprise. N. 34° 3′, E. 32° 42′.....	30.10‡	764.5‡	.....	.....	64	17.8	68	WNW	.....	.....	2	.....	2	.....	W	.....	.....	Smooth	.....	Clear.	
Franklin, Off Navy Yard, Norfolk, Va.	30.21‡	767.3‡	.....	.....	51	10.6	93	NW	8.4	3.8	.....	.....	10	.....	NE	0.54	13.7	.....	.....	Cloudy.....	
Independence, Mare I'd, Navy Yard, Cal.	30.22‡	767.6‡	.....	.....	57	13.9	81	E	2.4	1.1	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Kearsarge, N. 21° 40′, W. 74° 20′.....	30.24‡	768.1‡	.....	.....	77	25.0	??	E	.....	.....	6–7	.....	8	.....	E	.....	.....	Rough	E	Showery	
Lackawana, Honolulu, Sandwich Id's†	30.01‡	762.2‡	.....	.....	69	20.6	80	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Marion, Sandy Hook, N. J.....	30.48‡	774.2‡	.....	.....	38	3.3	90	ENE	.....	.....	5	.....	10	.....	ENE	.....	.....	Mod'ate	ENE	Raining	
Michigan, Erie, Pa.....	30.16‡	766.1‡	.....	.....	43	6.1	61	S	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....	Overcast	
Monocacy, Shanghai, China..	30.31‡	769.9‡	.....	.....	44	6.7	68	NNW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
New Hampshire, Port Royal, S. C.....	30.16‡	766.1‡	.....	.....	50	10.0	100	NE	9	4.0	.....	.....	0	.....	.....	0.050	1.27	.....	.....	Foggy.....	
Nipsic, Norfolk, Va.....	30.18‡	766.6‡	.....	.....	51	10.6	93	NNE	.....	.....	0–1	.....	10	.....	N	.....	.....	.....	.....	Rain & fog...	
Onward, Callao, Peru ....†	29.97‡	761.2‡	.....	.....	65	18.3	94	SSE	.....	.....	3	.....	10	.....	.....	.....	.....	Mod'a smooth	W	Foggy.....	
Palos. Tientsin, China:	30.42‡	772.7‡	.....	.....	31	— 0.6	79	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Passaic, Washington, D. C.....	30.30‡	769.6‡	.....	.....	35	1.7	61	NE	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Raining	
Pensacola, Callao, Peru	29.94‡	760.5‡	.....	.....	65	18.3	94	SSE	.....	.....	2	.....	2	.....	.....	.....	.....	Smooth	.....	Foggy.....	
Powhatan, Navy Yard, Brooklyn, N.Y.	30.45‡	773.4‡	.....	.....	39	3.9	91	ENE	.....	.....	2	.....	10	.....	Calm	.....	.....	.....	.....	Rainy.....	
Quinnebang, Villafranca, France....	30.32‡	770.1‡	.....	.....	50	10.0	45	E	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Ranger, N. 27° 43′, W. 161° 40′.....	30.11‡	764.8‡	.....	.....	65	18.3	78	NE	.....	.....	5	.....	8	.....	N	.....	.....	Mod'ate	NE	Fair....	
Richmond, Amoy, China.....	30.19‡	766.8‡	.....	.....	59	15.0	54	NE	.....	.....	5	.....	0	.....	.....	.....	.....	Smooth	.....	Clear	
Rio Bravo, Brownsville, Texas... †.	30.32‡	770.1‡	.....	.....	47	8.3	92	NNW	3	1.3	.....	.....	10	.....	N	0.14	3.6	.....	.....	Cloudy.....	
Santee. Annapolis, Md	30.28‡	769.1‡	.....	.....	37	2.8	100	NE	.....	.....	4	.....	10	.....	.....	0.85	21.6	.....	.....	Heavy rain..	
Shenandoah, S. 32° 09′, W. 48° 16′.....	29.78‡	756.4‡	.....	.....	72	22.2	80	NNW	.....	.....	6	.....	8	.....	NNW	.....	.....	Mod'ate	.....	Fair.....	
St. Louis, League Island, Pa.....	30.34‡	770.6‡	.....	.....	37	2.8	90	ENE	11	4.9	.....	.....	10	.....	.....	0.09	2.3	.....	.....	Cloudy.....	
Tuscarora. Acapulco, exico.	29.91‡	759.7‡	.....	.....	75	23.9	77	NW	.....	.....	1	.....	0	.....	.....	0	0	Smooth	.....	Clear	
Vandalia. Navy Yard, Brooklyn, N.Y.	30.46‡	773.7‡	.....	.....	42	5.6	83	E	.....	.....	2	.....	10	.....	SE	.....	.....	.....	.....	Cloudy.....	
Wabash, Boston, Mass.....	30.59‡	777 0‡	.....	.....	31	— 0.6	79	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	.....	Sleeting.....	
Wachusett, Rio de Janeiro, Brazil.†	30.44‡	773.2‡	.....	.....	75	23.9	81	N	.....	.....	1	.....	8	.....	N	.....	.....	.....	.....	Cloudy.....	
Wyoming, N. 36° 18′, W. 5° 01′.....	30.30‡	769.6‡	.....	.....	59	15.0	65	ENE	.....	.....	5–6	.....	8	.....	E	.....	.....	Mod'ate	E	Cloudy	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		Character.	Direction from—		

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S. S. Samaria																			Capt. T. Roberts.

NOTE—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitebury.
S. S. Costa Rica																			W. House & R. Lawless.
S. S. Dakota, Capt. H. G. Morse																			Capt. Connolly.
S. S. Georgia																			F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin																			Capt. A. Fuller.
S. S. Wilmington																			
S. S. Zealandia, Sydney, New South Wales		29.77‡	756 1‡				NE			2				E				Cloudy	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The orginals give the barometer as read off; wind-force by the scale 0 to 12; for the Brittanic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer N. 36° 49′, E. 146° 49′...†		29.95‡	760.7‡	63	17.2	72	E			5		5		E		Moderate.	E	D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson N. 40° 22′, W. 157° 56′...†		30.34‡	770.6‡	48	8.0		Calm			0		ks		W	0	Moderate.	NW	Misty	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES

Furnished by the co-operation of A. Schumacher & Co., Agents

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undutsch.
S. S. Leipzig, Capt. F. Pfeiffer. N. 51° 25′, E. 1° 52′		30.61‡	777.6‡				SW			3		10		E		Smooth	E	Drizzling	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness by the scale 0 to 4, do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er.	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa.		30.40‡	772.1‡	38	3.3		NW			6		8		NNW	Mod'te			Cloudy	Capt. R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from, sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents.																			
S. S. Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland, N. 39° 10,′ W. 71° 34′		30 09‡	764.3‡	56	13.3		SE	9	4.0			10		S		Rough	ESE	Raining	Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

Note.—The originals give the barometer as read off; do not distinguish between upper and lower clouds; sea-swell in general terms, as published. ‡Corrections for temperature, instrumental error and elevation applied at this office.

ALLAN LINE MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12. *The error of the barometer is not known. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES—Miscellaneous.																			
Furnished by the co-operation of the Observers named.																			
Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Barkentine "Carrie Heckle" N. 32° 18′, W. 48° 08′	*	30 09‡	764.3‡	68	20.0		NNE			5		8		ENE	0	Long	ENE	Fair	B. F. Woodbury.
Brigantine "George" of Halifax. N. 34° 23′, W. 73° 46′	†	30.20‡	767.1‡	72	22.2		S			5		2		SW		Long	NE	Clear	N. B. Foss.
Schooner Harry and Fred																			Capt. George Gardner.
Haytian																			
§ Iron Cross																			Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time. *Instrumental error not known.

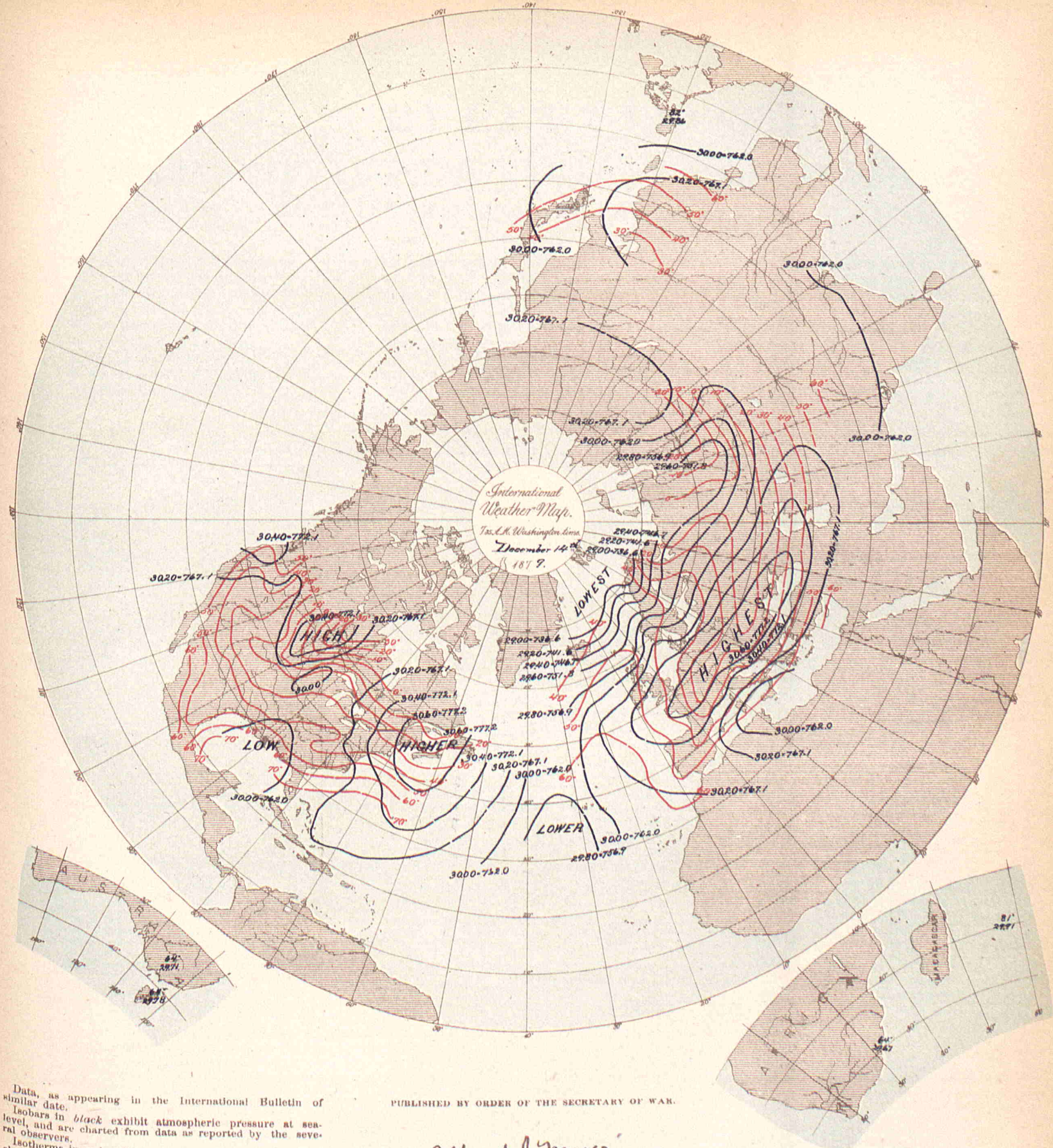
Collated at the Office of the CHIEF SIGNAL OFFICER OF THE ARMY, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 15, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time
1:57 P. M. CAPE TOWN, C. G. H. mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.15	765.7	61.5	16.4	77	NE			1		0			0	0	Clear	
Nemours			30.21	767.4	59.0	15.0	66	E			1		5			0	0	Cloudy	Kesxuche.
Algiers			30.13	765.4	45.0	7.2	74	WSW			3		10			0.524	13.3	Raining	Tourilliere.
La Calle			29.91	759.6	50.4	10.2	86	ENE			4		10			1.413	35.9	Covered	Foufrede.
Tunis																			Jacques.
Sfax			30.05	763.2															Gau.
Saida																			Herbin.
Tebessa			30.02	762.6	35.4	1.9	79	NNW			5		10			0.217	5.5	Covered	Watrin.
Geriville					39.4	4.1	57	NW			2		10					Raining	Brugniuax.
Laghouat			30.16	766.1	42.4	5.8	21	W			4		2			0	0	Fair	Bertrand.
Biskra			30.03	762.8	55.4	13.0	70	NW			6		0			6	0	Clear	Chanvaux.

NOTE.—The originals give the amount of cloudiness by the scale 0–4; no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	30.17	766.2	30.78	781.8	15.4	— 9.2	94	N			1		8			0.024	0.6		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.86	758.5	30.70	779.7	23.7	— 4.6	77	SSW	6.9	3.1			8			0	0		Dr. Wierzbicki.
Eperies	29.78	756.3	30.78	781.8	4.6	—15.2	81	Calm			0		0			0	0		Julius Mikolik.
Gratz	29.41	746.9	30.79	782.1	16.3	— 8.7	64	NW			2		0			0	0		Andreas Rospini.
Hermannstadt	29.21	741.8	30.82	782.7	12.6	—10.8	93	ENE			1		1			0	0		Prof. A. Gottschling.
Kremsmünster	29.11	739.3	30.63	778.0	3.7	—15.7	85	Calm			0		0						Prof. C. Wagner.
Lemberg	29.58	751.2	30.67	778.9	17.2	— 8.2	97	SW			1		10			0	0		Dr. T. Stanecki.
Pola	30.33	770.3	30.45	773.4	33.8	1.0	77	NE			2		3			0	0		I.R.Hydrographic Office
Szathmar	30.30	769.6	30.82	782 7	9.7	—12.4	70	E			2		0			0	0		Pet. Pancsics, S. J.
Szegedin	30.48	774.3	30.80	782.4	5.0	—15.0		N			2		10			0	0		Karl Stancel.
Trieste	30.41	772.5	30.52	775.1	27.0	— 2.8	39	ENE			3		0			0	0	Clear	P. Busin.
Vienna	29.97	761.3	30.73	780.6	9.9	—12.8	100	SSE			1		0			0.024	0.6		I.R.Central Met. Ob'sy

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.																			
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C., as Second-Class Matter

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	OBSERVER.
Aberdeen	30.18	766.6	30.28	769.1	45.2	7.3		SW	2	0.9			1			0.010	0.25	Misty	W. Boswell.
Ardrossan	30.35	770.9	30.36	771.1	47	8.3		SSW			4		0					Blue sky	Wm. McNeil & G. Carrick
Armagh, (Observatory)	30.16	766.1	30.39	771.9	44.9	7.2		SSW	8	3.6			9					Overcast	S. Call.
Bidston (Liverpool Obs)			30.46	773.7	45.2	7.3		SSE	11	4.9			10					Overcast	John Hartnup.
Bolton (Sharples)	29.89	759.2	30.43	772.9	42.8	6.0		WSW	6	2.7			10					Gloomy	Thomas M. Ckereth.
Bradford, Yorkshire	30.00	762.0	30.40	772.1	46.9	8.3		NW			1		6			0	0	D. clouds	J. McLandsborough.
Bridgetown, Barbadoes	29.92	760.0	29.95	760.7	81	27.2		NE			3		3					D. clouds	Pvt. G. Surgener, A.H.C.
Cambridge (Observatory)	30.36	771.1	30.46	773.7	40.0	4.4		Calm			0		10					Overcast	H. Todd.
Cardington			30.43	772.9	42.4	5.8		W			0–1		9					Overcast	John McLaren.
Chatham (School M. E.)	30.34	770.6	30.47	773.9	43.1	6.2		Calm			0		9					D. clouds	J. Carmell, Sapper, R.E.
Donaghadee	30.39	771.9	30.42	772.7	47	8.3		W			3		5					D. clouds	J. Mac Gowan.
Dover	30.42	772.7	30.45	773.4	41	5.0		Calm			0		10					Misty	J. Costello.
Falmouth (Observatory)	30.28	769.1	30.52	775.2	45.9	7.7		WSW			0		10					Foggy	The Staff.
Fort Napier, Natal	27.75	704.8	29.96	761.0	63.4	17.4		NE			1		10					Overcast	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone																			
Galway (Queen's College)			30.35	770.9	46	7.8		SSW			1		10					Overcast	Prof. A. H. Curtis.
Gibraltar, Mediterranean																			Sergt. Wm. Allen, A. H.
Glasgow, (Observatory)	30.15	765.8	30.36	771.1	46.7	8.2		WSW			3		7					D. clouds	D. G. Maclean. [C.
Great Yarmouth	30.42	772.7	30.43	772.9	38	3.3		W			2		8					Foggy	G. T. Watson.
Greenwich (Royal Obs'y)	30.28	769.1	30.46	773.7	40.5	4.7		SW			1		10					Overcast	The Staff, for G. B. Airy.
Guernsey	30.23	767.8	30.46	773.7	46.5	8.1		WNW			1		10					Raining	Dr. S. E. Hoskins, F.R.S.
Helston	30.62	777.7	30.75	781.0	44	6.7		NE			0		10			0	0	Overcast	M. P. Moyle.
Holyhead	30.40	772.1	30.45	773.4	48	8.9		WSW			2		10					Overcast	John Tilston.
Jersey	30.19	766.8	30.50	774.7	43.4	6.3		W			2		10					Misty	J. Fisher.
Kew (Observatory)	30.43	772.9	30.47	773.9	42.0	5.6		SW	1	0.4			10					Foggy	The Met'g'l Office.
Leicester (Museum)	30.18	766.6	30.45	773.4	42.5	5.8		SW			1		10					Overcast	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	29.86	758.4	29.94	760.5	57.4	14.1		S			2		8kn					Overcast	A. King.
Nairn	30.12	765.0	30.22	767.6	51	10.6		WSW			2		8					¾ clouded	W. D. Penny.
Nassau, Bahamas			30.11	764.8	72.2	22.3		SE			1		4					D. clouds	C. S. Duncombe.
Nottingham (Observatory)	30.26	768.6	30.46	773.7	42.1	5.6		SSW			1*		10k;8		NE	0	0	Overcast	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.90	759.4	30.44	773.2	45.6	7.6		NW			2		9					Foggy	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)			30.47	773.9	41	5.0		W			1		10					Overcast	H. E. Bellamy.
Plymouth	30.42	772.7	30.49	774.4	40.8	4.9		NNE			1		10					Foggy	John Merrifield.
Prince Town																			W. H. Tooker.
*Roche's Point	30.38	771.6	30.47	773.9	47	8.3		SW			3		10					Overcast	Wm. Kennedy.
St. Ann's Head	30.32	770.1	30.49	774.4	48	8.9		WSW			1		10					Misty	John C. Walker.
Sandwick Manse, Orkneys			30.15	765.8	50.1	10.1		SW	20	8.9			8					D. clouds	Rev. C. Clouston, L.L.D.
Scutari Cemetery, Turkey	30.37	771.4	30.44	773.2	47.0	8.3		NE			2		8					Showery	Serg't W. H. Lane.
Sheffield	30.17	766.3	30.46	773.7	48.4	9.1		NW			1		8			0	0	Overcast	W. F. Cooper.
Silloth Rectory	30.37	771.4	30.40	772.1	45.9	7.7	88	SW			3		6			0	0	D. clouds	Francis Redford, A. M.
Stonyhurst (Observatory)			30.43	772.9	42.2	5.7		WSW	2	0.9			10					Misty	Rev. S. J. Perry.
Stratfield, Turgiss	30.23	767.8	30.46	773.7	39.8	4.3		SW			0–1		10					Foggy	Rev. C. H. Griffith, F.M.S.
Truro (Royal Institution)	30.44	773.2	30.52	775.2	44	6.7		W			1		10					Gloomy	W. Newcombe.
Valencia (Observatory)	30.34	770.6	30.37	771.4	48.9	9.4		S	18	8.0			10					D. clouds	The Met'g'l Office.
Sub-Series.																			
Cape Town (C. G. H. Obs'y)																			The Staff, for D. Gill.
Colesberg Bridge, Cape Col.																			Robert Burnet
Constable, Cape Colony	26.78	680.2			70	21.1		SE					0						Francis Abbott, F.R.A.S.
Hobart Town, Tasmania			29.85	758.2	65.0	18.3	83	S			2		10k			0	0	Hazy	Andrew Gibb.
Leith (Restalrig Park) Sc't'l'd			30.38	771.6	48.8	9.3		W			2		10k			0	0	Cloudy	C. Meldrum.
Mauritius (Observatory)	29.71	754.6	29.89	759.3	81.4	27.4	67	ENE	15.0	6.7		0	2		E	0	0	Fine	R. L. J. Ellery.
Melbourne (Observatory)	29.88	758.9	29.97	761.2	60.0	15.6	86	SSW	10	4.5			2			0.02	0.5	Very fine	J. Youngclause.
Monach Lt-house, Hebrides			30.17	766.3	51	10.6		SSW			6		10			0.1	3.		
North Unst, Shetland Is			29.99	761.7				SW			6	10	10			0	0	Foggy	

Note.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points: the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters; Prince Town, 1,400 feet, or 427 meters; Colesberg Bridge and Constable, unknown.

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	OBSERVER.
H. M. S. Alert, Tom Bay, Patagonia			29.65‡	753.1‡	56.8	13.8		NNE			2		5					D. clouds	Capt. J. P. Maclear, R.N.
H. M. Sloop Gannet, S. 18° 28′, W. 70° 21′			29.98‡	761.5‡	72	22.2		Calm			0		5					D. clouds	Commander E. Bourke, R. N.
H. M. S. Magpie, Shanghai, China			30.36‡	771.1‡	39.5	4.2		NW			1		0					Blue sky	Capt. R. H. Napier, R.N.
Brig Alliance, N. 50° 50′, W. 15° 50′			30.19‡	766.8‡	51.0	10.9		SSE			6		10					Overcast	Capt. W. Scott.
Barque Belle-Isle, N. 39° 35′, W. 65° 15′			30.18	766.6	71	21.7		SW			5		4			3	SW	D. clouds	Capt. A. J. Brown
City of Cashmere, N. 4° 02′, W. 126° 50′			29.89‡	759.2‡	75.5	24.2		ESE			5		4					D. clouds	Capt. W. M. Grieve.
S. S. Ethiopia, N. 55° 15′, W. 17° 00′			29.90	759.4	53	11.7		SSW			6		9			5	SSW	Overcast	Capt. Campbell.
Barque Fedalma, N. 22° 40′, W. 65° 00′			30.16	765.8	78	25.6		NE			4		5			5	E	D. clouds	Capt. H. L. Fox.
Iron Cross, N. 34° 00′, W. 76° 20′			29.92	760.0	73	22.8		SSW			6		8			6	S	Misty	Capt. W. Randall.
Barque Mertole, N. 37° 00′, W. 9° 00′			30.21‡	767.3‡	56.5	13.6		N			3		0					Blue sky	Capt. Turner.
S. S. Strathleven, S. 33° 30′, E. 112° 55′			29.71‡	754.6‡	64.5	18.1		W			3		5					D. clouds	Capt. C. W. Pearson.
Light House Tender Richmond																			Capt. W. H. Stewart.
S. S. Gordon Castle																			Capt. Wm. Waring.
German Brig "W. von Freeden"																			Capt. H. V. Freeden.
S. S. Sunbeam																			Capt. C. M. Dobson.

Note.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer, corrected for instrum'tal error and temperature. Inches.	Barometer, corrected for instrum'tal error and temperature. Millimeters.	Barometer, reduced to sea-level. Inches.	Barometer, reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.22	666.0	29.94	760.5	66.2	19.0	81	NE	.....	.....	2	10s	.....	.....	E	Inap.	Inap.	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.29	769.3	30.34	770.5	35.2	1.8	100	SW	.....	.....	2	.....	10	.....	.....	.....	.....	.....	Foggy.
Fardö	30.34	770.6	30.36	771.1	37.9	3.3	100	WSW	.....	.....	4	.....	10	.....	.....	.....	.....	.....	Foggy.
Godthaab (Greenland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stykkisholm (Iceland)	29.30	744.2	29.34	745.3	27.7	— 2.4	96	SW	.....	.....	7	.....	8	.....	.....	.....	.....	.....	Snowing.
Thorshavn (Faröe)	29.69	754.2	29.73	755.1	50.4	10.2	94	SW	.....	.....	6	.....	10	.....	.....	.....	.....	.....	.....
Vestervig	30.18	766.6	30.29	769.4	36.1	2.3	100	SSW	.....	.....	2	.....	10	.....	.....	.....	.....	.....	Foggy.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.93	760.3	30.48	774.3	32.0	0	88	NE	.....	.....	1	.....	10	.....	.....	0	0	Foggy.	Collignon, Director.
Amiens, Normal School	30.27	768.9	30.39	771.9	31.6	- 0.2	81	S	.....	.....	1	.....	5	.....	Calm	0	0	Cloudy.	Vaillant, Director.
Arras, Engin'r School	30.24	768.1	30.52	775.1	26.2	— 3.2	88	SSW	.....	.....	1	.....	.....	.....	.....	0	0	.....	Klein, Commandant.
Avignon, Normal School	30.27	768.8	30.35	770.8	32.9	0.5	51	N	.....	.....	1	.....	0	.....	.....	0	0	Very clear.	Giraud, Director.
Bar-sur-Seine	29.89	759.1	30.50	774.7	18.0	— 7.8	.....	N	.....	.....	1	.....	0	.....	.....	0	0	Clear.	C. Saillard, Director.
Beauvais, Normal School	30.23	767.8	30.52	775.1	30.2	— 1	84	ENE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Frère Eugene Marie.
Besançon, Normal School	29.53	750.1	30.52	775.3	12.6	—10.8	.....	S	.....	.....	1	.....	0	.....	.....	0	0	Clear.	A. Carré, Director.
Bourg-en-Bresse, N. School	29.50	749.2	30.41	772.4	15.4	— 9.2	100	SE	.....	.....	1	.....	10n	N	N	0	0	Covered	Marlot, Diretor.
Bourges, Normal School	29.87	758.6	30.48	774.1	17.6	— 8	82	S	.....	.....	1	.....	1	.....	S	0	0	Clear.	M. Gence, Director.
Brest, Naval Observatory	30.27	768.8	30.51	775.0	37.4	3.0	69	Calm	.....	.....	0	.....	10	.....	E	0	0	Misty	Ch. de Rermarec, Dir.
Caen, Normal School	30.35	770.8	30.43	773.0	36.7	2.6	92	W	.....	.....	1	.....	.....	.....	NW	0.189	4.8	.....	M. Bietrin, Director.
Carcassonne, N. School	29.90	759.5	30.35	770.8	27.0	— 2.8	82	WNW	.....	.....	2	.....	5	.....	WNW	0	0	Cloudy	September, Director.
Châlons-sur-Marne, N. Sch'	30.28	769.0	30.62	777.8	25.9	- 3.4	.....	S	.....	.....	1	.....	0	.....	.....	.....	.....	Clear.	Jadot, Director.
Chartres, Normal School	29.86	758.4	30.47	773.9	27.5	— 2.5	74	NE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Vergier, Director.
Clermont-Fd, Puy de D. Obs	28.95	735.3	30.44	773.3	15.8	— 9.0	94	N	.....	.....	1	.....	0	.....	.....	0	0	.....	Alluard, Director.
Commercy, Normal School	29.56	750.8	30.50	774.6	18.7	- 7.4	.....	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Dr. Coullet, Director.
Commune de Gréasque*	29.17	740.9	30.31	769.9	38.8	3.8	44	NW	.....	.....	2	.....	2	.....	SW	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.63	752.6	30.47	773.8	24.1	— 4.4	.....	ENE	.....	.....	1	.....	5cs	.....	E	0	0	Cloudy	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.27	768.8	30.50	774.8	27.7	- 2.4	83	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Moutllot, Director.
Le Mans, Normal School	30.16	766.0	30.49	774.4	30.6	— 0.8	84	N	.....	.....	1	.....	10	.....	.....	0	0	Covered	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.48	748.8	30.64	778.2	14.9	— 9.5	88	S	.....	.....	1	.....	10	.....	.....	0	0	Foggy	A. Baudry, Director
Lorient, Naval Observatory	30.41	772.4	30.52	775.2	34.2	1.2	78	N	.....	.....	1	.....	.....	.....	.....	0	0	Misty	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.78	756.4	30.46	773.6	17.4	— 8.1	76	E	.....	.....	1	.....	0	.....	.....	10	0	Foggy	Ch. André, Director
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galxin, Director.
Marseilles, Observatory	29.99	761.8	30.27	768.8	42.1	5.6	70	NNW	.....	.....	0-1	.....	2	.....	NNE	0	0	.....	E. Stephan, Director.
Mirecourt, Normal School	29.49	749.0	30.65	778.6	13.6	—10.2	94	N	.....	.....	1	.....	.....	.....	N	0	0	.....	Barbier, Director.
Mont-Louis	24.88	632.0	30.20	767.0	25.7	— 3.5	51	WNW	9.4	4.2	.....	.....	2	.....	W	0	0	.....	M. Cave.
Nice	30.28	769.1	30.32	770.0	43.5	6.4	46	E	.....	.....	2	.....	5	SE	E	0	0	Cloudy	M. Boissière, Director.
Nismes, Normal School	30.13	765.4	30.35	770.9	36.7	2.6	76	N	.....	.....	1	.....	2	.....	N	0	0	Slightly cld'y	M. Boyer, Director.
Paris, Montsouris Obs'y	30.20	767.1	.....	.....	28.6	— 1.9	77	NNE	.....	.....	1	.....	10	.....	.....	Inap.	Inap.	.....	Marié Davy, Director.
Perpignan	30.21	767.2	30.32	770.0	36.3	2.4	39	E	3.8	1.7	.....	.....	0	.....	.....	0	0	.....	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.60	670.4	.....	.....	18.5	— 7.5	.....	.....	.....	.....	.....	.....	.....	.....	W	0	0	.....	Gén'l de Nansouty.
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Privas, Normal School	29.27	743.4	30.42	772.7	24.8	— 4	.....	N	.....	.....	1	.....	0	.....	.....	0	0	Clear.	M. Tallieu
Puy de Dome (Summit) Obs	26.17	639.4	.....	.....	18.1	— 7.7	22	ENE	.....	.....	3	.....	0	.....	.....	0	0	Clear.	Alluard, Director.
Rochefort, Naval Obs'y	30.41	772.3	30.44	773.1	30.2	— 1.0	92	NE	.....	.....	2	.....	10	NE	NE	0	0	Covered	Lt E. Decante, Director
Rouen, Normal School	30.39	772.0	30.48	774.2	32.0	0.0	100	E	.....	.....	1	.....	10	.....	.....	0	0	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.44	773.3	30.48	774.1	37.0	2.8	86	SSW	.....	.....	1	.....	10	.....	.....	0	0	Misty	Lt. Hercouet, Director
Saint Maur (near Paris)	30.33	770.4	30.50	774.6	27.9	— 2.3	86	NNE	.....	.....	1	.....	10	.....	NNE	0	0	Foggy.	E. Renou, Director.
Tarbes, Normal School	29.21	742.0	30.36	771.0	34.7	1.5	76	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.64	752.9	30.37	771.4	23.2	— 4.9	.....	NW	.....	.....	1	.....	10	.....	.....	0	0	Covered	M. Julier Mercadier.
Tours	30.25	768.3	30.44	773.3	28.8	— 1.8	.....	E	.....	.....	1	.....	1	Calm	E	0	0	Almost clear	Cousin-Marquet.
Versailles, Observatory	29.97	761.2	30.46	773.7	27.7	— 2.4	83	E	.....	.....	1	.....	10	.....	.....	0	0	Covered	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.75	755.6	30.54	775.6	16.7	— 8.5	85	NNE	.....	.....	1	.....	.....	.....	.....	0	0	Misty	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.93	760.3	29.99	761.0	78.8	26	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.59	15.	.....	L'Abbé Marchési
Zi-Ka-Wei (near Shanghai	30.32	770.1	30.34	770.7	31.8	— 0.1	95	NW	2.9	1.3	.....	.....	0	.....	.....	Inap.	Inap	Clear.	Marc Dechevrens.
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NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fal as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,278 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Turbes 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,686.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.70	754.4	30.56	776.2	9.5	—12.5	69	NW	.....	.....	4	.....	28	.....	.....	0	0	Foggy	Prof. Dr. Hoh.
Berlin	30.37	771.4	30.56	776.1	29.8	— 1.2	61	SW	.....	.....	1	.....	4	.....	.....	0	0	.....	Prof. Dr. Arndt.
Breslau	30.10	764.5	30.64	778.3	30.2	— 1.0	72	SW	.....	.....	1	.....	7	.....	.....	0	0	.....	Royal University Obs'y.
Carlsruhe	30.07	763.8	30.55	776.0	13.6	10.2	88	NE	.....	.....	2	.....	0	.....	.....	0	0	.....	Albert Senz.
Cassel	29.95	760.8	30.57	776.5	22.3	— 5.4	85	SE	.....	.....	1	.....	1	NE	.....	0	0	.....	Dr. H. Möhl.
Emden	.....	.....	30.45	773.9	31.5	— 0.3	95	SW	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. Dr. Prestel.
Frankfort on the Main	30.29	769.3	30.68	779.3	16.2	— 8.8	68	NE	.....	.....	1	.....	2	.....	.....	0	0	.....	Physical Society.
Friedrichshafen	28.96	735.5	30.56	776.1	6.8	—14.0	71	NNE	.....	.....	6	.....	2	NE	.....	0	0	.....	Chief Telegrapher Wilhelm.
Hamburg	30.45	773.5	30.52	775.3	33.1	0.6	85	WSW	.....	.....	3	.....	10	.....	.....	Inap.	Inap.	.....	Capt. P.F.A.Hegerman.
Kiel	30.43	772.9	30.45	773.3	32.7	0.4	95	SW	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.27	768.9	30.36	771.1	32.0	0.0	88	W	.....	.....	6	.....	10	.....	.....	0	0	.....	Prof. E. Luther.
Köslin	.....	.....	30.45	773.5	33.1	0.6	.....	SW	.....	.....	2	.....	4	.....	.....	0	0	.....	H. Müller.
Leipsic Observatory	30.19	766.8	30.64	778.3	27.5	— 2.5	73	SW	.....	.....	0	.....	3	.....	.....	0	0	.....	Prof. Dr. Bruhns, Privy Counselor
Magdeburg	30.35	771.0	30.59	776.9	29.7	— 1.3	69	SSE	.....	.....	1	.....	2cs	S	.....	0	0	.....	Dr. Assmann.
Memel	30.20	767.0	30.24	768.2	37.2	2.9	94	WSW	.....	.....	6.7	.....	10n	.....	.....	.....	.....	Light show's	Reinbrecht & Issermann.
Munich (München)	28.57	725.6	30.46	773.6	1.6	—16.9	77	N	.....	.....	2	.....	1	.....	.....	0	0	Light fog....	Dr. C. Lang.
Neufahrwasser	30.39	771.8	30.40	772.2	35.1	1.7	88	SW	.....	.....	3	.....	10	.....	.....	0.059	1.5	.....	A. Lothes.
Neustadt (Palatinate)	30.01	762.2	30.54	775.8	19.4	— 7.	.....	WSW	.....	.....	1	.....	0	.....	.....	0	0	.....	Reallehrer Dicknether.
Posen	30.29	769.4	30.60	777.3	29.7	— 1.3	80	WSW	.....	.....	1	.....	4	.....	.....	0	0	.....	Prof. Dr. Magener.
Strassburg (in Alsace)	29.96	760.9	30.58	776.7	9.3	—12.6	84	NE	.....	.....	1	.....	1	.....	.....	0	0	.....	Imp. University Observatory.
Stuttgart	29.51	749.5	30.55	775.9	11.3	—11.5	78	E	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. Dr. Schoder.
Weissenburg (Bavaria)	28.95	735.4	30.54	775.7	10.2	—12.1	75	Calm	.....	.....	0	.....	0	.....	.....	0	0	Light fog....	Reallehrer J. Hopfner.
Wustrow	30.45	773.4	30.47	774.0	32.4	0.2	100	SW	.....	.....	5	.....	Fog	.....	.....	0	0	.....	E. Schütz, Director.
German Naval Series.																			
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Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.98	761.5	30.38	771.7	48.0	8.9	.....	NE	.....	.....	4.0	.....	5	.....	.....	.....	.....	½ clear.....	Dr. J. F. J. Schmidt.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	30.03	762.8	30.08	764.1	73.1	22.8	27	N	19	8.5	.....	.....	0	.....	.....	0	0	Blue sky.....	
Deesa	29.59	751.5	29.97	761.2	75.9	24.4	11	NNE	10.9	4.9	.....	.....	0	.....	.....	0	0	Blue sky.....	
Bombay	29.86	758.5	29.90	759.5	76.7	24.8	75	NNW	12	5.4	.....	.....	1	WNW	.....	0	0	D. clouds	
Poona (Yarrowda)	28.06	712.8	29.93	760.2	76.5	24.7	24	E	8	3.6	.....	.....	1	.....	.....	0	0	D. clouds	
Belgaum	27.36	694.9	29.91	759.6	72.9	22.7	31	ENE	7	3.1	.....	.....	4	S	.....	0	0	D. clouds.....	
Lahore	29.36	745.7	30.14	765.6	58.6	14.8	43	Calm	0.8	0.4	.....	.....	0	.....	.....	0	0	Blue sky.....	
Roorkee	29.16	740.7	30.10	764.4	63.8	17.7	39	NW	1.0	0.4	.....	.....	0	.....	.....	0	0	Blue sky.....	
Agra	29.50	749.3	30.09	764.2	66.8	19.3	50	NE	1.5	0.7	.....	.....	0	.....	.....	0	0	.....	
Nagpur	28.93	734.8	30.00	762.0	68.7	20.4	37	Calm	2.7	1.2	.....	.....	0	.....	.....	0	0	Blue sky.....	
Jubbulpore	28.62	727.0	30.02	762.6	68.6	20.3	32	E	1.7	0.8	.....	.....	0	.....	.....	0	0	Blue sky.....	
Lucknow	29.68	753.9	30.08	763.9	62.5	16.9	54	Calm	0.5	0.2	.....	.....	0	.....	.....	0	0	Blue sky.....	
Allahabad	29.74	755.4	30.07	763.8	59.7	15.4	68	Calm	0.7	0.3	.....	.....	0	.....	.....	0	0	Blue sky.....	
Patna	29.85	758.1	30.03	762.8	68.7	20.4	61	W	0.3	0.1	.....	.....	0	.....	.....	0	0	Blue sky.....	
Hazaribagh	27.97	710.4	30.05	763.3	62.3	16.8	59	NW	4.2	1.9	.....	.....	0	.....	.....	0	0	Blue sky.....	
Cuttack	29.91	759.7	30.00	761.9	66.9	19.4	74	ENE	1.0	0.4	.....	.....	0	.....	.....	0	0	Blue sky.....	
Calcutta (Alipore)	29.96	761.0	29.98	761.6	66.7	19.3	75	Calm	.....	.....	.....	.....	0	.....	.....	0	0	Blue sky.....	
Goalpara	29.64	752.7	30.04	763.0	68.7	20.4	49	ENE	6.8	3.0	.....	.....	0	.....	.....	0	0	Blue sky.....	
Chittagong	29.92	760.1	30.02	762.4	69.8	21.0	65	S	1.7	0.8	.....	.....	3	.....	.....	0	0	.....	
Sibsagar	29.72	754.8	30.07	763.7	64.0	17.8	77	E	1.4	0.6	.....	.....	0	.....	.....	0	0	Blue sky.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,361 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	OBSERVER.
Udine	30.11	764.7	30.55	775.9	28.4	— 2.0	62	E	12.5	5.6	.....	.....	0	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	30.04	762.9	30.60	777.1	24.6	— 4.1	66	W	.....	.....	2	.....	3	NSW	.....	0	0	.....	Prof. Schiaparelli.
Padua	30.43	773.0	30.55	776.0	27.7	— 2.4	50	N	7.4	3.3	.....	.....	0	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.61	752.1	30.59	776.9	26.6	— 3.0	74	ESE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	30.24	768.0	30.44	773.1	30.2	— 1.0	42	N	16.1	7.2	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.49	723.7	30.52	775.3	24.3	— 4.3	53	W	.....	.....	2	.....	1	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.42	772.7	30.47	774 0	27.1	— 2.7	85	W	21.7	9.7	.....	.....	10	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	30.13	765.2	30.40	772.2	32.0	0.0	62	N	.....	.....	8	.....	3	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	30.20	767.0	30.29	769 3	36.7	2.6	52	ENE	19.9	8.9	.....	.....	2	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.98	761.4	30.16	766.1	47.5	8.6	51	E	5.6	2.5	.....	.....	10	.....	.....	0.098	2.5	.....	Prof. P. S. Ferrari.
Lecce	29.98	761.5	30.24	768.2	49.1	9.5	66	ENE	1.8	0.8	.....	.....	9	.....	.....	0.386	9.8	.....	Prof. C. De Giorgi.
Cosenza	29.23	742.4	30.16	766.1	44.2	6.8	72	NW	0.7	0.3	.....	.....	10	.....	.....	0.264	6.7	.....	Prof. D. Conti.
Cagliari	29.69	754.1	29.89	759.2	48.0	8.9	76	NW	.....	.....	2	.....	10	E	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.73	755.2	30.00	761.9	47.8	8.8	72	NE	3.1	1.4	.....	.....	10	.....	.....	0.075	1.9	.....	Prof. G. Ciacciatore.
Syracuse	29.95	760.8	30.02	762.6	53.1	11.7	77	SE	7.4	3.3	.....	.....	10	S	.....	1.441	36.6	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.61	752.0	30.15	765.9	41.7	5.4	27	NE	9.8	4.4	.....	.....	10	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.98	761.5	30.00	762.0	46.5	8.1	86	NNE	5.7	2.6	.....	.....	3s	.....	.....	0.288	7.32	Clear.	K. Sasaki.
Nagasaki, I. M. Obs'y	29.80	756.9	30.00	762.0	50.7	10.4	89	WNW	8.9	4.0	.....	.....	10n	.....	.....	0.640	16.26	Raining	S. Takehayashi.
Tokei, (Yeddo) Observatory	30.02	762.5	30.09	764.3	46.6	8.1	83	NNE	6.3	2.8	.....	0	0	.....	.....	0	0	Clear	The Staff.
Wakayama	30.05?	763.3?	30.00?	762.0?	46.7	8.2	86	ESE	4.9	2.2	.....	.....	4ks;8	.....	.....	0.192	4.88	Fair	

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima																			R. Banda, C. E.
Guadalajara	25.13	638.2	30.47	773.8	31.6	— 0.2	52	SW	.....	.....	1	.....	1	.....	Calm	0	0	Clear.	Prof. L. Perez.
Leon																			Prof. M. Leal.
Mazatlan	29.80	757.0	30.07	763.7	63.5	17.5	64	NE	.....	.....	1	0	0	.....	.....	0	0	Pleasant	I. Guerrero, C. E.
Mexico, Central Observatory	23.11	587.0	30.26	768.6	46.4	8.0	66	Calm	0	0	.....	48	0	.....	.....	0	0	Fair	The Staff.
Pabellon (Aguascalientes)					39.4	4.1	55	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.48	596.4	30.43	772.9	42.8	6.0	54	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.30	617.2	30.50	774.7	43.2	6.2	49	SE	.....	.....	1	.....	10	W	E	0	0	Covered	G. Barroeta, M. D.
Tlacotalpam	29.88	759.0	29.89	759.3	70.9	21.6	81	N	.....	.....	3	1	2	W	N	0	0	Clear	Prof. M. M. Chàzaro.
Vera-Cruz																			Prof. J. Rossell
Zacatecas	22.53	572.3	30.26	768.6	45.3	7.4	40	Calm	0	0	.....	.....	0	.....	.....	0	0	Fine	J. C. Castrillon.

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column; the instrumental correction —0.88 mm., or —0.035 inch, has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.51	774.9	30.51	774.9	33.1	0.6	.....	SSE	.....	.....	3	.....	.....	.....	.....	0	0	.....	
Groningen																			
Helder	30.45	773.4	30.50	774.8	.....	.....	.....	SW	.....	.....	1	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.46	773.7	30.46	775.7	34.7	1.5	.....	S	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Utrecht	30.50	774.6	30.50	774.6	31.6	— 0.2	93	SSE	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	
	30.47	773.9	30.52	775.1	32.2	0.1	86	S	.....	.....	2	.....	10	.....	.....	0.008	0.2	Overcast	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.24	768.0	30.29	769.4	43.5	6.4	100	SE	11.2	5.0	.....	.....	10	.....	.....	2.500	63.5	Raining	
Brönö	29.74	755.5	29.78	756.5	38.1	3.4	66	NW	18	8	.....	.....	9	.....	.....	0.205	5.2	.....	
Christiana	29.88	759.0	30.04	762.9	32.7	0.4	96	NNW	0	0	.....	.....	10	.....	.....	0	0	Foggy	
Tromsö	28.82	732.1	28.87	733.2	30.7	— 0.7	98	W	29	13	.....	.....	10	.....	.....	0.748	19.0	Snowing.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	29.63	752.6	29.82	757.5	60.4	15.8	87	SE	8.7	3.9	.....	.....	10	.....	.....	0.236	6.0	Raining.....	Dr. J. A. Sampaio.
Campo Major	29.18	741.1	30.21	767.2	48.6	9.2	41	ENE	1.8	0.8	.....	.....	0	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	29.97	761.3	30.06	763.5	65.1	18.4	63	ESE	3.8	1.7	.....	.....	5	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.88	758.9	30.25	768.4	48.0	8.9	33	NNE	15.0	6.7	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	29.78	756.4	29.85	758.2	64.4	18.0	90	SSE	22.4	10.0	.....	.....	10	.....	.....	0.583	14.8	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	A. M. de Sande, Com'd't.
Duque da Terceira	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Rio Lima. Capt. S. C. da Silva Costa. Santiago, Cape Verd Ids	2	.....	Overcast.....	A. D. de Fonseca Sarurento.....
Sà da Bandeira	.....	.....	.....	F. Teixeira da Silva, Comd't.
Sado, Capt. J. A de Brito Capello, St. Paul de Loando	3	SE	Gloomy.....	Luiz Aprá, Q. M.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	1	2	D. clouds.....	J. G. Felgo, 2nd Lieut.

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sà da Bandeirà gives the barometer reduced tofreezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	28.96	735.5	28.98	736.0	31.8	— 0.1	90	W	18	8	.....	.....	3ks	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Astrakhan	30.69	779.4	30.60	777.3	19.2	— 7.1	78	WSW	9	4	.....	.....	0	.....	.....	Blank	Blank	.....	Capt. Wisganow.
Barnaul	29.42	747.3	29.69	754.2	5.2	—14.9	82	NW	4	2	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	29.69	754.1	29.94	760.5	35.6	2.0	98	W	11	5	.....	.....	10n	.....	.....	.....	.....	Light rain...	Prof. Dr. Weihrauch.
Ekaterinburg	28.80	731.5	29.86	758.5	0.5	—17.5	76	W	11	5	.....	.....	2s	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk																			
Kasan	29.54	750.2	29.82	757.5	18.5	— 7.5	94	SSW	16	7	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch																			Lagorio.
Kieff	29.81	757.2	30.51	775.0	12.2	—11.0	79	WSW	9	4	.....	ck	3cs;ks	.....	.....	.....	.....	.....	Physical Cabinet.
Krotkowo*	29.72	754.9	30.24	768.0	17.4	— 8.1	74	WSW	4	2	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	30.32	770.2	30.55	775.9	10.8	—11.8	78	WSW	22	10	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Moscow	29.32	744.7	29.90	759.4	27.1	— 2.7	81	S	13	6	.....	.....	10s	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	27.63	701.9	30.20	767.0	— 5.1	—20.6	81	Calm	0	0	.....	.....	5	.....	.....	Blank	Blank	Light clouds	Meteorological Obs.
Nikolaiev	30.69	779.5	30.76	781.3	14.5	— 9.7	77	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	30.30	769.6	30.54	775.8	39.2	4.0	77	Calm	0	0	.....	.....	2ks	.....	.....	.....	.....	.....	
Orenberg																			
Pekin (China)	29.95	760.7	30.09	764.3	27.7	— 2.4	77	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	29.67	753.5	29.68	753.9	34.5	1.4	96	WNW	22	10	.....	.....	10n	.....	.....	.....	.....	.....	Central Physical Obs.
Tashkend	28.80	731.6	30.47	773.9	34.2	1.2	92	.....	.....	.....	.....	.....	10	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	29.10	739.0	30.58	776.6	42.1	5.6	85	E	4	2	.....	.....	10	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock																			
Warsaw	30.11	764.9	30.57	776.5	27.5	— 2.5	74	W	13	6	.....	9c	.....	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.84	758.0	30.28	769.2	33.3	0.7	100	SW	7	3	.....	.....	10	.....	.....	.....	.....	Heavy clouds	Astronomical Obs.
Yenisiesk	29.53	750.0	29.86	758.4	—20.6	—29.2	83	ESE	2	1	.....	.....	0	.....	.....	.....	.....	.....	Marks.

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	30.19	766.8	30.30	769.6	42.3	5.7	39	NNW	2.0	0.89	.....	.....	0	.....	.....	0	0	Clear.	Antonio Rave, Director
Bilbao, Met. Obs'y	30.28	769.0	30.34	770.5	40.6	4.8	83	SE	1.2	0.56	.....	1	1	E	.....	0	0	Almost clear	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.23	691.7	.....	.....	36.0	2.2	61	NE	4.5	2.01	.....	0	1	.....	.....	0	0	Light clouds	Domingo Martin y Perez.
Madrid, Royal Observatory	27.95	709.9	30.28	769.1	38.8	3.8	45	E	3.7	1.67	.....	1	0	N	.....	0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	30.05	764.3	30.24	768.2	48.4	9.1	62	WNW	0.5	0.22	.....	5	4	W	.....	0	0	Almost cov'd	Olayo Diaz, Director
Santiago, Met. Obs'y	29.32	744.7	30.24	768.0	48.0	8.9	46	NE	7.4	3.3	.....	.....	0	.....	.....	0	0	Clear.	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I	30.03	762.8	30.10	764.5	66.6	19.2	91	Calm	0	0	.....	2cs;k	1k	.....	.....	0	0	Hazy.....	Benito Vines S. J.
Manilla, Phillippine Islands	29.82	757.3	29.87	758.7	79.0	26.1	76	N	3.4	1.5	.....	0	0	.....	.....	0	0	Fine.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.08	764.0	30.18	766.5	64.7	12.6	67	NNW	1.6	0.7	.....	0	1	.....	N	0	0	.....	Capt. C. Pulazon, R. N., Dir.
San Juan de Porto Rico, W. I	30.00	761.9	30.09	764.2	77.0	25.0	77	E	19.3	8.62	.....	3ck	2k	E	E	0.128	3.25	Clear.	Enrique Gadea, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8·19 a. m., and for San Fernando at "midnight following"; at Barcelona, Bilbao, Burgos, Murcia and Santiago the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.24	742.7	29.28	743.7	34.2	1.2	.....	W	.....	.....	6	.....	0	.....	.....	0.236	6.0	.....	
Umea	29.57	751.1	29.62	752.4	37.4	3.0	69	NW	.....	.....	4	.....	0	.....	.....	0	0	.....	
Hernosand	29.78	756.3	29.83	757.6	41.4	5.2	63	WSW	.....	.....	4	.....	2	.....	.....	0.008	0.2	.....	
Stockholm	29.84	758.0	30.02	762.5	37 4	3.0	96	WSW	.....	.....	2	.....	10	.....	.....	0	0	.....	
Wisby	29.97	761.3	30.03	762.8	39.6	4.2	93	WSW	.....	.....	6	.....	3	.....	.....	0 004	0.1	.....	
Sub-Series.																			
Upsala	29.87	758.8	29.96	761.0	36.3	2.4	97	SW	7.2	3.2	.....	.....	10	.....	.....	0.008	0.21	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	28.95	735.2	30.48	774.8	19.0	— 7.2	79	ENE	.....	.....	2	.....	9	.....	.....	0	0	Covered	The Observatory.
Zurich	28.73	729.7	30.53	775.4	10.8	—11.8	90	E	.....	.....	1	.....	1	.....	.....	0	0	Clear.	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note. -At Geneva the corresponding departures from the normal values are: Barometer, +7.7 mm.; Thermometer, —9.6 Cent.; Relative Humidity, —1 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Constantinople	.....	.....	30.49	774.4	46.0	7.8	85	ENE	19	8.5	.....	.....	9	.....	NE	0,071	1.8	Raining	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.17	766.2	48.4	9.1	.....	NW	.....	.....	1	.....	2	.....	.....	0	0	Slightly cl'dy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	30.00	762.0	30.11	764.8	66.2	19.0	67	NNE	.....	.....	2	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bathurst, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B.	29.75	755.1	29.79	756.7	26.6	— 3.0	94	NE	7	3.1	.....	.....	10n	.....	.....	0.27	6.9	Light snow.	G. A. Blair.
Charlottetown, P. E. Island	29.64	752.8	29.69	754.1	29.6	— 1.3	100	E	15	6.7	.....	.....	10n	.....	.....	0.28	7.1	Light snow.	H. J. Cundall, C. E.
Cornwall, Ontario	29.34	745.2	29.54	750.3	27.4	— 2.6	98	E	.....	.....	1	.....	10n	.....	.....	0.60	15.2	Overcast.	James Smith, M. A.
Dalhousie, N. B.	29.66	753.4	29.83	757.7	22.7	— 5.2	.....	.....	.....	.....	4	.....	10n	.....	.....	0.20	5.1	Snowing.	H. A. Johnson.
Father Point, Quebec	29.74	755.4	29.76	755.9	21.4	— 5.9	86	SE	5	2.2	.....	.....	10n	.....	.....	0.21	5.3	Light snow.	J. McWilliams.
Fredericton, N. B.	29.62	752.3	29.69	754.1	25.0	— 3.9	90	NE	10	4.5	.....	.....	10n	.....	.....	0.53	13.5	Light snow.	Prof. Harrison.
Fort Garry, Manitoba	29.25	742,9	30.24	768.1	—28.0	—33.3	100	S	3	1.3	.....	0	2ks	.....	.....	0	0	Fair.	James Stewart.
Granton, Ontario	28.57	725.7	29.71	754.6	29	— 1.7	.....	SW	.....	.....	2	.....	10n	.....	.....	0	0	Cloudy.	James Grant.
Halifax, N. S.	29.46	748.3	29.59	751.6	36.1	2.3	98	E	20	8.9	.....	.....	10n	.....	.....	0.73	18.5	Light rain.	A. Allison.
Hamilton, Ontario	29.32	744.7	29.70	754.4	32.1	0.1	89	Calm	.....	.....	0	0	0	.....	.....	0.40	10.2	Clear.	Geo. Dickson, B. A.
Heart's Content, N. F.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.26	743.2	29.61	752.1	27.5	— 2.5	90	NW	5	2.2	.....	.....	10ks	.....	.....	0.53	13.5	Cloudy.	S. Woods, M. A.
Little Glace Bay, N. S.	29.72	754.9	29.76	755.9	32.8	0.4	95	S	15	6.7	.....	.....	10n	.....	.....	0.60	15.2	Snowing.	C. H. Rigby.
Montreal, Quebec	29.34	745.2	29.55	750.6	27.0	— 2.8	98	N	.....	.....	.....	.....	10n	.....	.....	0.29	7.4	Snowing.	C. H. McLeod, C. E.
Moose Factory, Ontario	30.05	763.3	30.09	764.3	—14.0	—25.6	80	N	.....	.....	4	.....	10	.....	.....	0.05	1.3	Cloudy.	J. R. Nerson.
Norwood	28.91	734.3	29.64	752.8	21.3	— 5.9	.....	NW	.....	.....	1	5ck;k	0	NW	.....	0.09	2.3	Fair.	Rev. T. F. Fotheringham, M. A.
Parry Sound, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. R. Mosley.
Peterboro, Ontario	28.87	733.6	29.65	753.1	21.4	— 5.9	56	Calm	.....	.....	0	0	0	.....	.....	0.40	10.2	Clear.	J. F. Jeffers, M. A.
Port Dover, Ontario	29.01	736.8	29.72	754.9	31.0	— 0.6	100	W	6	2.7	.....	.....	10n	.....	W	0.41	10.4	Threatening	H. Morgan.
Port Hastings, N. S.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.08	738.6	29.74	755.4	32.0	0.0	91	W	10	4.5	.....	.....	10ks	.....	SW	0.15	3.8	Cloudy.	M. Payne.
Quebec, Quebec	29.31	744.5	29.65	753.1	25	— 3.9	100	E	.....	.....	6	.....	10n	.....	.....	0.30	7.6	Light snow.	Capt. Ashe, R. N.
Rockliffe, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. McIntyre.
St. Andrews, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Gove.
St. John, N. B.	29.39	746.5	29.56	750.8	30	— 1.1	94	NE	10	4.5	.....	.....	10n	.....	.....	0.64	16.3	Drizzling.	G. Murdock, C. E.
Saugeen, Ontario	28.91	734.3	29.64	752.8	32.4	0.2	95	SW	15	6.7	.....	.....	10s	.....	.....	0.25	6.3	Snowing.	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.37	720.6	29.70	754.4	28.8	— 1.8	95	SW	9	4.0	.....	.....	10s	.....	.....	0.25	6.3	Cloudy.	C. J. MacGregor, M. A.
Sydney, C. B.	29.87	758.7	29.91	759.7	30.8	— 0.7	97	E	9	4.0	.....	.....	10n	.....	.....	.....	.....	Snowing.	T. C. Hill, C. E.
Toronto, Ontario	29.27	743.4	29.67	753.6	30.1	— 1.1	85	NW	2	0.9	.....	0	10s	.....	Calm	0.33	8.4	Cloudy.	Magnetic Observatory.
Windsor, N. S.	29.45	748.0	29.54	750.3	34.0	1.1	100	E	16	7.2	.....	.....	10n	.....	.....	0.42	10.7	Raining.	Prof. John E. Oram, M.A.
Woodstock, Ontario	28.60	726.4	29.70	754.4	30.5	— 0.8	93	SW	13	5.8	.....	.....	10s	.....	.....	0.30	7.6	Overcast.	Prof. J. Montgomery.
Yarmouth, N. S.	29.44	747.8	29.50	749.3	41.4	5.2	84	SE	25	11.2	.....	.....	Fog	.....	.....	0.45	11.4	Raining.	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	30.20	767.1	30.47	773.9	17.5	— 8.1	92	SW	.....	.....	.....	10ks	10ns	.....	.....	0	0	Threatening	John Delany.
St. Pierre, N. F., l'Hopital Maritime.	.....	.....	30.10	764.4	27.3	— 2.6	.....	E	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	The Commandant.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Andrews the velocity of the wind is estimated, and at St Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.**

UNITED STATES SERIES.

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0–10.	CLOUDS. Amount. Up'er 0–10.	CLOUDS. Amount. Lo'er 0–10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER	OBSERVER.
Albany, New York	29.43	747.5	29.66	753.4	33	0.6	100	Calm	0	0	.....	.....	Fog	.....	.....	0.85	21.6	Foggy	
Alpena, Michigan	29.00	736.6	29.66	753.4	23	— 5.0	86	W	7	3.1	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	28.85	732.8	30.01	762.2	46	7.8	55	NW	17	7.6	.....	.....	10s	.....	NW	2.27	57.7	Cloudy	
Atlantic City, New Jersey	29.72	754.9	29.73	755.1	44	6.7	100	SW	5	2.2	.....	.....	10s	.....	Calm	1.45	36.8	Cloudy	
Augusta, Georgia	29.82	757.4	30.03	762.7	51	10.6	93	W	4	1.8	.....	1cs	5s	W	Calm	0.90	22.9	Fair	
Baltimore, Maryland	29.75	755.6	29.80	756.9	40	4.4	82	W	6	2.7	.....	.....	10s;fog	.....	W. Calm	0.95	24.1	Cloudy	
Barnegat, New Jersey	29.68	753.9	29.71	754.6	43	6.1	100	W	11	4.9	.....	.....	10s	.....	W	1.92	48.8	Cloudy	
Bismarck, Dakota	28.11	714.0	29.96	761.0	— 2	—18.9	100	S	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Boerne, Texas	28.80	731.5	30.21	767.3	31	— 0.6	69	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Boise City, Idaho	27.32	693.9	30.28	769.1	36	2.2	71	E	1	0.4	.....	5cs	0	Calm	.....	0	0	Fair	
Boston, Massachusetts	29.50	749.3	29.66	753.4	35	1.7	90	Calm	0	0	.....	.....	Fog	.....	Calm	1.32	33.5	Foggy	
Brackettville, Texas	29.09	738.9	30.20	767.1	36	2.2	80	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	29.09	738.9	30.29	769.4	—28	—33.3	100	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Brownsville, Texas	30.20	767.1	30.25	768.3	46	7.8	92	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Buffalo, New York	28.96	735.6	29.66	753.4	33	0.6	89	W	6	2.7	.....	.....	10s	.....	Calm	0.38	9.7	Cloudy	
Burkes, Arizona	.....	.....	.....	.....	35	1.7	53	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.27	743.4	29.56	750.8	35	1.7	90	S	7	3.1	.....	.....	10n	.....	S	0.34	8.6	Sleeting	
Cairo, Illinois	29.84	757.9	30.26	768.6	28	— 2.2	77	NW	11	4.9	.....	0	0	.....	.....	0.20	5.1	Clear	
Campo, California	27.61	701.3	30.18	766.6	29	— 1.7	89	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	29.86	758.4	29.86	758.4	62	16.7	94	SW	8	3.6	.....	10cs	0	Calm	.....	0.82	20.8	Cloudy	
Cape Henry, Virginia	29.76	755 9	29.78	756.4	61	16.1	88	SW	10	4.5	.....	.....	10s	.....	W	0.29	7.4	Cloudy	
Cape Lookout, N. Carolina	29.87	758.7	29.88	758.9	63	16.7	94	W	12	5.4	.....	.....	10s	.....	W	0	0	Cloudy	
Cape May, New Jersey	29.71	754.6	29.74	755.4	46	7.8	100	NW	11	4.9	.....	.....	10n	.....	NW	1.93	49.0	Light rain	
Castroville, Texas	29.51	749.5	30.27	768.8	37	2.8	90	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Cedar Keys, Florida	30.00	762.0	30.02	762.5	70	21.1	95	S	20	8.9	.....	.....	10s	.....	S	0.49	12.4	Cloudy	
Charleston, South Carolina	29.87	758.7	29.93	760.2	64	17.8	89	SW	12	5.4	.....	0	8g	.....	SW	0.11	2.8	Cloudy	
Charlotte, North Carolina	29.00	736.6	29.82	757.4	45	7.2	100	W	4	1.8	.....	.....	Fog	.....	Calm	0	0	Foggy	
Chattanooga, Tennessee	29.29	744.0	30.12	765.0	40	4.4	82	W	5	2.2	.....	2k	0	NW	.....	0.75	19.1	Fair	
Cheyenne, Wyoming	23.93	607.8	29.87	758.7	37	2.8	53	NW	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.21	741.9	29.93	760.2	27	— 2.8	88	NW	12	5.4	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Cincinnati, Ohio	29.31	744.5	29.98	761.5	36	2.2	71	W	11	4.9	.....	.....	10ks	.....	W	0.54	13.7	Cloudy	
Cleveland, Ohio	29.07	738.4	29.81	757.2	33	0.6	89	SW	16	7.2	.....	.....	10s	.....	SW	0.54	13.7	Cloudy	
Coleman City, Texas	28.47	723.1	30.28	769.1	22	— 5.6	45	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Columbus, Ohio	29.05	737.9	29.91	759.7	32	0.0	79	SW	12	5.4	.....	5k	5s	W	Calm	0	0	Cloudy	
Concho, Texas	28.35	720.1	30.14	765.5	30	— 1.1	57	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.83	757.7	30.33	770.4	33	0.6	70	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Davenport, Iowa	29.45	748.0	30.16	766.1	5	—15.0	75	W	13	5.8	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Dayton, Washington T'y	.....	.....	.....	.....	45	7.2	67	W	.....	.....	4	.....	10s	.....	W	0	0	Cloudy	
Deadwood, Dakota	25.16	639.0	.....	.....	36	2.2	90	SW	4	1.8	.....	.....	10n	.....	Calm	0.04	1.0	Light rain	
Decatur, Texas	29.12	739.6	30.38	771.6	29	— 1.7	45	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Denison, Texas	29.48	748.8	30.34	770 6	25	— 3.9	75	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Denver, Colorado	24.71	627.6	29.93	760.2	31	— 0.6	69	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	29.26	743.2	30.25	768.3	2	—16.7	72	NW	6	2.7	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Detroit, Michigan	29.06	738.1	29.74	755 4	28	— 2.2	88	W	5	2.2	.....	.....	10s	.....	W	0.22	5.6	Cloudy	
Dodge City, Kansas	27.50	698.5	29.99	761.7	12	—11.1	61	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.33	745.0	30.11	764 8	4	—15.6	48	NW	8	3.6	.....	0	0	.....	.....	0.05	1.3	Clear	
Duluth, Minnesota	29.38	746.2	30.16	766 1	—15	—26.1	71	NW	24	10.7	.....	0	0	.....	.....	0.16	4.1	Clear	
Eagle Pass, Texas	29.56	750.8	30.34	770.6	37	2.8	90	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	29.45	748.0	29.52	749.8	36	2.2	100	NE	27	12.1	.....	.....	10n;fog	.....	NE	0.49	12.4	Light rain	
Edinburg, Texas	.....	.....	.....	.....	44	6.7	92	N	.....	.....	1	.....	10s	.....	Calm	0	0	Cloudy	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.00	736.6	29.72	754.9	36	2.2	90	SW	7	3.1	.....	.....	10n	.....	Calm	0.41	10.4	Light rain	
Escanaba, Michigan	29.11	739.4	29.80	756.9	16	— 8.9	66	NW	17	7.6	.....	.....	10s	.....	W	0.05	1.3	Cloudy	
Florence, Arizona	28.67	728.2	30.27	768.8	35	1.7	80	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.76	705.1	29.73	755.1	8	—13.3	89	SE	4	1.8	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Fort Custer, Montana	26.62	676.1	.....	.....	38	3.3	71	SW	4	1.8	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
Fort Davis, Texas	25.33	643.4	30.29	769.4	28	— 2.2	54	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.77	756.1	30.36	771.1	20	— 6.7	70	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Grant, Arizona	25.32	643.1	30.12	765.0	41	5.0	42	E	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	28.99	736.3	30.38	771.6	22	— 5.6	32	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.08	687.8	.....	.....	16	— 8.9	39	Calm	0	0	.....	0	0	.....	.....	0.01	0.3	Clear	
Fort McKavett, Texas	27.95	709.9	30.02	762.5	24	— 4.4	74	W	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	29.04	737.6	30.25	768.3	20	— 6.7	56	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Verde, Arizona	.....	.....	.....	.....	28	— 2.2	77	NW	.....	.....	2	0	0	.....	.....	0	0	Clear	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.41	721.6	30.04	763.0	38	3.3	72	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Galveston, Texas	30.24	768.1	30.29	769.4	47	8.3	85	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Graham, Texas	29.19	741.4	30.35	770.9	19	— 7.2	54	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.12	739.6	29.78	756.4	30	— 1.1	89	N	16	7.2	.....	.....	10n	.....	Calm	0.12	3.0	Light snow	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Indianapolis, Indiana	29.16	740.7	29.98	761.5	27	— 2.8	76	W	10	4.5	.....	.....	10s	.....	W	0.05	1.3	Cloudy	
Indianola, Texas	30.29	769 4	30.32	770.1	46	7.8	84	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Jacksboro, Texas	29.13	739.9	30.36	771.1	25	— 3.9	75	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	29.97	761.2	30.00	76 .0	68	20.0	90	S	12	5.4	.....	.....	10s	.....	S	0.02	0.5	Cloudy	
Keokuk, Iowa	29.49	749.0	30.18	766.6	5	—15.0	75	W	9	4.0	.....	2cs	2s	W	Calm	Inap.	Inap.	Fair	
Key West, Florida	30.04	763.0	30.07	763.8	73	22.8	90	SE	4	1.8	.....	2k	0	SE	.....	0	0	Fair	
Kittyhawk, North Carolina	29.82	757.4	29.84	757.9	61	16.1	100	SW	11	4.9	.....	8cs	0	SW	.....	0.29	7.4	Fair	
Knoxville, Tennessee	29.04	737.6	30.07	763.8	38.5	3.6	86	W	4	1.8	.....	0	1ks	.....	Calm	0.65	16.5	Clear	
La Crosse, Wisconsin	29.27	743.4	30.07	763.8	8	—13.3	78	W	6	2.7	.....	0	0	.....	.....	0.05	1.3	Clear	
La Mesilla, New Mexico	26.26	667.0	30.41	772.4	24	— 4.4	61	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.78	756.4	30.14	765.5	40	4.4	91	Calm	0	0	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Leavenworth, Kansas	29.36	745.7	30.30	769.6	8	—13.3	55	NW	3	1.3	.....	5cs	0	NW	.....	0	0	Fair	
Lewiston, Idaho	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Little Rock, Arkansas	29.93	760.2	30.32	770.1	32	0.0	69	NW	7	3.1	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Los Angeles, California	29.82	757.4	30.17	766.3	48.0	8.9	56	N	3	0.9	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.49	749.0	30.07	763.8	35	1.7	70	SW	15	6.7	.....	.....	10s	.....	W	0.47	11.9	Cloudy	
Lynchburg, Virginia	29.10	739.1	29.79	756.7	43	6.1	91	SW	1	0.4	.....	9cs	8s	SW	SW	1.17	29.7	Cloudy	
Madison, Wisconsin	28.90	734.0	29.97	761.2	10	—12.2	58	W	16	7.2	.....	0	0	.....	.....	0.09	2.3	Clear	
Marquette, Michigan	29.10	739.1	29.84	757.9	15	— 9.4	100	NW	20	8.9	.....	.....	10n	.....	Calm	0.32	8.1	Light snow	
Mason, Texas	28.62	726.9	30.51	774.9	29	— 1.7	89	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	29.90	759.4	30.27	768.8	29	— 1.7	78	N	4	1.8	.....	0	0	.....	.....	0.18	4.6	Clear	
Milwaukee, Wisconsin	29.10	739.1	29.88	758.9	14	—10.0	82	W	20	8.9	.....	0	1s	.....	Calm	Inap.	Inap.	Clear	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mobile, Alabama	30.13	765.3	30.18	766.6	44	6.7	92	N	10	4.5	.....	0	2s	.....	N	0.37	9.4	Fair	
Montgomery, Alabama	29.92	760.0	30.16	766.1	45	7.2	84	NW	8	3.6	.....	2k	0	NW	.....	1.88	47.8	Clear	
Morgantown, West Virginia	28.82	732.0	29.79	756.7	51	10.6	79	SW	15	6.7	.....	5k	0	SW	.....	0.31	7.9	Fair	
Mt. Washington, N. H.	23.27	591.0	29.63	752.6	27	— 2.8	100	NW	42	18.8	.....	.....	Fog	.....	NW	0.42	10.7	Foggy	
Nashville, Tennessee	29.62	752.3	30.18	766.6	37	2.8	90	W	12	5.4	.....	.....	10ks	.....	W	0.39	9.9	Cloudy	
New Haven, Connecticut	29.56	750.8	29.67	753.6	39	3.9	100	Calm	0	0	.....	.....	Fog	.....	Calm	1.22	31.0	Foggy	
New London, Connecticut	29.63	752.6	29.68	753.9	40	4.4	100	NW	2	0.9	.....	.....	Fog	.....	.....	1.22	31.0	Dense fog	
New Orleans, Louisiana	30.16	766.1	30.22	767.6	47	8.3	77	N	8	3.6	.....	0	Haze	.....	Calm	0.20	5.1	Clear	
Newport, Rhode Island	29.62	752.3	29.67	753.6	42	5.6	100	W	8	3.6	.....	.....	Fog	.....	.....	1.40	35.6	Misty	
New River, North Carolina	.....	.....	.....	.....	60	15.6	94	SW	.....	.....	1	.....	10s	.....	SW	.....	.....	Cloudy	
New York, New York	29.55	750.6	29.73	755.1	41	5.0	56	W	12	5.4	.....	.....	10s	.....	Calm	1.48	37.6	Cloudy	
Norfolk, Virginia	29.74	755.4	29.79	756.7	56	13.3	87	W	8	3.6	.....	.....	10s; fg	.....	Calm	0.27	6.9	Cloudy	
North Platte, Nebraska	27.03	686.6	29.80	756.9	12	—11.1	80	S	6	2.7	.....	Haze	5s	Calm	Calm	0.01	0.3	Fair	
Olympia, Washington Ter.	30.00	762.0	30.04	763.0	48.5	9.2	93	S	14	6.3	.....	.....	10n	.....	Calm	0.14	3.6	Light rain	
Omaha, Nebraska	29.02	737.1	30.25	768.3	4	—15.6	74	NW	3	1.3	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Oswego, New York	29.32	744.7	29.64	752.8	38	3.3	91	W	10	4.5	.....	.....	10s	.....	Calm	0.46	11.7	Cloudy	
Pembina, Dakota	29.20	741.7	30.20	767.1	—32	—35.6	100	S	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Pensacola, Florida	30.13	765.3	30.16	766.1	50	10.0	93	N	12	5.4	.....	.....	10s	.....	Calm	0.19	4.8	Cloudy	
Philadelphia, Pennsylvania	29.67	753.6	29.72	754.9	40	4.4	100	SW	8	3.6	.....	.....	10n	.....	Calm	0.83	21.1	Cloudy	
Phœnix, Arizona	29.02	737.1	30.02	785.4	38	3.3	63	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.61	447.3	29.82	757.4	3	—16.1	100	W	32	14.3	.....	0	0	.....	.....	0.31	7.9	Clear	
Pilot Point, Texas	29.53	750.0	30.43	772.9	26	— 3.3	64	N	.....	.....	.....	0	0	.....	.....	0	0	Clear	
Pioche, Nevada	.....	.....	.....	.....	39	3.9	46	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	28.99	736.3	29.81	757.2	37	2.8	90	W	7	3.1	.....	.....	10s	.....	W	0.18	4.6	Cloudy	
Port Huron, Michigan	29.03	737.3	29.71	754.6	29	— 1.7	89	SW	5	2.2	.....	.....	10s	.....	Calm	0.26	6.6	Cloudy	
Portland, Maine	29.57	751.1	29.62	752.3	32	0.0	87	N	8	3.6	.....	.....	10s	.....	Calm	0.70	17.8	Cloudy	
Portland, Oregon	30.17	766.3	30.24	768.1	50.0	10.0	82	S	13	5.8	.....	.....	10s	.....	.....	Inap.	Inap.	Cloudy	
Portsmouth, North Carolina	.....	.....	.....	.....	64	17.8	94	SW	16	7.2	.....	.....	10s	.....	SW	0.25	6.3	Cloudy	
Prescott, Arizona	24.92	633.0	30.28	769.1	28	— 2.2	77	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.07	763.8	30.09	764.3	71	21.7	90	SE	9	4.0	.....	0	5ks	.....	SE	0	0	Fair	
Red Bluff, California	29.92	760 0	30.30	769.6	40.5	4.7	86	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	30.13	765.3	30.36	771.1	37	2.8	90	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Rochester, New York	29.00	736.6	29.62	752.3	35	1.7	90	NW	8	3.6	.....	.....	10s	.....	Calm	0.58	14.7	Cloudy	
Roseburg, Oregon	29.80	756.9	30.39	771.9	44	6.7	92	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sacramento, California	30.18	766.6	30.26	768.6	44	6.7	92	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.59	751.6	30.22	767.6	13	—10.6	62	W	18	8.0	.....	0	5s	.....	W	0.02	0.5	Fair	
St. Paul, Minnesota	29.23	742.4	30.18	766.6	— 9	—22.8	56	W	4	1.8	.....	0	0	.....	.....	0.16	4.1	Clear	
Salt Lake City, Utah	25.85	656.6	30.18	766.6	38	3.3	63	Calm	0	0	.....	0	0	.....	.....	Inap.	Inap.	Clear	
San Antonio, Texas	29.58	751.3	30.19	766.8	40	4.4	91	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
San Diego, California	30.11	764.8	30.18	766.6	52	11.1	60	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Sandusky, Ohio	29.12	739.6	29.80	756.9	32	0.0	89	SW	12	5.4	.....	.....	10s	.....	Calm	0.79	20.1	Cloudy	
Sandy Hook, New Jersey	29.68	753.9	29.71	754.6	41	5.0	91	SW	16	7.2	.....	.....	10s	.....	SW	2.27	57.7	Cloudy	
San Francisco, California	30.18	766.6	30.24	768.1	50	10.0	86	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Santa Fé, New Mexico	23.36	593.3	29.90	759.4	19	— 7.2	54	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	29.87	758.7	29.96	761.0	66	18.9	95	SW	11	4.9	.....	.....	10s	.....	SW	0.65	16.5	Cloudy	
Shreveport, Louisiana	30.06	763.5	30.30	769.6	38	3.3	54	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	29.90	759.7	29.94	760.5	62	16.7	94	SW	10	4.5	.....	8k	2s	SW	Calm	0.18	4.6	Cloudy	
Socorro, New Mexico	25.58	649.7	29.64	752.8	27	— 2.8	64	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois	29.46	748.3	30.19	766.8	15	— 9.4	82	NW	17	7.6	.....	.....	10s	.....	NW	Inap.	Inap.	Cloudy	
Springfield, Massachusetts	29.53	750.0	29.66	753.4	36	2.2	90	Calm	0	0	.....	.....	Fog	.....	.....	1.20	30.5	Dense fog	
Stockton, Texas	27.16	689.8	30.16	766.1	29	— 1.7	34	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	29.55	750.6	29.60	751.8	38	3.3	100	W	6	2.7	.....	.....	Fog	.....	.....	0.22	5.6	Foggy	
Toledo, Ohio	29.09	738.9	29.79	756.7	32	0.0	89	W	5	2.2	.....	.....	10ks	.....	W	0.24	6.1	Cloudy	
Tucson, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon	29.98	761.5	30.17	766.3	46.0	7.8	77	SW	18	8.0	.....	.....	10s	.....	.....	0	0	Cloudy	
Uvalde, Texas	29.37	746.0	30.22	767.6	37	2.8	71	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	30.00	762.0	30.28	769.1	37	2.8	90	N	5	2.2	.....	0	0	.....	.....	0.12	3.0	Clear	
Virginia City, Montana	24.18	612.2	29.66	753.4	40	4.4	73	SW	25	11.2	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy	
Visalia, California	29.84	757.9	30.23	767.8	27	2.8	90	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.66	753.4	29.77	756.1	40	4.4	82	SW	2	0.9	.....	.....	10ks; fg	.....	SW	0.89	22.6	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	31	— 0.6	79	NW	.....	.....	1	2c	0	Calm	.....	0	0	Fair	
Wilmington, North Carolina	29.79	756.7	29.86	758.4	67	19.4	79	SW	26	11.6	.....	.....	10s	.....	SW	0.08	2.0	Cloudy	
Winnemucca, Nevada	25.89	657.6	30.25	768.3	25	— 3.9	81	SW	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Massachusetts	29.63	752.6	29.67	753.6	43	6.1	100	NW	10	4.5	.....	.....	10s; fg	.....	Calm	0.98	24.9	Cloudy	
Yankton, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Yuma, Arizona	30.03	762.7	30.19	766.8	48	8.9	56	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	30.00	762.0	30.05	763.3	70	21.1	84	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.11	764.8	30.12	765.0	76	24.4	95	Calm	0	0	.....	2c	8cs	Calm	.....	.....	.....	.....	James Gall.
Navassa, W. I.	29.97	761.2	30.05	763.3	78	25.6	70	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.93	760.2	29.93	760.2	78	25.3	86	NE	.....	.....	2	.....	8ks	.....	.....	0.060	1.52	Cloudy	C. J. Hering.
Santiago de Cuba, W. I.	30.04	763.0	30.07	763.8	76	24.4	76	NNW	1.2	0.5	.....	0	0	.....	.....	0	0	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich
York Factory, B. A.	30.01	762.2	30.06	763.5	—25.0	—31.7	.....	SW	8	3.6	.....	4k	4s	SE	S	0	0	Cloudy	J. Fortescue & W. Wood
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,289 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,556 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.14‡	765.5‡	.....	.....	50	10.0	86	NE	10	4.5	.....	.....	5	.....	NW	0	0	.....	.....	Fair.....	
Navy Yard, Portsmouth, N.H	29.90‡	759.4‡	.....	.....	34	1.1	90	N	2	0.9	.....	.....	10	.....	.....	0	0	.....	.....	Overcast.....	
Naval Hospital, Yokohama, Japan.....	30.07‡	763.8‡	.....	.....	46.5	8.1	84	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	.....	Clear	
Adams, Mare I'd., Navy Yard, Cal.	30.22‡	767.6‡	.....	.....	50	10.0	100	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Alaska, Arica, Peru.....*	29.95‡	760.7‡	.....	.....	68	20.0	74	E	.....	.....	2	.....	5	.....	W	.....	.....	.....	.....	D. clouds.....	
Colorado. New York, . Y.....	29.68‡	753.9‡	.....	.....	41	5.0	91	WSW	8	3.6	.....	.....	10	.....	SW	1.37	34.8	.....	.....	Threatening	
Constitution, N. 34° 42′, W. 66° 20′.....	30.12‡	765.0‡	.....	.....	70	21.1	95	S	.....	.....	5	.....	4?	.....	SSW	.....	.....	Light	S	Clear?.....	
Enterprise. N. 35° 29′, E. 29° 10′.....	30.20‡	767.1‡	.....	.....	64	17.8	73	NNW	.....	.....	2	.....	2	.....	NNW	.....	.....	Smooth	.....	Clear	
Franklin, Off Navy Yard, Norfolk, Va.	29.81‡	757.2‡	.....	.....	58	14.4	88	WNW	10.8	4.8	.....	.....	10	.....	Calm	0.22	5.6	.....	.....	Cloudy.....	
Independence. Mare I'd, Navy Yard, Cal.	30.22‡	767.6‡	.....	.....	59	15.0	82	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Kearsarge. N. 19° 40′, W. 75° 10′.....	30.20‡	767.1‡	.....	.....	78	25.6	78	ENE	.....	.....	5	.....	1	.....	E	0	0	Mod'ate	E	D. clouds.....	
Lackawana, Honolulu, Sandwich Id's†	30.03‡	762.7‡	.....	.....	70	21.1	66	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Marion, Sandy Hook, N. J	29.72‡	754.9‡	.....	.....	46	7.8	84	WSW	.....	.....	2	.....	10	.....	WSW	.....	.....	Smooth	.....	Squally.....	
Michigan, Erie, Pa.....	29.63‡	752.6‡	.....	.....	47	8.3	85	SW	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....	Raining	
Monocacy, Shanghai, China..	30.31‡	769.9‡	.....	.....	37	2.8	74	W	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
New Hampshire, Port Royal, S. C.....	29.99‡	761.7‡	.....	.....	64	17.8	100	SW	19	8.5	.....	.....	8	.....	SW	0.300	7.62	.....	.....	Cloudy.....	
Nipsic, Norfolk, Va.....	29.76‡	755.9‡	.....	.....	55	12.8	100	NW	.....	.....	3	.....	10	.....	.....	.....	.....	.....	.....	Foggy.....	
Onward, Callao, Peru ....†.	29.95‡	760.7‡	.....	.....	65	18.3	94	WNW	.....	.....	1	.....	10	.....	.....	.....	.....	Mod'ate smooth	W	Foggy.....	
Palos, Tientsin, China.	30.13‡	765.3‡	.....	.....	36	2.2	71	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Passaic, Washington, D. C.....	29.78‡	756.4‡	.....	.....	41	5.0	91	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....	Drizzling	
Pensacola, Callao, Peru	29.95‡	760.7‡	.....	.....	64	17.8	94	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Smooth	.....	Misty.....	
Powhatan, Navy Yard, Brooklyn, N.Y.	29.75‡	755.6‡	.....	.....	43	6.1	92	WSW	.....	.....	1–2	.....	10	.....	Calm	.....	.....	.....	.....	Rainy	
Quinnebaug, Villafranca, France....	30.28‡	769.1‡	.....	.....	46	7.8	40	NW	.....	.....	1	.....	10	.....	SE	.....	.....	.....	.....	Cloudy.....	
Ranger, N. 26° 55′, W. 161° 06′.....	30.04‡	763.0‡	.....	.....	69	20.6	80	NE	.....	.....	1	.....	5	.....	.....	.....	.....	Mod'ate	.....	Fair.....	
Richmond, Amoy, China.....	30.25‡	768.3‡	.....	.....	61	16.1	61	NE	.....	.....	3	.....	0	.....	.....	.....	.....	Smooth	.....	Clear	
Rio Bravo, Brownsville, Texas... †.	30.47‡	773.9‡	.....	.....	46	7.8	100	NW	2	0.9	.....	.....	2	.....	Calm	0	0	.....	.....	Fair...	
Santee. Annapolis, Md	29.80‡	756.9‡	.....	.....	42	5.6	100	SW	.....	.....	2	.....	10	.....	SW	1.07	27.2	.....	.....	Overcast.....	
Shenandoah, S 33° 30′, W. 50° 00′.....	29.41‡	747.0‡	.....	.....	71	21.7	95	WNW	.....	.....	4	.....	10	.....	NNW	.....	.....	Long	.....	Cloudy.....	
St. Louis, League Island, Pa.....	29.78‡	756.4‡	.....	.....	41	5.0	91	SW	10	4.5	.....	.....	10	.....	SW	1.4	36.	.....	.....	Cloudy.....	
Tennessee, Navy Yard, Brooklyn, N.Y.	29.72‡	754.9‡	.....	.....	42	5.6	91	WSW	.....	.....	1–2	.....	10	.....	WSW	.....	.....	.....	.....	Cloudy.....	
Tuscarora, Acapulco exico	29.89‡	759.2‡	.....	.....	76	24.4	82	Calm	.....	.....	0	.....	2	.....	Calm	0	0	Smooth	.....	Clear	
Vandalia. Navy Yard, Brooklyn, N.Y.	29.71‡	754.6‡	.....	.....	45	7.2	84	SSW	.....	.....	2	.....	10	.....	SSW	.....	.....	.....	.....	Cloudy.....	
Wabash, Boston, Mass.....	29.67‡	753.6‡	.....	.....	35	1.7	100	NW	3	1.3	.....	.....	10	.....	.....	1.4	36.	.....	.....	Foggy.....	
Wachusett, Rio de Janeiro, Brazil.†	30.27‡	768.8‡	.....	.....	78	25.6	86	NNE	.....	.....	1	.....	5	.....	NNE	.....	.....	.....	.....	Fair.....	
Wyoming, Almeria, Spain.....	30.20‡	767.1‡	.....	.....	55	12.8	56	NE	.....	.....	2–3	.....	2	.....	NE	.....	.....	Smooth	NE	Fair.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		CHARACTER.	DIRECTION FROM—		
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S. S. Samaria																			Capt. T. Roberts.

NOTE—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitebury.
S. S. Costa Rica																			W. House & R. Lawless.
S. S. Dakota, Capt. H. G. Morse																			Capt. Connolly.
S. S. Georgia																			F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin																			Capt. A. Fuller.
S. S. Wilmington																			
S. S. Zealandia, Sydney, New South Wales		29.80‡	756.9‡				NE			3				E				Showery	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The orginals give the barometer as read off; wind-force by the scale 0 to to 12; for the Brittanic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer N. 37° 56′, E. 151° 16′ †		29.94‡	760.5‡	62	16.7	72	E			5		5		E		Moderate.	E	D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson N. 40° 22′, W. 163° 54′ †		30.10‡	764.5‡	55	12.8		ESE			4		n		SE	0	Moderate; Rough	SE	Overcast	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undutsch.
S. S. Leipzig, Capt. F. Pfeiffer																			S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10	Lo'er 0—10.	Upper. From—	Lower. From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa		29.85‡	758.2‡	40	4.4		SW			3		9		SW	Mod'ate			Cloudy	Capt. R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer
S. S. Pennsylvania																			Capt. Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from, sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents.																			
S. S. Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland, N. 39° 40,' W. 67° 08'†		29 58‡	751.3‡	65	18.3		WSW	7	3.1		5		WSW		Rough	WSW	Squally	Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

NOTE.—The originals give the barometer as read off; do not distinguish between upper and lower clouds; sea-swell in general terms, as published. ‡Corrections for temperature, instrumental error and elevation applied at this office.

ALLAN LINE MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. *The error of the barometer is not known. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES—Miscellaneous.																			
Furnished by the co-operation of the Observers named.																			
Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Barkentine "Carrie Heckle" N. 30° 02', W. 44° 45'..*		30 02‡	762.5‡	65.5	18.6		NNE			4		8		NE	0	Long	NE	Fair	B. F. Woodbury.
Brigantine "George" of Halifax, N. 37° 20', W. 74° 00' ..†..		29.78‡	756.4‡	60	15.6		SW			4		10		W		Mod'a	SW	Cloudy	N. B. Foss.
Schooner Harry and Fred																			Capt. George Gardner.
Haytian																			
§ Iron Cross																			Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden.																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time. *Instrumental error not known.

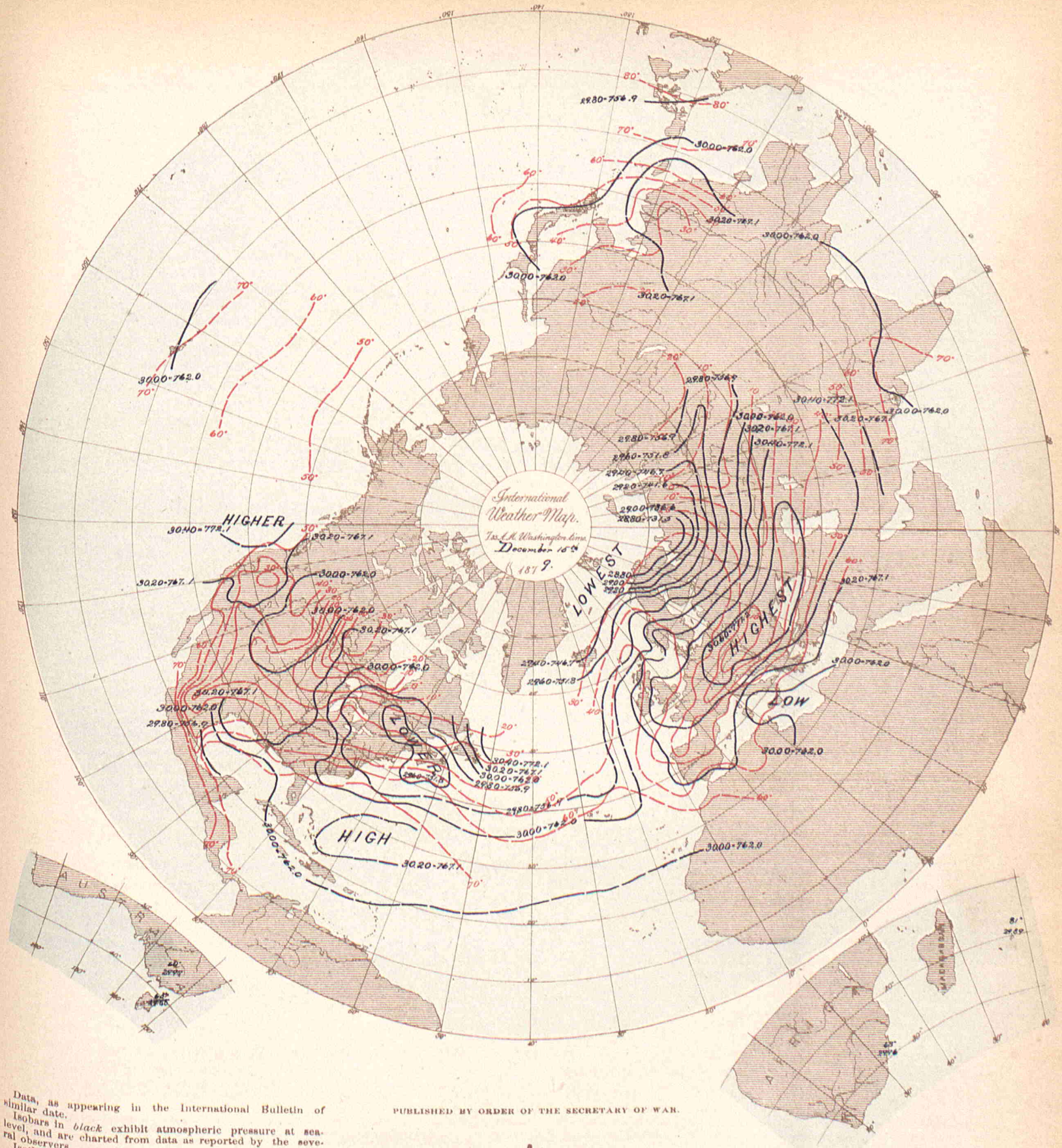
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

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BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 16, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE TOWN, C. G. H. mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.24	768.0	61.9	16.6	77	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	
Nemours	.....	.....	30.24	768 1	57.7	14.3	63	E	.....	.....	2	.....	0	.....	.....	0	0	Clear	Kesxuche.
Algiers	.....	.....	30.12	765.0	51.8	11.0	77	NNW	.....	.....	5	.....	10	.....	.....	1.390	35.3	Covered.	Touriliere.
La Calle	.....	.....	29.99	761.7	48.7	9.3	89	W	.....	.....	6	.....	8	.....	.....	0.374	9.5	Very cloudy	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.11	764.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Herbin.
Tebessa	.....	.....	30.09	764.2	37.8	3.2	83	NNW	.....	.....	3	.....	10	.....	.....	0.398	10.1	Covered	Watrin.
Geriville	.....	.....	.....	.....	38.8	3.8	47	N	.....	.....	4	.....	2	.....	.....	0.157	4.0	Fair	Brugniuax
Laghouat	.....	.....	30.19	766.9	47.1	8.4	18	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Bertrand.
Biskra	.....	.....	30.07	763.8	55.8	13.2	19	NW	.....	.....	5	.....	5	.....	.....	0	0	Cloudy	Chanvaux
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0–4; no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	30.16	766.1	30.77	781.5	21.0	— 6.1	90	NE	.....	.....	1	.....	10	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.91	759.6	30.75	781.0	18.7	— 7.4	83	W	0.7	0.3	.....	.....	8	.....	.....	0	0	.....	Dr. Wierzbicki.
Eperies	29.78	756.5	30.77	781.6	12.9	—10.6	80	Calm	.....	.....	0	.....	10cs	.....	.....	0	0	.....	Julius Mikolik.
Gratz	29.40	746.7	30.78	781,7	18.5	— 7.5	66	S	.....	.....	2	.....	0	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	29.21	741.8	30.80	782.2	16.7	— 8.5	91	ENE	.....	.....	1	.....	6	.....	.....	0	0	.....	Prof. A. Gottschling
Kremsmünster	29.16	740.7	30.69	779.6	2.5	—16.4	90	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	29.56	750.9	30.64	778.2	23.9	— 4.5	98	NW	.....	.....	1	.....	10	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	30.34	770.7	30.47	773.8	38.5	3.6	44	NE	.....	.....	1	.....	0	.....	.....	0	0	.....	I.R.Hydrographic Office
Szathmar	30.30	769.5	30.82	782.7	15.4	— 9.2	81	NE	.....	.....	2	.....	10	.....	.....	0	0	.....	Pet. Pancsics, S. J.
Szegedin	30.47	773.8	30.78	781.9	7.5	—13.6	.....	N	.....	.....	1	.....	5	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.40	772.1	30.50	774.7	28.9	— 1.7	92	ENE	.....	.....	2	.....	0	.....	.....	0	0	Clear	P. Busin.
Vienna	29.98	761.4	30.73	780.6	11.5	—11.4	93	Calm	.....	.....	0	.....	2	.....	.....	0.016	0.4	.....	I.R.Central Met. Ob'sy
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C., as Second-Class Matter

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.09	764.3	30.19	766.8	43.2	6.2	.....	S	22	9.8	.....	.....	2	.....	.....	0	0	Blue sky	W. Boswell.
Ardrossan	30.28	769.1	30.29	769.4	46	7.8	.....	SSW	.....	.....	4	.....	8	.....	.....	.....	.....	Overcast	Wm. McNeil & G. Carrick
Armagh, (Observatory)	30.09	764.3	30.32	770.1	44.7	7.1	.....	S	16	7.2	.....	.....	6	.....	.....	.....	.....	D. clouds	S. Call.
Bidston (Liverpool Obs)	.....	.....	30.42	772.7	42.	5.8	.....	SSE	9	4.0	.....	.....	10	.....	.....	.....	.....	Overcast	John Hartnup.
Bolton (Sharples)	29.86	758.4	30.39	771.9	41.6	5.3	.....	NW	0	0	.....	.....	10	.....	.....	.....	.....	Foggy	Thomas Mackereth.
Bradford, Yorkshire	30.02	762.5	30.42	772.7	45.4	7.4	.....	SW	.....	.....	2	.....	9	.....	.....	0	0	Overcast	J. McLandsborough.
Bridgetown, Barbadoes	29.92	760.0	29.95	760.7	79	26.1	.....	NE	.....	.....	3	.....	2	.....	.....	.....	.....	D. clouds	Pvt. G. Surgener, A.H.C.
Cambridge (Observatory)	30.40	772.1	30.50	774.7	32.0	0.0	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Foggy	H. Todd.
Cardington	.....	.....	30.45	773.4	32.0	0.0	.....	S	.....	.....	0–1	.....	1	.....	.....	.....	.....	Blue sky	John McLaren.
Chatham (School M. E.)	30.38	771.6	30.52	775.2	36.2	2.3	.....	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	Blue sky	J. Carmell, Sapper, R.E.
Donaghadee	30.30	769.6	30.34	770.6	44	6.7	.....	WSW	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds	J. Mac Gowan.
Dover	30.46	773.7	30.49	774.4	28	— 2.2	.....	SSW	.....	.....	2	.....	0	.....	.....	.....	.....	Clear	J. Costello.
Falmouth (Observatory)	30.19	766.8	30.42	772.7	45.4	7.4	.....	ESE	.....	.....	3	.....	8	.....	.....	.....	.....	Overcast	The Staff.
Fort Napier, Natal	27.72	704.1	29.93	760.2	67.8	19.9	.....	NE	.....	.....	1	.....	8	.....	.....	.....	.....	Overcast	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Galway (Queen's College)	.....	.....	30.22	767.6	46	7.8	.....	S	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	Prof. A. H. Curtis.
Gibraltar, Mediterranean	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Sergt. Wm. Allen, A. H.
Glasgow, (Observatory)	30.09	764.3	30.29	769.4	44.5	6.9	.....	SSW	.....	.....	2	.....	10	.....	.....	.....	.....	Gloomy	D. G. Maclean. [C.
Great Yarmouth	30.49	774.4	30.49	774.4	37	2.8	.....	SE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	G. T. Watson.
Greenwich (Royal Obs'y)	30.32	770.1	30.50	774.7	32.2	0.1	.....	NE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky	The Staff, for G. B. Airy.
Guernsey	30.19	766.8	30.42	772.7	35	1.7	.....	SE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	Dr. S. E Hoskins, F.R.S.
Helston	30.54	775.7	30.66	778.8	46	7.8	.....	E	.....	.....	1	3c	.....	.....	.....	0	0	Fine	M. P. Moyle.
Holyhead	30.33	770.4	30.38	771.6	46	7.8	.....	SSW	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds	John Tilston.
Jersey	30.18	766.6	30.49	774.4	32.1	0.1	.....	SE	.....	.....	2	.....	0	.....	.....	.....	.....	Misty	J. Fisher.
Kew (Observatory)	30.47	773.9	30.50	774.7	32.8	0.4	.....	SSE	1	0.4	.....	.....	.....	.....	.....	.....	.....	Misty	The Met'g'l Office.
Leicester (Museum)	30.23	767.8	30.50	774.7	40.2	4.6	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	30.02	762.5	30.09	764.3	57.6	14.2	.....	SW	.....	.....	1	1ck	.....	.....	.....	.....	.....	Blue sky	A. King.
Nairn	30.01	762.2	30.11	764.8	46	7.8	.....	SW	.....	.....	3	.....	5	.....	.....	.....	.....	½ clouded	W. D. Penny.
Nassau, Bahamas	.....	.....	30.09	764.3	71.5	21.9	.....	SE	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham (Observatory)	30.27	768.8	30.47	773.9	39.2	4.0	.....	S	.....	.....	1	.....	10s	.....	.....	Calm	0	0	Foggy	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.92	760.0	30.47	773.9	37.1	2.8	.....	SSE	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)	.....	.....	30.49	774.4	31	— 0.6	.....	W	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	H. E. Bellamy.
Plymouth	30.36	771.1	30.44	773.2	44.5	6.9	.....	E	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	30.28	769.1	30.37	771.4	48	8.9	.....	SSW	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	Wm. Kennedy.
St. Ann's Head	30.25	768.3	30.42	772.7	45	7.2	.....	SSE	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	John C. Walker.
Sandwick Manse, Orkneys	.....	.....	30.03	762.7	44.4	6.9	.....	SSW	24	10.7	.....	.....	0	.....	.....	.....	.....	Blue sky	Rev. C. Clouston, L.L.D.
Scutari Cemetery, Turkey	30.38	771.6	30.45	773.4	44.0	6.7	.....	NE	.....	.....	2	.....	10	.....	.....	.....	.....	Drizzling	Serg't W. H. Lane.
Sheffield	30.17	766.3	30.47	773.9	41.3	5.2	.....	SW	.....	.....	1	.....	5	.....	.....	0	0	D. clouds	W. F. Cooper.
Silloth Rectory	30.31	769.9	30.34	770.6	42.9	6.1	85	S	.....	.....	1	.....	10	.....	.....	0	0	D. clouds	Francis Redford, A. M.
Stonyhurst (Observatory)	.....	.....	30.40	772.1	41.1	5.1	.....	SW	4	1.8	.....	.....	10	.....	.....	.....	.....	Foggy	Rev. S. J. Perry.
Stratfield, Turgiss	30.28	769.1	30.51	774.9	31.6	— 0.2	.....	SE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky	Rev. C. H. Griffith, F.M.S.
Truro (Royal Institution)	30.46	773.7	30.54	775.7	47	8.3	.....	E	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds	W. Newcombe.
Valencia Observatory)	30.25	768.3	30.28	769.1	49.8	9.9	.....	S	29	13.0	.....	.....	6	.....	.....	.....	.....	D. clouds	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet
Constable, Cape Colony	26.66	677.2	.....	.....	86	30.0	.....	E	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Hobart Town, Tasmania	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Leith (Restalrig Park) Sc'tl'd	.....	.....	30.32	770.1	45.0	7.2	.....	SW	.....	.....	2	.....	2k	.....	.....	0	0	Fine	C. Meldrum.
Mauritius (Observatory)	29.68	753.9	29.87	758.6	77.8	25.4	77	NNE	1.5	0.7	.....	.....	10	.....	.....	.....	.....	Drizzling	R. L. J. Ellery.
Melbourne (Observatory)	30.02	762.5	30.11	764.8	59 2	15.1	81	SSE	2	0.9	.....	.....	0	.....	.....	0	0	Very fine	J. Youngclause.
Monach Lt-house, Hebrides	.....	.....	30.01	762.2	48	8.9	.....	SW	.....	.....	6	.....	10	.....	.....	0.1	3.	.....	.....
North Unst, Shetland Is	.....	.....	29.91	759.7	.....	.....	.....	SW	.....	.....	6	4	6	SW	.....	0	0	.....	.....

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters; Prince Town, 1,400 feet, or 427 meters; Colesberg Bridge and Constable, unknown.

BRITISH MARINE SERIES. VESSELS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. Alert, Tom Bay, Patagonia	.....	.....	29.33‡	745.0‡	48.2	9.0	.....	NNW	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds	Capt. J. P. Maclear, R.N.
H. M. Sloop Gannet, S. 18° 28′, W. 70° 21′	.....	.....	29.95‡	760.7‡	68	20.0	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Overcast	Commander E. Bourke, R. N.
H. M. S. Magpie, Shanghai, China	.....	.....	30.28‡	769.1‡	42.5	5.8	.....	SE	.....	.....	1	.....	0	.....	.....	.....	.....	Misty	Capt. R. H. Napier, R.N.
Brig Alliance, N. 51° 05′, W. 11° 55′	.....	.....	30.23	767.8‡	52	11.1	.....	S	.....	.....	5	.....	10	.....	.....	.....	.....	Overcast	Capt. W. Scott.
Barque Belle-Isle, N. 34° 40′. W. 62° 25′	.....	.....	29.91	759.7	70	21.1	.....	SW	.....	.....	6	.....	5	.....	.....	6	SW	D. clouds	Capt. A. J. Brown
City of Cashmere, N. 1° 48′, W. 128° 35′	.....	.....	29.89‡	759.2‡	72	22.2	.....	SE	.....	.....	5	.....	7	.....	.....	.....	.....	D. clouds	Capt. W. M. Grieve.
S. S Ethiopia, N. 54° 00′, W. 23° 00′	.....	.....	30.04	763.0	45	7.2	.....	WNW	.....	.....	4	.....	4	.....	.....	4	WNW	Showery	Capt. Campbell.
Barque Fedalma, N. 23° 50′, W. 65° 05′	.....	.....	30.09	764.3	77	25.0	.....	ENE	.....	.....	2	.....	8	.....	.....	3	E	D. clouds	Capt. H. L. Fox.
Iron Cross, N. 35° 35′, W. 71° 00′	.....	.....	30.06	763.5	59	15.0	.....	NNW	.....	.....	6	.....	7	.....	.....	6	WNW	D. clouds	Capt. W. Randall.
Barque Mertole, N. 37° 55′, W. 10° 20′	.....	.....	30.24‡	768.1‡	55.6	13.1	.....	NE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky	Capt. Turner.
S. S. Peruvian, N. 42° 15′, W. 65° 50′	.....	.....	29.60	751.8	43	6.1	.....	WNW	.....	.....	6	.....	7	.....	.....	5	W	Snowing	Capt. W. H. Smith.
S. S. Strathleven, S. 31° 25′, E. 109° 40′	.....	.....	29.75‡	755.6‡	61.5	16.4	.....	SW	.....	.....	4	.....	8	.....	.....	.....	.....	D. clouds	Capt. C. W. Pearson.
Light House Tender Richmond	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. H. Stewart.
S. S. Gordon Castle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Wm. Waring.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected.
‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.23	666.2	29.95	760.7	61.7	16.5	39	SE			1	1c	2d		E	Inap.	Inap.		Federico Maison.

NOTE.—For San Jose the barometer is given as "read off"; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.46	773.6	30.50	774.8	36.7	2.6	100	W			2		10					Foggy	
Fanöe	30.51	774.9	30.53	775.4	35.2	1.8	100	SW			2		10					Foggy	
Godthaab (Greenland)																			
Stykkisholm (Iceland)	29.29	743.9	29 33	745.0	28.2	— 2.1	98	E			7		8					Snowing	
Thorshavn (Faröe)	29.54	750.4	29.58	751.3	48.9	9.4	80	SW			8		10					Raining	
Vestervig	30.34	770.7	30.45	773.5	37.2	2.9	100	SSW			2		10					Foggy	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.93	760.2	30.48	774.2	22.1	— 5.5	61	NE			1		0			0	0	Clear	Collignon, Director.
Amiens, Normal School	30.26	768.6	30.38	771.7	17.2	— 8.2	76	SSE			1		10			0	0	Covered	Vaillant, Director.
Arras, Engin'r School	30.26	768.7	30.53	775.5	17.2	— 8.2	76	S			2					0	0		Klein, Commandant.
Avignon, Normal School	30.26	768.7	30.34	770.7	33.3	0.7	75	N			1		5			0	0	Cloudy	Giraud, Director.
Bar-sur-Seine	29.91	759.8	30.54	775.6	13.5	—10.3		S			1		0			0	0	Clear	C. Saillard, Director.
Beauvais, Normal School	30.26	768.6	30.56	776.2	12.7	—10.7	96	ENE			1		0			0	0	Clear	Frère Eugene Marie.
Besançon, Normal School	29.56	750.9	30.57	776.4	8.1	—13.3		S			1		0			0	0	Clear	A. Carré, Director.
Bourg-en-Bresse, N. School	29.59	751.5	30.50	774.6	14.4	— 9.8	94	SE			1		0			0	0	Clear	Marlot, Diretor.
Bourges, Normal School	29.86	758.5	30.48	774.1	14.9	— 9.5	74	N			4		1		N	0	0	Clear	M. Gence, Director.
Brest, Naval Observatory	30.16	766.0	30.40	772.1	41.4	5.2	62	ESE			1		0			0	0		Ch. de Rermaree, Dir.
Caen, Normal School	30.36	771.2	30.44	773.2	37.0	2.8	92	NW			3–4					0	0		M. Bietrin, Director.
Carcassonne, N. School	29.90	759.5	30.35	770.8	32.2	0.1	79	W			2		10	W	W	0	0	Covered	September, Director.
Châlons-sur-Marne, N. Sch'l	30.21	767.4	30.57	776.5	10.8	—11.8		S			1		0					Clear	Jadot, Director.
Chartres, Normal School	29.85	758.2	30.47	773.9	22.1	— 5.5	85	NE			1		0			0	0	Clear	Vergier, Director.
Clermont-Fd, Puy de D. Obs	28.98	736.0	30.43	772.9	24.8	— 4.0	73	N			1		0			0	0		Alluard, Director.
Commercy, Normal School	29.58	751.4	30.54	775.6	13.1	—10.5		E			1		0			0	0	Clear	Dr. Coullet, Director.
Commune de Gréasque*	29.16	740.7	30.30	769.7	39.2	4	41	N			1		8		NE	0	0		L. Kina, Director.
Grenoble, Normal School	29.64	752.9	30.47	773.8	24.8	— 4		E			1		0			0	0	Clear	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.19	766.8	30.42	772.6	34.2	1.2	73	E			1		10		E	0.039	1.0	Covered	Mouillot, Director.
Le Mans, Normal School	30.17	766.2	30.51	774.9	18.3	— 7.6	66	NE			1		0			0.016	0.4	Clear	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.50	749.2	30.47	773.9	11.3	—11.5	86	NW			1		0			0	0	Clear	A. Baudry, Director
Lorient, Naval Observatory	30.31	769.8	30.42	772.6	30.2	— 1.0	81	NE			1		0			0	0	Clear	Lt. T. Carré, Director
Lyons Obs'y (Park Station)	29.82	757.4	30.50	774.7	17.2	— 8.2	82	ENE			1		0			0	0	Misty	Ch. André, Director
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.98	761.4	30.25	768.4	48.4	9.1	36	SE			0–1		10		S	0	0	Covered	E. Stephan, Director.
Mirecourt, Normal School	29.34	745.2	30.52	775.1	7.5	—13.6	76	N			1				N	0	0		Barbier, Director.
Mont-Louis	24.92	633.0	30.24	768.0	30.2	— 1.0	72	E	11.2	5.0			7		SE	0	0		M. Cave.
Nice	30.20	767.1	30.23	767.9	57.2	14.0	26	NE			4		5	E	NE	0	0	Cloudy	M. Boissière, Director.
Nismes, Normal School	30.21	767.2	30.34	770.7	37.0	2.8	68	N			3		0			0	0	Clear	M. Boyer, Director.
Paris, Montsouris Obs'y	30.23	767.8			16.3	— 8.7	70	SE			1		0			0	0		Marié Davy, Director.
Perpignan	30.21	767.4	30.32	770.2	37.9	3.3	52	NW					10		E	0	0		Dr. Fines.
Pic du Midi (Plantade) H. P.	22.50	571.4			28.8	— 1.8			1.8	0.8					NE	0	0		Gen'l de Nansouty.
Pic du Midi (Summit) H. P.																			M. Baylac.
Privas, Normal School	29.28	743.6	30.43	772.9	25.2	— 3.8							0			0	0	Clear	M. Tallieu
Puy de Dome (Summit) Obs	25.34	643.6			36.5	2.5	86	SW			1		2			0	0	¼ covered	Alluard, Director.
Rochefort, Naval Obs'y	30.40	772.2	30.43	773.0	35.6	2.0	83	E			2		2	E	E	0	0	¼ covered	Lt E. Decante, Director
Rouen, Normal School	30.40	772.1	30.48	774.3	18.5	— 7.5	78	ESE			1		10			0	0	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.41	772.3	30.44	773.1	28.4	— 2.0	63	SE			2		0			0	0	Clear	Lt. Hercouet, Director
Saint Maur (near Paris)	30.35	771 0	30.52	775.2	14.7	— 9.6	82	NNE			2		0			0	0		E. Renou, Director.
Tarbes, Normal School	29.19	741.4	30.32	770.0	39.6	4.2	49	NE			1		0			0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.64	752.9	30.37	771.4	26.6	— 3.0		SSW			1		10			0	0	Covered	M. Juher Mercadier.
Tours	30.25	768.4	30.45	773.4	17.6	— 8.0		E			1		0			0	0	Clear	Cousin-Marquet.
Versailles, Observatory	29.98	761.4	30.47	773.9	19.0	— 7.2	61	E			1		0			0	0	Clear	Dr. A. Beriguy, Director
Villefranche-sur-Saone, N.S	29.76	755.9	30.56	776.2	11.1	—11.6	86	NW			1					0	0	Misty	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.94	760.4	29.97	761.1	77.0	25										0.24	6.		L'Abbé Marchési
Zi-Ka-Wei (near Shanghai	30.24	768.2	30.27	768.8	37.6	3.1	87	ESE	7.4	3.3			0			0	0	Clear	Marc Dechevrens.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in gene al terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.72	754.8	30.58	776.6	7.9	—13.4	84	Calm			0		3s			0	0	Hazy	Prof. Dr. Hoh.
Berlin	30.44	773.2	30.63	777.9	28.0	— 2.2	59	SE			1		8			0	0		Prof. Dr. Arndt.
Breslau	30.13	765.4	30.68	779.2	21.6	— 5.8	78	SE			1		1			0	0	Hazy	Royal University Obs'y.
Carlsruhe	30.08	764.1	30.56	776.3	13.6	—10.2	83	NE			2		0			0	0		Albert Senz.
Cassel	29.93	760.3	30.54	775.6	11.3	—11.5	83	SE			1		0			0	0		Dr. H. Möhl.
Emden			30.55	775.9	30.7	— 0.7	84	SE			2		0			0	0		Prof. Dr. Prestel.
Frankfort on the Main	30.29	769.3	30.68	779.3	18.0	— 7.8	59	ENE			1		1			0	0		Physical Society.
Friedrichshafen	29.04	737.5	30.65	778.4	3.7	—15.7	71	ENE			4		9			0	0		Chief Telegrapher Wilhelm.
Hamburg	30.53	775.5	30.60	777.3	28.9	— 1.7	96	SW			3		0			0	0		Capt. P. F. A. Hegerman.
Kiel	30.57	776.4	30.58	776.8	30.6	— 0.8	100	SW			1		10			0.046	1.17		Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.39	772.0	30.48	774.2	36.0	2.2	100	W			5		10			0.083	2.1		Prof. E. Luther.
Köslin			30.57	776.5	32.5	0.3		Calm			0		8			0	0		H. Müller.
Leipsic Observatory	30.21	767.3	30.67	779.0	20.5	— 6.4	71	S			0		0			0	0	Hazy	Prof. Dr. Bruhns, Privy Counselor
Magdeburg	30.40	772.1	30.63	778.0	24.1	— 4.4	63	SE			1		0			0	0		Dr. Assmann.
Memel	30.32	770.1	30.37	771.3	38.8	3.8	95	W			5.6		10n					Rain & fog	Reinbrecht & Issermann.
Munich (München)	28.61	726.8	30.51	774.9	— 3.8	—19.9	69	N			4		0			0	0	Dense fog	Dr. C. Lang.
Neufahrwasser	30.51	775.0	30.53	775.4	36.0	2.2	96	NW			1		9			0	0		A. Lothes.
Neustadt (Palatinate)	30.01	762.2	30.54	775.8	17.4	— 8.1		SSE			1		0			0	0		Reallehrer Dicknether.
Posen	30.35	770.8	30.66	778.7	29.3	— 1.5	76	W			1		10			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	30.00	762.0	30.63	777.9	4.8	—15.1	91	S			1		3			0	0		Imp. University Observatory.
Stuttgart	29.53	750.0	30.58	776.6	7.7	—13.5	88	N			1		0			0	0		Prof. Dr. Schoder.
Weissenburg (Bavaria)	28.99	736.3	30.58	776.7	10.4	—12.0	79	Calm			0		0			0	0	Foggy	Reallehrer J. Hopfner
Wustrow	30.57	776.5	30.60	777.1	36.3	2.4	93	SSW			2		5s			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.97	761.1	30.37	771.3	50.4	10.2		NE			4.0		5					½ Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	30.01	762.2	30.06	763.5	73.5	23.1	25	E	9	4.0			0			0	0	Blue sky	
Deesa	29.57	751.9	30.06	763.4	69.9	21.1	32	NW	9.1	4.1			0			0	0	Blue sky	
Bombay	29.91	759.6	29.95	760.6	73.9	23.3	65	N	3	1.3			10		W	0	0	Overcast	
Poona (Yarrowda)	28.09	713.4	29.97	761.2	74.0	23.3	25	E	9	4.0			10	SSW		0	0	Overcast	
Belgaum	27.43	696.7	30.04	763.0	63.9	17.7	66	ENE	3	1.3			10		S	0	0	Overcast	
Lahore	29.33	744.9	30.12	765.0	54.7	12.6	50	Calm	0.3	0.1			0			0	0	Blue sky	
Roorkee	29.11	739.4	30.04	763.1	63.2	17.3	38	SW	1.5	0.7			0			0	0	Blue sky	
Agra	29.48	748.8	30.07	763.7	62.8	17.1	55	NE	1.7	0.8			0			0	0		
Nagpur	28.96	735.5	30.03	762.8	65.8	18.8	47	Calm	2.1	0.9			9			0	0	Gloomy	
Jubbulpore	28.60	726.4	30.01	762.2	66.7	19.3	45	E	1.5	0.7			0			0	0	Blue sky	
Lucknow	29.64	753.0	30.04	763.0	61.3	16.3	63	Calm	0.5	0.2			0			0	0	Blue sky	
Allahabad	29.73	755.0	30.05	763.4	63.0	17.2	75	Calm	0.5	0.2			4			0	0	D. clouds	
Patna	29.86	758.3	30.04	763.1	70.5	21.4	59	Calm	0.2	0.1			4	W	W	0	0	D. clouds	
Hazaribagh	27.95	710.0	30.04	762.9	62.8	17.1	67	E	4	1.8			8			0	0	Overcast	
Cuttack	29.92	759.8	30.00	762.0	69.8	21.0	74	ENE	2	0.9			0			0	0	Blue sky	
Calcutta (Alipore)	29.96	760.8	29.98	761.4	71.2	21.8	77	ESE	0.5	0.2			4			0	0	D. clouds	
Goalpara	29.62	752.3	30.02	762.5	68.8	20.4	55	ENE	4.7	2.1			0			0	0	Blue sky	
Chittagong	29.90	759.3	29.99	761.7	72.8	22 7	83	WNW	1.2	0.5			0			0	0		
Sibsagar	29.71	754.6	30.06	763.6	64.3	17.9	77	E	1.5	0.7			1			0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,361 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	30.08	764.1	30.52	775.3	32.0	0.0	62	NE	6.9	3.1	.....	.....	0	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.98	761.6	30.54	775.8	21.2	— 6.0	40	NW	.....	.....	1	.....	3	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	30.40	772.2	30.52	775.2	31.1	— 0.5	55	N	8.7	3.9	.....	.....	0	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.57	751.1	30.55	775.9	28.6	— 1.9	75	ESE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	30.16	766.0	30.36	771.1	37.9	3.3	39	N	17.4	7.8	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.47	723.1	30.50	774.8	28.2	— 2.1	41	W	.....	.....	2	.....	1	SE	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.43	773.0	30.48	774.3	31.3	— 0.4	59	W	18.6	8.3	.....	.....	10	NE	.....	0	0	.....	Prof. Luigi Guidi.
Florence	30.12	765.0	30.39	772.0	37.4	3.0	53	NE	.....	.....	6	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	30.21	767.3	30.30	769.5	42.1	5.6	32	ENE	21.7	9.7	.....	.....	3	.....	.....	0	0	.....	Prof. P. Monte.
Rome	30.03	762.8	30.22	767.5	52.9	11.6	46	NE	5.6	2.5	.....	.....	9	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.98	761.4	30.24	768.2	52.9	11.6	57	NNE	3.1	1.4	.....	.....	7	.....	.....	0.020	0.5	.....	Prof. C. De Giorgi.
Cosenza	29.28	743.6	30.21	767.3	45.9	7.7	76	NE	0	0	.....	.....	10	.....	.....	0.165	4.2	.....	Prof. D. Conti.
Cagliari	29.79	756.7	29.99	761.8	53.4	11.9	60	SE	.....	.....	2	.....	4	SE	.....	0.343	8.7	.....	Prof. A. Pacinotti.
Palermo	29.82	757.5	30.09	764.2	52.7	11.5	70	Calm	0	0	.....	.....	9	.....	.....	0.094	2.4	.....	Prof. G. Ciacciatore.
Syracuse	30.03	762.7	30.10	764.6	53.8	12.1	84	NE	11.2	5.0	.....	.....	10	SSW	.....	0.197	5.0	.....	Prof. V. G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.68	753.9	30.23	767.8	45.7	7.6	64	NE	8.7	3.9	.....	.....	9	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.11	764.8	30.12	765.0	47.8	8.8	80	NNW	3.3	1.5	.....	.....	4s	.....	.....	0.107	2.72	Clear.	K. Sasaki.
Nagasaki, I. M. Obs'y	30.02	762.5	30.23	767.8	41.8	5.4	90	N	0.4	0.2	.....	.....	0	.....	.....	0.010	0.25	Clear.	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.65	753.1	29.72	754.9	46.1	7.8	90	NW	14.1	6.3	.....	.....	10n	.....	.....	1.730	43.94	Light rain	The Staff.
Wakayama	29.96	761.0	30.01	762.2	52.8	11.6	78	WNW	6.2	2.8	.....	.....	5ks;8	.....	.....	0	0	Fair.	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bârcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima																			R. Banda, C. E.
Guadalajara	25.14	638.5	30.43	772.8	36.0	2.2	48	Calm	.....	.....	0	.....	4	.....	Calm	0	0	Fair.	Prof. L. Perez.
Leon	24.54	623.3	30.42	772.6	46.6	8.1	73	NW	.....	.....	1	1cs	0	.....	.....	0	0	Clear.	Prof. M. Leal.
Mazatlan	29.78	756.5	30.04	763.1	68.7	17.6	55	NE	.....	.....	1	0	0	.....	.....	0	0	Pleasant	I. Guerrero, C. E.
Mexico, Central Observatory	23.15	588.0	30.34	770.5	45.0	7.2	89	Calm	0	0	.....	.....	10k	.....	.....	0	0	Covered	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	38.8	3.8	69	N	.....	.....	1	1cs	0	.....	.....	0	0	Clear.	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.48	596.3	30.45	773.5	40.8	4.9	39	Calm	0	0	.....	2c	0	E	.....	0	0	Clear.	Prof. P. Spina.
San Luis Potosi	24.30	617.1	30.56	776.1	39.0	3.9	50	E	.....	.....	1	3	0	W	.....	0	0	Clear	G. Barroeta, M. D.
Tlacotalpam	30.13	765.4	30.15	765.7	66.4	19.1	92	W	.....	.....	2	3	3	W	N	0	0	½ clouded	Prof. M. M. Châzaro.
Vera-Cruz																			Prof. J. Rossell
Zacatecas	22.53	572.3	30.26	768.6	45.3	7.4	50	Calm	0	0	.....	1s	0	.....	.....	0	0	Clear.	J. C. Castrillon

NOTE.—The elevation of Guadalajara is 1,563.3 m., or 5,118.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column; the instrumental correction —0.88 mm., or —0.035 inch, has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.54	775.7	30.54	775.7	26.2 — 3.2	.....		W	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Groningen	30.51	774.9	30.56	776.3	30.2 — 1.0	.....		ESE	.....	.....	1	.....	.....	.....	.....	0	0	.....	
Helder	30.55	775.9	30.55	775.9	30.6 — 0.8	.....		SSE	.....	.....	1	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.54	775.6	30.54	775.6	23.2 — 4.9	76		E	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	
Utrecht	30.50	774.8	30.55	776.0	28.0 — 2.2	63		SE	.....	.....	2	.....	0	.....	.....	0	0	Clear.	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.38	771.6	30.43	773.0	41.4	5.2	90	S	24.6	11.0	.....	.....	10	.....	.....	0	0.	.....	
Brönö	29.68	753.9	29.72	754.9	43.5	6.4	94	SW	36	16	.....	.....	10	.....	.....	0.280	7.1	Raining	
Christiana	30.06	763.5	30.21	767.4	33.3	0.7	94	NW	0	0	.....	.....	10	.....	.....	0.063	1.6	Foggy	
Tromsö	29.30	744.2	29.34	745.3	33.3	0.7	87	SW	13	6	.....	.....	10	.....	.....	0.185	4.7	Snowing	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	29.75	755.6	29.94	760.5	62.2	16.8	86	E	10.5	4.7	.....	.....	7	.....	.....	0.079	2.0	.....	Dr. J. A. Sampaio.
Campo Major	29.21	741.9	30.24	768.0	47.1	8.4	40	ESE	1.3	0.6	.....	.....	8	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	30.01	762.3	30.10	764.5	64.0	17.8	70	ESE	3.8	1.7	.....	.....	10	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.89	759.3	30.27	768.9	44.1	6.7	64	NNE	6.3	2.8	.....	.....	1	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	29.87	758.8	29.95	760.6	64.0	17.8	84	SE	22.4	10.0	.....	.....	10	.....	.....	0.322	8.2	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.	Sea or swell: Height scale 0-9	Sea or swell: Direction form—	Weather	Observer.
Bartholomew Dias	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	A. M. de Sande, Com'd't.
Duque da Terceira	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa. Santiago, Cape Verd Ids.	.....	.....	.....	
Sâ da Bandeira	0	.....	Overcast	A. D. de Fouseca Sarurento
Sado, Capt. J. A de Brito Capello, St. Paul de Loando	.....	.....	.....	F. Teixeira da Silva, Comd't.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	3	9	Gloomy	Luiz Aprá, Q. M.
	1	0	Blue sky	J. G. Felgo, 2nd Lieut.

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sâ da Bandeirâ gives the barometer reduced tofreezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	29.22	742.3	29.24	742.8	28.8	— 1.8	92	WNW	31	14	.....	.....	10	.....	.....	.....	.....	Snow-drift.	Capt. Sseliwerstow.
Astrakhan	30.34	770.6	30.26	768.5	21.5	— 5.6	65	WSW	22	10	.....	.....	6cks	.....	.....	.....	.....	.....	Capt. Wisganow.
Barnaul	29.66	753.4	30.21	767.4	6.3	—14.3	87	SW	4	2	.....	.....	2	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	29.87	758.6	30.12	765.1	34.3	1.3	100	WSW	9	4	.....	.....	10n	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	28.09	713.4	29.10	739.1	13.1	—10.5	82	WSW	31	14	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk																			
Kasan	29.01	736.8	29.28	743.8	29.3	— 1.5	94	W	4	2	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch																			Lagorio.
Kieff	29.69	754.2	30.37	771.4	28.6	— 1.9	96	NW	4	2	.....	.....	10n	.....	.....	.....	.....	.....	Physical Cabinet.
Krotkowo*	28.98	736.2	29.47	748.5	30.4	— 0.9	73	WNW	9	4	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	30.00	762.0	30.21	767.3	22.6	— 5.2	80	WSW	22	10	.....	.....	10	.....	.....	Blank	Blank	.....	Meteorological Obs
Moscow	29.31	744.4	29.88	758.9	32.7	0.4	75	SW	13	6	.....	.....	4ks	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	27.93	709.5	30.50	774.6	— 8.0	—22.2	77	Calm	0	0	.....	.....	.....	.....	.....	Blank	Blank	.....	Meteorological Obs.
Nikolaiev	30.46	773.8	30.54	775.6	30.2	— 1.0	74	WNW	13	6	.....	.....	7cs	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	29.78	756.4	30.03	762.8	25.0	— 3.9	71	WSW	2	1	.....	.....	0	.....	.....	.....	.....	.....	
Orenberg																			
Pekin (China)	29.96	760.9	30.10	764.5	31.5	— 0.3	85	Calm	0	0	.....	.....	5ks	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	29.94	760.4	29.95	760.8	33.6	0.9	94	WNW	16	7	.....	5ck	.....	.....	.....	.....	.....	.....	Central Physical Obs.
Tashkend	28.85	732.8	30.53	775.4	30.6	— 0.8	100	.....	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	29.01	736.9	30.48	774.3	42.3	5.7	63	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock																			
Warsaw	30.13	765.4	30.59	777.0	26.1	— 3.3	78	W	27	12	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.93	760.3	30.38	771.6	34.3	1.3	100	WSW	7	3	.....	.....	10	.....	.....	.....	.....	Heavy clouds	Astronomical Obs.
Yenisiesk	29.90	759.4	30.23	767.7	— 8.5	—22.5	82	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Marks.

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	30.16	766.0	30.27	768.8	45.1	7.3	56	NNE	4.1	1.83	.....	.....	10	.....	.....	0	0	Covered	Antonio Rave, Director
Bilbao, Met. Obs'y	30.18	766.5	30.24	768.0	42.1	5.6	76	SE	1.8	0.79	.....	2	4	SW	.....	0.012	0.3	Cloudy	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.20	690.8	.....	.....	36.5	2.5	59	N	3.7	1.67	.....	0	4	.....	.....	0	0	Light clouds	Domingo Martin y Perez.
Madrid, Royal Observatory	27.97	710.5	30.31	769.9	37.8	3.2	73	NE	4.5	2.00	.....	0	10	.....	.....	0	0	Covered	The Staff.
Murcia, Met. Obs'y	30.12	765.1	30.28	769.0	51.8	11.0	60	SSW	1.5	0.69	.....	0	0	.....	.....	0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.26	743.1	30.18	766.5	45.5	7.5	72	NE	5.6	2.5	.....	.....	6	.....	.....	0	0	Cloudy	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.03	762.8	30.10	764.5	68.0	20.0	90	NNE	1.1	0.5	.....	0	1s;k	.....	ENE	0	0	Clear	Benito Vines S. J.
Manilla, Phillippine Islands																			Federico Faura, S. J.
San Fernando, Naval Obs'y	30.11	764.8	30.21	767.3	57.6	14.2	67	E	4.2	1.9	.....	0	6	.....	E	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.97	761.1	30.06	763.4	74.1	23.4	83	SE	0	0	.....	3ck	1k	SE	SE	0.118	3.00	Clear	Enrique Gadea, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature.		Barometer. Reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind. Direction.	Wind. Velocity		Wind. Force.	Clouds. Amount.		Clouds. Direction.		Rain-fall or melted snow in the past 24 hours.		Weather.	Observer.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0–10.	Up'er 0–10.	Lo'er 0–10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
Haparanda	29.74	755.4	29.78	756.4	29.1	— 1.6	.....	SW	.....	.....	2	.....	10	.....	.....	0	0	.....	
Umea	29.82	757.3	29.87	758.6	32.7	0.4	96	NW	.....	.....	2	.....	9	.....	.....	0	0	.....	
Hernosand	29.89	759.2	29.94	760.5	44.2	6.8	66	SSW	.....	.....	2	.....	4	.....	.....	0	0	.....	
Stockholm	30.02	762.6	30.20	767.1	38.5	3.6	90	W	.....	.....	2	.....	0	.....	.....	0	0	.....	
Wisby	30.15	765.9	30.21	767.4	39.6	4.2	90	WSW	.....	.....	6	.....	0	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	30.02	762.5	30.11	764.7	37.4	3.0	95	SW	10.3	4.6	.....	.....	0	.....	.....	0.004	0.1	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	29.01	736.9	30.56	776.1	18.0	— 7.8	92	ENE	.....	.....	3	.....	0	.....	.....	0	0	Covered.....	The Observatory.
Zurich	28.79	731.3	30.59	776.9	11.1	—11.6	86	NW	.....	.....	2	.....	1	.....	.....	0	0	Clear.	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +9.4 mm.; Thermometer, —1°.1 Cent.; Relative Humidity, +12 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.58	776.6	43.7	6.5	78	E	27	12.0	.....	.....	10	.....	NE	0.098	2.5	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.23	767.9	56.5	13.6	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear.	A. Bertrand.
Sub-series.																			
Beirut, (Syria) Lee Obs'y	29.95	760.7	30.07	763.7	67.1	19.5	60	NNE	.....	.....	4	.....	8cs	.....	.....	0	0	D. clouds.....	Prof. C. V. A. van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B.	29.33	745.0	29.39	746.5	20.5	— 6.4	93	SW	5	2.2	.....	2ck	0	W	.....	0.13	3.3	Fair.....	G. A. Blair.
Charlottetown, P. E. Island	29.28	743.7	29.32	744.7	29.0	— 1.7	77	W	15	6.7	.....	.....	9n	.....	.....	0.24	6.1	Cloudy.....	H. J. Cundall, C. E.
Cornwall, Ontario	29.72	754.9	29.93	760.2	6.3	—14.3	100	NW	.....	.....	2	0	8s	.....	.....	0.20	5.1	Cloudy.....	James Smith, M. A.
Dalhousie, N. B.	29.18	741.1	29.36	745.7	22.5	— 5.3	.....	W	.....	.....	3	.....	10s	.....	.....	0.30	7.6	Gloomy.....	H. A. Johnson.
Father Point, Quebec	29.44	747.8	29.46	748.3	19.7	— 6.8	92	NW	40	17.9	.....	.....	10n	.....	.....	0.30	7.6	Light snow.	J. McWilliams.
Fredericton, N. B.	29.44	747.8	29.51	749.3	24.0	— 4.4	74	NW	16	7.2	.....	0	6s	.....	W	0	0	Cloudy.....	Prof. Harrison.
Fort Garry, Manitoba	29.29	744.0	30.27	768.8	—20.2	—29.0	93	NW	4	1.8	.....	0	0	.....	.....	0.04	1.0	Clear.	James Stewart.
Granton, Ontario	28.88	733.5	30.08	764.0	11	—11.7	.....	W	.....	.....	1	.....	10n	.....	.....	0.30	7.6	Cloudy.....	James Grant.
Halifax, N. S.	29.33	745.0	29.46	748.3	32.5	0.3	87	W	15	6.7	.....	0	4ks	.....	.....	0.06	1.5	Fair.....	A. Allison.
Hamilton, Ontario	29.68	753.9	30.09	764.3	14.7	— 9.6	88	NW	.....	.....	3	3c	0	SW	.....	0	0	Fine	Geo. Dickson, B. A.
Heart's Content, N. F.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.61	752.1	29.97	761.2	18.5	— 7.5	86	NW	3	1.3	.....	8ck	0	N	.....	0.04	1.0	Fair.....	S. Woods, M. A.
Little Glace Bay, N. S.	29.23	742.4	29.27	743.4	31.0	— 0.6	95	W	12	5.4	.....	8k	0	W	.....	0.69	17.5	Cloudy.....	C. H. Rigby.
Montreal, Quebec	29.66	753.4	29.88	758.9	5.8	—14.6	81	NW	28	12.5	.....	1c	1s	NW	.....	0.01	0.3	Fine.....	C. H. McLeod, C. E.
Moose Factory, Ontario	29.92	760.0	29.96	761.0	—26.3	—32.4	100	SW	.....	.....	1	0	3	.....	.....	0	0	Fine.....	J. R. Nelson.
Norwood	29.20	741.7	29.95	760.7	13.1	—10.5	.....	Calm	.....	.....	0	0	9s	.....	.....	0.20	5.1	Cloudy.....	Rev. T. F. Fotheringham, M. A.
Parry Sound, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. R. Mosley.
Peterboro, Ontario	29.17	740.9	29.97	761.2	17.5	— 8.1	92	S	.....	.....	1	0	8n	.....	.....	0	0	Cloudy.....	J. F. Jeffers, M. A.
Port Dover, Ontario	29.35	745.5	30.10	764.5	16.1	— 8.8	83	W	9	4.0	.....	2k	0	SW	.....	0.02	0.5	Fair.....	H. Morgan.
Port Hastings, N. S.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.40	746.7	30.10	764.5	14.2	— 9.9	85	W	13	5.8	.....	5ck	0	W	.....	0.65	16.5	Fair.....	M. Payne.
Quebec, Quebec	29.38	746.2	29.73	755.1	10	—12.2	69	W	.....	.....	5	0	0	.....	.....	0.32	8.1	Clear.	Capt. Ashe, R. N.
Rockliffe, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. McIntyre.
St. Andrews, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Gove.
St. John, N. B.	29.38	746.2	29.55	750.6	25	— 3.9	81	NW	13	5.8	.....	1k	0	.....	.....	0	0	Fine.....	G. Murdock, C. E.
Saugeen, Ontario	29.20	741.7	29.96	761.0	22.0	— 5.6	91	W	22	9.8	.....	0	8ks	.....	.....	0.60	15.2	Cloudy.....	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.67	728.2	30.07	763.8	10.1	—12.2	96	SW	10	4.5	.....	.....	10s	.....	.....	0.35	8.9	Cloudy.....	G. J. MacGregor, M. A.
Sydney, C. B.	29.22	742.2	29.26	743.2	32.6	0.3	86	SW	23	10.3	.....	.....	10ks	.....	W	0.66	16.8	Cloudy.....	T. C. Hill, C. E.
Toronto, Ontario	29.63	752.6	30.04	763.0	16.0	— 8.9	86	SW	15	6.7	.....	0	0	.....	.....	0.05	1.3	Clear.	Magnetic Observatory.
Windsor, N. S.	29.34	745.2	29.43	747.5	31.0	— 0.6	79	W	17	7.6	.....	.....	10n	.....	.....	0	0	Fair.....	Prof. John E. Oram, M. A.
Woodstock, Ontario	28.91	734.3	30.06	763.5	12.4	—10.9	100	SW	18	8.0	.....	6k	0	W	.....	0.50	12.7	Fair.....	Prof. J. Montgomery.
Yarmouth, N. S.	29.56	749.3	29.56	750.8	34.7	1.5	73	W	34	15.2	.....	0	5ks	.....	.....	0.01	0.3	Fair.....	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	28.88	733.5	29.14	740.1	38	3.3	100	W	.....	.....	.....	5ks	10ns	.....	.....	0.13	3.3	Stormy.....	John Delany.
St. Pierre, N. F., l'Hopital Maritime.	.....	.....	29.12	739.5	35.6	2	.....	W	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	The Commandant.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Andrews the velocity of the wind is estimated, and at St Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instru-m'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0–10.	CLOUDS. Amount. Up'er 0–10.	Lo'er 0–10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER	OBSERVER.
Albany, New York	29.73	755.1	29.96	761.0	30	— 1.1	78	W	18	8.0	.....	0	5s	.....	W	0	0	Fair...	.....
Alpena, Michigan	29.26	743.2	29.95	760.7	13	—10.6	81	SW	8	3 6	.....	0	0	.....	.....	0.25	6.3	Clear.	.....
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Atlanta, Georgia	29.03	737.3	30.24	768.1	34	1.1	79	NW	8	3.6	.....	0	Sm'e	.....	Calm	0	0	Clear.	.....
Atlantic City, New Jersey	30.13	765.3	30.15	765.8	27	— 2.8	76	NW	8	3.6	.....	0	0	.....	.....	0.13	3.3	Clear.	.....
Augusta, Georgia	30.10	764.5	30.31	769.9	36	2.2	90	NW	6	2.7	.....	0	2s	.....	NW	0	0	Fair...	.....
Baltimore, Maryland	30.14	765.5	30.20	767 1	33	0.6	61	W	4	1.8	.....	0	2s	.....	Calm	0	0	Clear.	.....
Barnegat, New Jersey	30.10	764.5	30.12	765 0	29	— 1.7	56	NW	18	8.0	.....	0	0	.....	.....	0	0	Clear.	.....
Bismarck, Dakota	28.22	716.8	30.08	764.0	— 2	—18.9	100	N	20	8.9	.....	0	0	.....	.....	0.03	0.8	Clear	.....
Boerne, Texas	28.65	727.7	29.98	761.5	50	10.0	93	SW	12	5.4	.....	.....	10s	.....	S	0	0	Cloudy	.....
Boise City, Idaho	27.11	688.6	30.07	763.8	42	5.6	83	SW	6	2.7	.....	.....	10s	.....	SW	0.06	1.5	Threatening	.....
Boston, Massachusetts	29.70	754.4	29.86	758.4	33	0.6	61	W	13	5.8	.....	0	0	.....	.....	0.01	0.2	Clear.	.....
Brackettville, Texas	28.94	735.1	30.02	762.5	50	10.0	93	SE	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	.....
Breckenridge, Minnesota	28.88	733.5	29.98	761.5	0	—17.8	100	N	22	9.8	.....	.....	10s	.....	Calm	0	0	Cloudy	.....
Brownsville, Texas	30.13	765.3	30.18	766.6	56	13.3	87	E	4	1.8	.....	0	0	.....	.....	0	0	Clear.	.....
Buffalo, New York	29.32	744.7	30.06	763.5	20	— 6.7	70	W	18	8.0	.....	.....	10s	.....	SW	0.10	2.5	Cloudy	.....
Burkes, Arizona	.....	.....	.....	.....	34	1.1	61	E	.....	.....	1	0	0	.....	.....	0	0	Clear.	.....
Burlington, Vermont	29.62	752.3	29.92	760.0	23	— 5.0	86	W	13	5.8	.....	5ck	2ks	W	W	Inap.	Inap.	Fair...	.....
Cairo, Illinois	29.72	754.9	30.13	765.3	37	2.8	71	SW	12	5.4	.....	0	0	.....	.....	0	0	Clear.	.....
Campo, California	27.53	699.2	30.10	764.5	28	— 2.2	88	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear.	.....
Cape Hatteras, N. Carolina	30.22	767.6	30.23	767.8	44	6.7	45	N	16	7.2	.....	Haze	Haze	.....	.....	0.01	0.3	Hazy	.....
Cape Henry, Virginia	30.17	766.3	30.19	766.8	41	5.0	49	NW	21	9.4	.....	0	1s	.....	Calm	0	0	Clear.	.....
Cape Lookout, N. Carolina	30.22	767.6	30.23	767.8	43	6.1	43	N	16	7.2	.....	2cs	0	W	.....	0	0	Clear.	.....
Cape May, New Jersey	30.16	766.1	30.19	766.8	35	1.7	52	NW	41	18.3	.....	0	5ks	.....	NW	0.09	2.3	Fair...	.....
Castroville, Texas	29.36	745.7	30.10	764.5	36	2.2	90	NW	4	1.8	.....	2c	0	Calm	.....	0	0	Fair...	.....
Cedar Keys, Florida	30.02	767.6	30.25	768.3	47	8.3	70	N	13	5.8	.....	0	0	.....	.....	0.17	4.3	Clear	.....
Charleston, South Carolina	30.15	765.8	30.21	767.3	41	5.0	82	N	6	2.7	.....	0	0	.....	.....	0.21	5.3	Clear.	.....
Charlotte, North Carolina	29.34	745.2	30.20	767.1	32	0.0	79	SE	2	0.9	.....	0	Sm'e	.....	Calm	0	0	Smoky	.....
Chattanooga, Tennessee	29.43	747.5	30.28	769.1	30	— 1.1	78	N	2	0.9	.....	1k	Sm'e	Calm	Calm	0	0	Dense smoke	.....
Cheyenne, Wyoming	23.76	603.5	29.70	754.4	43	6.1	34	W	48	21.5	.....	0	0	.....	.....	0	0	Clear.	.....
Chicago, Illinois	29.30	744.2	30.03	762.7	25	— 3.9	62	S	5	2.2	.....	.....	10n	.....	Calm	Inap.	Inap.	Light snow..	.....
Cincinnati, Ohio	29.48	748.8	30.17	766.3	31	— 0.6	63	SE	9	4.0	.....	4k	2s	W	Calm	Inap.	Inap.	Fair...	.....
Cleveland, Ohio	29.40	746.7	30.19	766.8	15	— 9.4	82	S	8	3.6	.....	5c	2s	W	Calm	0.02	0.5	Fair...	.....
Coleman City, Texas	28.21	716.5	29.93	760.2	41	5.0	82	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	.....
Columbus, Ohio	29.26	743.2	30.15	765.8	24	— 4.4	75	S	4	1.8	.....	.....	10n	.....	Calm	Inap.	Inap.	Light snow..	.....
Concho, Texas	28.12	714.2	29.82	757.4	46	7.8	84	SW	.....	.....	1	0	0	.....	.....	0	0	Clear.	.....
Corsicana, Texas	29.63	752.6	30.11	764.8	43	6.1	67	S	8	3.6	.....	0	0	.....	.....	0	0	Clear.	.....
Davenport, Iowa	29.15	740.4	29.81	757.2	26	— 3.3	88	SE	9	4.0	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	.....
Dayton, Washington T'y	.....	.....	.....	.....	34	1.1	90	Calm	.....	.....	0	0	0	.....	.....	0.13	3.3	Clear.	.....
Deadwood, Dakota	25.17	639.3	.....	.....	15	— 9.4	65	NE	4	1.8	.....	.....	10n	.....	Calm	0.02	0.5	Light snow.	.....
Decatur, Texas	28.85	732.8	30.03	762.7	49	9.4	64	S	12	5.4	.....	0	0	.....	.....	0	0	Clear	.....
Denison, Texas	29.20	741.7	30.01	762.2	44	6.7	76	S	12	5.4	.....	0	0	.....	.....	0	0	Clear	.....
Denver, Colorado	24.60	624.8	29.82	757.4	52	11.1	12	W	11	4.9	.....	0	5s	.....	SE	0	0	Fair...	.....
Des Moines, Iowa	28.77	730.7	29.67	753.6	30	— 1.1	78	S	4	1.8	.....	0	5s	.....	NW	Inap.	Inap.	Fair...	.....
Detroit, Michigan	29.36	745.7	30.08	764.0	15	— 9.4	100	SW	8	3.6	.....	.....	10s	.....	Calm	0.05	1.3	Cloudy	.....
Dodge City, Kansas	27.24	691.9	29.58	751.3	30	— 1.1	68	W	8	3.6	.....	0	0	.....	.....	0	0	Clear.	.....
Dubuque, Iowa	29.02	737.1	29.75	755.6	19	— 7.2	85	SE	7	3.1	.....	.....	10n	.....	Calm	0.03	0.8	Heavy snow	.....
Duluth, Minnesota	29.18	741.1	29.93	760.2	3	—16.1	86	SW	4	1.8	.....	.....	10s	.....	SW	0.02	0.5	Cloudy	.....
Eagle Pass, Texas	29.27	743.4	30.03	762.7	40	4.4	82	E	4	1.8	.....	0	Fog	.....	E	0	0	Foggy	.....
Eastport, Maine	29.51	749.5	29.58	751.3	26	— 3.3	75	W	14	6.3	.....	0	0	.....	.....	0.07	1.8	Clear.	.....
Edinburg, Texas	.....	.....	.....	.....	54	12.2	93	W	.....	.....	1	0	0	.....	.....	0	0	Clear.	.....
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Erie, Pennsylvania	29.37	746.0	30.13	765.3	19	— 7.2	85	S	12	5.4	.....	0	5ks	.....	SW	0.12	3.0	Fair...	.....
Escanaba, Michigan	29.22	742.2	29.93	760.2	6	—14.4	76	W	4	1.8	.....	.....	10s	.....	W	0.02	0.5	Cloudy	.....
Florence, Arizona	28.54	724.9	30.14	765.5	42	5.6	74	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear.	.....
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fort Buford, Dakota	28.12	714.2	30.22	767.6	—10	—12.2	77	N	6	2.7	.....	0	0	.....	.....	0.12	3.0	Clear.	.....
Fort Custer, Montana	26.81	681.0	.....	.....	11	—11.7	79	N	16	7.2	.....	.....	10n	.....	Calm	0.04	1.0	Light snow..	.....
Fort Davis, Texas	25.22	640.6	30.18	766.6	43	6.1	36	W	4	1.8	.....	0	0	.....	.....	0	0	Clear.	.....
Fort Gibson, Indian Ter	29.48	748.8	30.04	763.0	41	5.0	65	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear.	.....
Fort Grant, Arizona	25.27	641.8	30.07	763.8	42	5.6	34	E	8	3.6	.....	0	0	.....	.....	0	0	Clear.	.....
Fort Griffin, Texas	28.67	728.2	29.94	760.5	52	11.1	60	S	14	6.3	.....	0	0	.....	.....	0	0	Clear	.....
Fort Keogh, Montana	27.40	696.0	.....	.....	5	—15.0	100	NE	19	8.5	.....	.....	10n	.....	NE	0.12	3.0	Light snow.	.....
Fort McKavett, Texas	27.78	705.6	29.73	755.1	46	7.8	77	S	15	6.7	.....	0	1ks	.....	S	0	0	Clear	.....
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fort Sill, Indian Territory	28.68	728.5	29.83	757.7	34	1.1	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	.....
Fort Stevenson, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fort Verde, Arizona	.....	.....	.....	.....	27	— 2.8	76	NW	.....	.....	1	0	0	.....	.....	0	0	Clear.	.....
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fredericksburg, Texas	28.24	717.3	29.80	756.9	52	11.1	86	S	14	6.3	.....	.....	10s	.....	Calm	0	0	Cloudy	.....
Galveston, Texas	30.17	766.3	30.21	767.3	56	13.3	81	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.	.....
Graham, Texas	28.96	735.6	30.03	762.7	16	— 8.9	62	S	6	2.7	.....	0	0	.....	.....	0	0	Clear.	.....
Grand Haven, Michigan	29.29	744 0	29.97	761.2	25	— 3.9	100	SW	8	3.6	.....	.....	10n	.....	Calm	0.13	3.3	Light snow..	.....
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Henrietta, Texas	28.98	736.1	29.94	760.5	45	7.2	68	SW	12	5.4	.....	0	0	.....	.....	0	0	Clear.	.....
Indianapolis, Indiana	29.20	741.7	30.02	762.5	29	— 1.7	45	S	7	3.1	.....	.....	10s	.....	S	0.10	2.5	Cloudy	.....
Indianola, Texas	30.18	766.6	30.21	767.3	55	12.8	87	S	9	4.0	.....	0	0	.....	.....	0	0	Clear.	.....
Jacksboro, Texas	28.80	731.5	29.94	760.5	46	7.8	69	S	16	7.2	.....	0	0	.....	.....	0	0	Clear.	.....
Jacksonville, Florida	30.22	767.6	30.25	768.3	45	7.2	61	NW	6	2.7	.....	0	0	.....	.....	0.32	8.1	Clear.	.....
Keokuk, Iowa	29.09	738.9	29.72	754.9	31	— 0.6	69	S	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy	.....
Key West, Florida	30.06	763.5	30.10	764.5	73	22.8	90	N	16	7.2	.....	2k	0	E	.....	0	0	Fair...	.....
Kittyhawk, North Carolina	30.19	766.8	30.22	767.6	38	3.3	54	NW	19	8.5	.....	0	0	.....	.....	0	0	Clear.	.....
Knoxville, Tennessee	29.22	742.2	30.29	769.4	27.5	— 2.5	94	E	4	1.8	.....	0	0	.....	.....	0	0	Clear.	.....
La Crosse, Wisconsin	29.04	737.6	29.82	757.4	16	— 8.9	83	Calm	0	0	.....	.....	10n	.....	Calm	0.10	2.5	Light snow..	.....
La Mesilla, New Mexico	26.17	664.7	30.32	770.1	26	— 3.3	63	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear.	.....
Laredo, Texas	29.62	752.3	29.97	761.2	46	7.8	69	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear.	.....
Leavenworth, Kansas	28.86	733.0	29.72	754.9	35	1.7	80	SW	9	4.0	.....	2cs	0	.....	.....	0	0	Clear.	.....
Lewiston, Idaho	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Little Rock, Arkansas	29.78	756.4	30.16	766.1	37	2.8	81	S	1	0.4	.....	0	0	.....	.....	0	0	Clear.	.....
Los Angeles, California	29.73	755.1	30.08	764.0	44.0	6.7	72	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.	.....
Louisville, Kentucky	29.57	751.1	30.16	766.1	33	0.6	70	SE	10	4.5	.....	0	0	.....	.....	0	0	Clear.	.....
Lynchburg, Virginia	29.50	749.3	30.22	767.6	34	1.1	51	SW	2	0.9	.....	2cs	0	W	.....	0	0	Fair...	.....
Madison, Wisconsin	28.82	732.0	29.86	758.4	18	— 7.8	84	SE	9	4.0	.....	.....	10n	.....	Calm	0.10	2.5	Light snow..	.....
Marquette, Michigan	29.13	739.9	29.88	758.9	9	—12.8	78	NW	4	1.8	.....	.....	10s	.....	NW	0.21	5.3	Cloudy	.....
Mason, Texas	28.43	722.1	30.22	767.6	47	8.3	85	SW	2	0.9	.....	0	8s	.....	SW	0	0	Fair...	.....
Memphis, Tennessee	29.90	759.4	30.16	766.1	36	2.2	80	SE	10	4.5	.....	0	0	.....	.....	0	0	Clear.	.....
Milwaukee, Wisconsin	29.16	740.7	29.94	760.5	16	— 8.9	83	S	6	2.7	.....	.....	10n	.....	Calm	0.01	0.3	Light snow..	.....

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mobile, Alabama	30.24	768.1	30.29	769.4	38	3.3	95	N	4	1.8	.....	0	Haze	.....	.....	0	0	Hazy	
Montgomery, Alabama	30.06	763.5	30.31	769.9	38	3.3	90	NW	1	0.4	.....	0	Fog	.....	Calm	9	0	Clear.	
Morgantown, West Virginia	29.17	740.9	30.20	767.1	33	0.6	61	SW	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Mt. Washington, N. H.	23.08	586.2	29.44	747.8	0	—17.8	100	NW	84	37.5	.....	.....	Fog	.....	NW	0.53	13.5	Foggy	
Nashville, Tennessee	29.67	753.6	30.24	768.1	35	1.7	80	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
New Haven, Connecticut	29.88	758.9	30.00	762.0	35	1.7	53	W	10	4.5	.....	0	0	.....	.....	0	0	Clear	
New London, Connecticut	29.90	759.4	29.95	760.7	34	1.1	61	W	9	4.0	.....	1k	0	W	.....	0.01	0.3	Clear.	
New Orleans, Louisiana	30.02	7 7 6	30.28	769.1	49	9.4	77	N	3	1.3	.....	0	Sm'e	.....	Calm	0	0	Smoky	
Newport, Rhode Island	29.90	759.4	29.95	760.7	34	1.1	70	W	18	8.0	.....	0	0	.....	.....	0.05	1.3	Clear.	
New River, North Carolina	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
New York, New York	29.89	759.2	30.08	764.0	30	— 1.1	59	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear.	
Norfolk, Virginia	30.16	766.1	30.22	767.6	38	— 3.3	54	W	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
North Platte, Nebraska	26.84	681.7	29.48	748.8	26	— 3.3	75	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Olympia, Washington Ter.	30.08	764.0	30.12	765.0	39.0	3.9	91	S	6	2.7	.....	2cs	0	Calm	.....	0.40	10.2	Fair	
Omaha, Nebraska	28.51	724.1	29.63	752.6	28	— 2.2	77	W	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Oswego, New York	29.65	753.1	29.98	761.5	30	— 1.1	78	W	22	9.8	.....	.....	10s	.....	W	0.66	16.8	Cloudy	
Pembina, Dakota	29.16	740.7	30.12	765.0	—17	—27.2	100	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Pensacola, Florida	30.28	769.1	30.32	770.1	42	5.6	82	N	5	2.2	.....	0	Fog	.....	Calm	0	0	Clear.	
Philadelphia, Pennsylvania	30.10	764.5	30.16	766.1	29	— 1.7	45	W	22	9.8	.....	0	0	.....	.....	0	0	Clear	
Phœnix, Arizona	28.92	734.6	30.80	782.3	40	4.4	65	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.53	445.2	29.74	755.4	10	—12.2	58	W	60	26.8	.....	5cs	0	Calm	.....	0	0	Clear.	
Pilot Point, Texas	29.25	742.9	30.10	764.5	44	6.7	67	S	.....	.....	.....	0	0	.....	.....	0	0	Clear.	
Pioche, Nevada	.....	.....	.....	.....	35	1.7	53	W	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Pittsburg, Pennsylvania	29.35	745.5	30.23	767.8	20	— 6.7	85	SW	4	1.8	.....	0	0	.....	.....	0.02	0.5	Clear.	
Port Huron, Michigan	29.32	744.7	30.04	763.0	10	—12.2	79	SW	9	4.0	.....	.....	10s	.....	Calm	0.09	2.3	Cloudy	
Portland, Maine	29.67	753.6	29.72	754.9	33	0.6	70	W	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Portland, Oregon	30.12	765.0	30.19	766.8	41	5.0	91	S	3	1.3	.....	0	5s	.....	.....	0.10	2.5	Fair	
Portsmouth, North Carolina	.....	.....	.....	.....	45	7.2	53	N	10	4.5	.....	1cs	0	Calm	.....	0.03	0.8	Clear	
Prescott, Arizona	24.86	631.4	30.22	767.6	25	— 3.9	75	NE	.....	.....	1	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.12	765.0	30.14	765.5	61	16.1	82	N	16	7.2	.....	.....	10ks	.....	NE	0	0	Cloudy	
Red Bluff, California	29.79	756.7	30.16	766.1	39	3.9	82	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.99	761.7	30.20	767.1	43	6.1	92	Calm	0	0	.....	0	Fog	.....	.....	0	0	Foggy	
Rochester, New York	29.35	745.5	30.00	762.0	22	— 5.6	72	W	18	8.0	.....	0	5s	.....	W	0.10	2.5	Fair	
Roseburg, Oregon	29.65	753.1	30.23	767.8	44	6.7	92	N	4	1.8	.....	.....	10s	.....	Calm	0.05	1.3	Cloudy	
Sacramento, California	30.06	763.5	30.14	765.5	41	5.0	100	SE	3	1.3	.....	.....	Fog	.....	.....	0	0	Foggy	
St. Louis, Missouri	29.34	745.2	29.93	760.2	30	— 1.1	78	S	16	7.2	.....	0	2s	.....	.....	0	0	Fair	
St. Paul, Minnesota	28.95	735.3	29.82	757.4	15	— 9.4	83	N	6	2.7	.....	.....	10n	.....	N	0.04	1.0	Light snow.	
Salt Lake City, Utah	25.60	650.2	29.93	760.2	42	5.6	58	W	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
San Antonio, Texas	29.46	748.3	30.07	763.8	43	6.1	92	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
San Diego, California	30.02	762.5	30.09	764.3	45	7.2	70	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Sandusky, Ohio	29.45	748.0	30.18	766.6	19	— 7.2	85	SW	11	4.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandy Hook, New Jersey	30.06	763.5	30.10	764.5	30	— 1.1	68	W	34	15.2	.....	0	0	.....	.....	0.02	0.5	Clear.	
San Francisco, California	30.07	763.8	30.13	765.3	48	8.9	96	NE	5	2.2	.....	.....	Fog	.....	Calm	0	0	Dense fog.	
Santa Fé, New Mexico	23.28	591.3	29.82	757.4	18	- 7.8	22	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.17	766.3	30.27	768.8	41	5.0	65	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Shreveport, Louisiana	29.96	761.0	30.19	766.8	37	2.8	83	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.20	767.1	30.24	768.1	38	3.3	63	NW	7	3.1	.....	2k	Haze	W	.....	0.05	1.3	Fair	
Socorro, New Mexico	25.50	647.7	29.56	750.8	23	— 5.0	60	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Springfield, Illinois	29.21	741.9	29.90	759.4	31	— 0.6	74	S	13	5.8	.....	.....	10s	.....	W	Inap.	Inap.	Cloudy	
Springfield, Massachusetts	29.82	757.4	29.95	760.7	35	1.7	61	W	9	4.0	.....	0	8ks	.....	W	0.04	1.0	Cloudy	
Stockton, Texas	27.04	686.8	30.04	763.0	49	9.4	18	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Thatcher's Island, Mass	29.78	756.4	29.83	757.7	33	0.6	70	W	22	9.8	.....	2k	0	W	.....	0	0	Clear.	
Toledo, Ohio	29.38	746.2	30.11	764.8	19	— 7.2	69	E	8	3.6	.....	.....	10s	.....	.....	Inap.	Inap.	Cloudy	
Tucson, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon	29.79	756.7	30.31	769.9	33.0	0.6	89	SE	3	1.3	.....	0	5s	.....	Calm	0	0	Fair	
Uvalde, Texas	29.25	742.9	30.09	764.3	44	6.7	84	NE	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Vicksburg, Mississippi	29.99	761.7	30.26	768.6	40	4.4	93	S	11	4.9	.....	0	0	.....	.....	0	0	Clear.	
Virginia City, Montana	24.06	611.1	29.54	750.3	35	1.7	80	Calm	0	0	.....	.....	10n	.....	Calm	0.12	3.0	Light snow.	
Visalia, California	29.71	754.6	30.10	764.5	35.5	1.9	95	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Light fog.	
Washington, D. C.	30.09	764.3	30.21	767.3	31	— 0.6	48	NW	6	2.7	.....	0	1s	.....	NW	0	0	Clear.	
Wickenburg, Arizona	.....	.....	.....	.....	31	— 0.6	79	NW	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Wilmington, North Carolina	30.17	766.3	30.25	768.3	38	3.3	54	N	4	1.8	.....	1cs	0	Calm	.....	0.01	0.3	Clear	
Winnemucca, Nevada	25.66	651.8	30.02	762.5	34	1.1	79	SW	12	5.4	.....	0	0	.....	.....	0	0	Clear.	
Wood's Holl, Massachusetts	29.86	758.4	29.90	759.4	37	2.8	54	NW	18	8.0	.....	0	0	.....	.....	0	0	Clear.	
Yankton, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Yuma, Arizona	29.91	759.7	30.06	763.5	48	8.9	49	NE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	30.02	762.5	30.07	763.8	73	22.8	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.10	764.5	30.11	764.8	77	25.0	95	Calm	0	0	.....	8ck	2cs	Calm	.....	.....	.....	Fair	James Gall.
Navassa, W. I.	29.94	760.5	30.02	762.5	79	26.1	74	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.99	761.7	29.99	761.7	77	25.0	91	E	.....	.....	2	.....	8ks	.....	.....	0.110	2.79	Cloudy	C. J. Hering.
Santiago de Cuba, W. I.	30.04	763.0	30.06	763.5	75	23.9	76	NNW	1.2	0.5	.....	0	0	.....	.....	0	0	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	29.83	757.7	29.89	759.2	—37.0	—38.3	.....	SE	18	8.0	.....	.....	10n	.....	E	.....	.....	Snowing	J. Fortescue & W. Wood
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.23 in., or 115.9 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.24‡	768.1‡	.....	.....	44	6.7	84	NNE	5	2.2	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Navy Yard, Portsmouth, N.H	29.85‡	758.2‡	.....	.....	32	0.0	79	W	4	1.8	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Adams, Mare I'd., Navy Yard, Cal.	30.18‡	766.6‡	.....	.....	52	11.1	100	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Alaska, S. 17° 11′, W. 72° 05′	29.91‡	759.7‡	.....	.....	69	20.6	90	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Long	SW	Overcast	
Colorado, New York, . Y.	30.05‡	763.3‡	.....	.....	30	— 1.1	68	WNW	.....	.....	4	.....	2	.....	.....	0	0	.....	.....	Hazy	
Constitu ion, N. 33° 22′, W. 62° 00′	30.05‡	763.3‡	.....	.....	69	20.6	100	SW	.....	.....	6	.....	8	.....	W	.....	.....	Mod'ate	SW	Cloudy	
Enterprise. N. 36° 53′, E. 26° 44′	30.23‡	767.8‡	.....	.....	58	14.4	94	N	.....	.....	6	.....	5?	.....	N	.....	.....	Mod'ate	N	Clear	
Franklin, Off Navy Yard, Norfolk, Va.	30.21‡	767.3‡	.....	.....	37	2.8	63	NW	6	2.7	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Independence, Mare I'd, Navy Yard, Cal.	30.14‡	765.5‡	.....	.....	52	11.1	86	E	1.2	0.5	.....	.....	0	.....	.....	0	0	.....	.....	Foggy	
Kearsarge, Santiago de Cuba, W. I.	30.08‡	764.0‡	.....	.....	73	22.8	85	Var.	.....	.....	1	.....	0	.....	.....	0	0	Smooth	.....	Blue sky	
Lackawana, Honolulu, Sandwich Id's†	30.05‡	763.3‡	.....	.....	72	22.2	71	NE	.....	.....	1	.....	0	.....	.....	.....	.....	Smooth	.....	Clear	
Marion, N. 39° 42′, W. 7.° 12′	29.96‡	761.0‡	.....	.....	45	7.2	68	WNW	.....	.....	6	.....	5	.....	NW	0	0	Rough	N;W	Fair	
Michigan, Erie, Pa	30.04‡	763.0‡	.....	.....	40	4.4	67	S	.....	.....	4	.....	10	.....	.....	.....	.....	.....	.....	Light snow	
Monocacy, Shanghai, China	30.27‡	768.8‡	.....	.....	41	5.0	83	SE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
New Hampshire, Port Royal, S. C	30.24‡	768.1‡	.....	.....	44	6.7	84	WNW	8	3.6	.....	.....	1	.....	SW	0.04	1.0	.....	.....	Clear	
Nipsic, Norfolk, Va	30.18‡	766.6‡	.....	.....	40	4.4	67	NW	.....	.....	4	.....	2	.....	.....	.....	.....	.....	.....	D. clouds	
Onward, Callao, Peru	29.95‡	760.7‡	.....	.....	68	20.0	90	SE	.....	.....	2	.....	8	.....	.....	.....	.....	Mod'a. smooth	W	Hazy	
Palos. Tientsin, China	30.07‡	763.8‡	.....	.....	34	1.1	90	NW	.....	.....	0–1	.....	0	.....	.....	.....	.....	.....	.....	Misty	
Passaic, Washington, D. C	30.19‡	766.8‡	.....	.....	32	0.0	89	WNW	.....	.....	2	.....	5	.....	.....	.....	.....	.....	.....	Fair	
Pensacola, Callao, Peru	29.95‡	760.7‡	.....	.....	66	18.9	94	ESE	.....	.....	1	.....	10	.....	.....	.....	.....	Smooth	.....	Hazy	
Powhatan, Navy Yard, Brooklyn, N.Y.	30.06‡	763.5‡	.....	.....	32	0.0	59	WNW	.....	.....	3–4	.....	0?	.....	.....	0	0	.....	.....	Fair?	
Quinnebaug, Villafranca, France	30.22‡	767.6‡	.....	.....	60	15.6	29	N	.....	.....	3	.....	10	.....	NE	.....	.....	.....	.....	Cloudy	
Ranger, N. 26° 37′, W. 160° 43′	30.08‡	764.0‡	.....	.....	71	21.7	75	SW	.....	.....	1	.....	5	.....	SW	.....	.....	Mod'ate	.....	Fair	
Richmond, Amoy, China	30.21‡	767.3‡	.....	.....	57	13.9	52	NE	.....	.....	3	.....	5	.....	.....	.....	.....	Smooth	.....	Fair	
Rio Bravo, Brownsville, Texas	30.35‡	770.9‡	.....	.....	55	12.8	93	SSE	1	0.4	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Santee, Annapolis, Md	30.22‡	767.6‡	.....	.....	32	0.0	79	NW	.....	.....	2	.....	2	.....	W	0	0	.....	.....	Clear	
Shenandoah, S 33° 40′, W. 50° 20′	29.75‡	755.6‡	.....	.....	67	19.4	50	WSW	.....	.....	6	.....	2	.....	W	.....	.....	Rough	WSW	Fair	
St. Louis, League Island, Pa	30.15‡	765.8‡	.....	.....	29	— 1.7	.....	WNW	12	5.4	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Tennessee, Navy Yard, Brooklyn, N.Y.	30.08‡	764.0‡	.....	.....	30	— 1.1	78	W	.....	.....	4–5	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Tuscarora, Acapulco exico	29.93‡	760.2‡	.....	.....	75	23.9	77	Calm	.....	.....	0	.....	5	.....	Calm	0	0	Smooth	.....	Fair	
Vandalia, Navy Yard, Brooklyn, N.Y	30.07‡	763.8‡	.....	.....	36	2.2	71	NW	.....	.....	3	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Wabash, Boston, Mass	29.81‡	757.2‡	.....	.....	34	1.1	90	WNW	5	2.2	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Wachusett, Rio de Janeiro, Brazil.†	30.29‡	769.4‡	.....	.....	81	27.2	74	WNW	.....	.....	2	.....	10	.....	WNW	.....	.....	.....	.....	Cloudy	
Wyoming, Cartagena, Spain	30.28‡	769.1‡	.....	.....	52	11.1	47	N	.....	.....	1–2	.....	2	.....	N	.....	.....	Smooth	N	Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		CHARACTER.	DIRECTION FROM—		
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S. S. Samaria																			Capt. T. Roberts.
NOTE.—†Aneroid. *The error of the barometer is not known.																			
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitebury.
S. S. Costa Rica																			W. House & R. Lawless.
S. S. Dakota, Capt. H. G. Morse																			Capt. Connolly.
S. S. Georgia																			F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin																			Capt. A. Fuller.
S. S. Wilmington																			R. C. Ghest, 1st Officer.
S. S. Zealandia, Sydney, New South Wales		30.01‡	762.2‡				NE			3				E				Fine	
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
NOTE.—The orginals give the barometer as read off; wind-force by the scale 0 to to 12; for the Brittanic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer N. 38° 48′, E. 155° 44′..†		29.95‡	760.7‡	56	13.3	75	NE			5		5		NE		Moderate.	NE	Squally	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson N. 40° 18′, W. 168° 13′..†		30.00‡	762.0‡	50	10.0		WSW			3		k		W	Slight	Rough	W	D. clouds	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undutsch.
S. S. Leipzig, Capt. F. Pfeiffer																			S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness by the scale 0 to 4, do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa.		30.23‡	767.8‡	33	0.6		W			5	1		W	0			Clear	Capt. R. W. Sargent.
S. S. Ohio																		Wm. Shackford, Chief Officer	
S. S. Pennsylvania																		Capt. Harris.	
RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents.																			
S. S. Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland, N. 40° 40,′ W. 51° 14′†		29.60‡	751.8‡	53	11.7		W	9	4.0		10		W		Heavy	W	Squally	Capt. Randle.	
S. S. Switzerland																		Capt. Jackson.	
S. S. Vaderland																		Capt. Nichols.	
ALLAN LINE MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES—Miscellaneous.																			
Furnished by the co-operation of the Observers named.																			
Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Barkentine "Carrie Heckle" N. 27° 20′, W. 42° 40′... *		29 88‡	758.9‡	65	18.3		N			4		8		NNE	Drizzles.	Rough	NNE	Cloudy	B. F. Woodbury.
Brigantine "George" of Halifax																			N. B. Foss.
Schooner Harry and Fred																			Capt. George Gardner.
Haytian																			
§ Iron Cross																			Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from, sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; do not distinguish between upper and lower clouds; sea-swell in general terms, as published. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. *The error of the barometer is not known. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time. *Instrumental error not known.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 17, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time
1:57 P. M. CAPE TOWN, C. G. H. mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.24	768.0	60.8	16.0	76	NE	.....	.....	2	.....	2	.....	.....	0	0	Fair	
Nemours	.....	.....	30.26	768.7	57.2	14.0	71	WNW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Kesxuche.
Algiers	.....	.....	30.11	764.9	47.1	8.4	89	WNW	.....	.....	6	.....	10	.....	.....	0.803	20.4	Covered	Touriliere.
La Calle	.....	.....	30.06	763.5	52.7	11.5	78	W	.....	.....	2	.....	8	.....	.....	0.189	4.8	Very cloudy	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.15	765.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	Herbin.
Tebessa	.....	.....	30.14	765.5	40.5	4.7	74	SSE	.....	.....	3	.....	8	.....	.....	0.043	1.1	Very cloudy	Watrin.
Geriville	.....	.....	.....	.....	39.0	3.9	57	NW	.....	.....	2	.....	8	.....	.....	0	0	Very cloudy	Brugniuax
Laghouat	.....	.....	30.16	766.1	47.5	8.6	11	NW	.....	.....	4	.....	2	.....	.....	6	0	Fair	Bertrand.
Biskra	.....	.....	30.08	763.9	48.2	9.0	94	NW	.....	.....	1	.....	10	.....	.....	0	0	Covered	Chanvaux
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0–4; no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4.462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	30.01	762.3	30.62	777.7	19.0	— 7.2	89	E	.....	.....	1	.....	3	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.79	756.7	30.63	778.1	18.0	— 7.8	83	NE	0.2	0.1	.....	.....	0	.....	.....	0	0	.....	Dr. Wierzbicki.
Eperies	29.63	752.7	30.59	777.0	23.0	— 5.0	77	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	Julius Mikolik.
Gratz	29.27	743.4	30.63	777.9	24.3	— 4.3	70	SW	.....	.....	2	.....	10	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	29.04	737.6	30.60	777.1	24.1	— 4.4	84	ENE	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	29.00	736.5	30.48	774.1	14.9	— 9.5	87	NE	.....	.....	3	.....	0	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	29.48	748.8	30.54	775.6	30.7	— 0.7	96	NW	.....	.....	1	.....	10	.....	.....	'	'	.....	Dr. T. Stanecki.
Pola	30.23	767.9	30.35	771.0	37.4	3.0	50	ENE	.....	.....	4	.....	8	.....	.....	0	0	.....	I.R.Hydrographic Office
Szathmar	30.14	765.5	30.64	778.3	18.7	— 7.4	95	SW	.....	.....	2	.....	10	.....	.....	0	0	.....	Pet. Panesics, S. J.
Szegedin	30.31	769.9	30.62	777.8	14.4	— 9.8	.....	Calm	.....	.....	0	.....	4	.....	.....	0	0	.....	Karl Stancel.
Trieste	30.35	770.8	30.45	773.4	33.3	0.7	37	ENE	.....	.....	1	.....	9	.....	.....	0	0	.....	P. Busin.
Vienna	29.85	758.2	30.61	777.5	14.4	— 9.8	91	Calm	.....	.....	0	.....	4	.....	.....	0	0	.....	I.R.Central Met. Ob'sy
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C., as Second-Class Matter

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.38	771.6	30.48	774.2	42.9	6.1		W	2	0.9			9			0	0	Misty	W. Boswell.
Ardrossan	30.48	774.2	30.50	774.7	47	8.3		SW			5		7					D. clouds	Wm. McNeil & G. Carrick
Armagh, (Observatory)	30.31	769.9	30.54	775.7	45.0	7.2		SSW	9	4.0			9					Overcast	S. Call.
Bidston (Liverpool Obs)			30.60	777.2	35.5	1.9		ESE	8	3.6			9					Overcast	John Hartnup.
Bolton (Sharples)	30.02	762.5	30.56	776.2	32.9	0.5		SW	0	0			10					Gloomy	Thomas Mackereth.
Bradford, Yorkshire	30.18	766.6	30.53	776.7	39.4	4.1		NW			3		10			0	0	Overcast	J McLandsborough.
Bridgetown, Barbadoes	29.94	760.5	29.97	761.2	78.5	25.8		NE			2		6						Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	30.49	774.4	30.59	777.0	28.0	— 2.2		Calm			0		10					Foggy	H. Todd.
Cardington			30.59	777.0	28.0	— 2.2		NW			0–1		10					Foggy	John McLaren.
Chatham (School M. E.)	30.47	773.9	30.61	777.5	24.2	— 4.3		Calm			0		10					Foggy	J. Carmell, Sapper, R.E.
Donaghadee	30.50	774.7	30.51	774.9	46	7.8		SW			3		5					D. clouds	J. Mac Gowan.
Dover	30.51	774.9	30.55	776.0	25	— 3.9		N			4		10					Foggy	J. Costello.
Falmouth (Observatory)	30.36	771.1	30.60	777.2	42.9	6.1		NNW			1		3					Foggy	The Staff.
Fort Napier, Natal	27.41	696.2	29.61	752.1	87.4	30.8		NE			1		4					Blue sky	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone																			
Galway (Queen's College)			30.44	773.2	46.5	8.1		S			2		1					Blue sky	Prof. A. H. Curtis.
Gibraltar, Mediterranean																			Sergt. Wm. Allen, A. H.
Glasgow, (Observatory)	30.29	769.4	30.50	774.7	46.9	8.3		SSW			2		7					D. clouds	D. G. Maclean. [C.
Great Yarmouth	30.54	775.7	30.55	776.0	29	— 1.7		WNW			2		6					Foggy	G. T. Watson.
Greenwich (Royal Obs'y)	30.42	772.7	30.61	777.5	25.8	— 3.4		NNE			1		10					Foggy	The Staff, for G. B. Airy.
Guernsey	30.31	769.9	30.54	775.7	42.5	5.8		NW			1		0					Blue sky	Dr. S. E Hoskins, F.R.S.
Helston	30.69	779.5	30.82	782.8	44	6.7		NE			1	2c				0	0	Fine	M. P. Moyle.
Holyhead	30.52	775.2	30.58	776.7	45	7.2		SSW			2		0					Blue sky	John Tilston.
Jersey	30.27	768.8	30.57	776.5	42.2	5.7		NNE			2		0					Blue sky	J. Fisher.
Kew (Observatory)	30.57	776.5	30.61	777.5	26.0	— 3.3		N	4	1.8								Foggy	The Met'g'l Office.
Leicester (Museum)	30.33	770.4	30.60	777.2	29.1	— 1.6		SW			1		10					Foggy	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	29.99	761.7	30.07	763.8	60	15.6		SW			0		2k					Blue sky	A. King.
Nairn	30.35	770.9	30.45	773.4	43	6.1		Calm			0		10					Overcast	W. D. Penny.
Nassau, Bahamas			30.12	765.0	72.0	22.2		SE			1		4					D. clouds	C. S. Duncombe.
Nottingham (Observatory)	30.41	772.4	30.62	777.7	33.3	0.7		SW			1		10k;8		NW	0.007	0.18	Overcast	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)																			Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)			30.61	777.5	28	— 2.2		E			1		10					Foggy	H. E. Bellamy.
Plymouth	30.50	774.7	30.58	776.7	35.7	2.1		WNW			1		0					Foggy	John Merrifield.
Prince Town																			W. H. Tooker.
*Roche's Point	30.46	773.7	30.54	775.7	46	7.8		SSW			3		5					½ clouded	Wm. Kennedy.
St. Ann's Head	30.41	772.4	30.58	776.7	37	2.8		E			1		10					Foggy	John C. Walker.
Sandwick Manse, Orkneys			30.46	773.7	42.1	5.6		WNW	5	2.2			0					Blue sky	Rev. C. Clouston, L.L.D.
Scutari Cemetery, Turkey	30.32	770.1	30.39	771.9	44.4	6.9		NE			1		8					Drizzling	Serg't W. H. Lue.
Sheffield	30.18	766.6	30.60	777.2	37.6	3.1		Calm			0		10			0	0	Foggy	W. F. Cooper.
Silloth Rectory	30.50	774.7	30.53	775.4	43.5	6.4	84	SW			3		10			0	0	D. clouds	Francis Redford, A. M.
Stonyhurst (Observatory)			30.58	776.7	36.2	2.3		SSW	2	0.9			10					Misty	Rev. S. J. Perry.
Straifield, Turgiss	30.37	771.4	30.61	777.5	35.7	2.1		N			1		10					Foggy	Rev. C. H. Griffith, F.M.S.
Truro (Royal Institution)	30.48	774.2	30.58	776.7	46	7.8		SE			2		3					D. clouds	D. Newcombe.
Valencia (Observatory)	30.46	773.7	30.49	774.4	48.6	9.2		SE	24	10.7			7					D. clouds	The Met'g'l Office.
Sub-Series.																			
Cape Town (C. G. H. Obs'y)																			The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.30	642.6			78	25.6		WNW					5						Robert Burnet.
Constable, Cape Colony	26.58	675.1			84	28.9		NW					0						Francis Abbott, F.R.A.S.
Hobart Town, Tasmania																			Andrew Gibb.
Leith (Restalrig Park) Sc'tl'd			30.53	775.4	48.0	8.9		W			1		3k			0	0	Fine	C. Meldrum.
Mauritius (Observatory)	29.65	753.1	29.84	757.8	83.1	28.4	54	SSE	23.5	10.5		1	2		SE	0.33	8.4	Squally	R. L. J. Ellery.
Melbourne (Observatory)	29.92	759.9	30.01	762.2	70.0	21.1	73	SW	4	1.8			0			0	0		J. Youngclause.
Monach Lt-house, Hebrides			30.40	772.1	47	8.3		SSE			3		10			0.2	5.		
North Unst, Shetland Is			30.35	770.9				W			4	2	7	Calm		0	0		

Note.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters; Prince Town, 1,400 feet, or 427 meters; Colesberg Bridge and Constable, unknown.

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. Alert, Tom Bay, Patagonia			29.07‡	738.4‡	46.2	7.9		NNW			2		10					Raining	Capt. J. P. Maclear, R.N.
H. M. Sloop Gannet, S. 18° 28′, W. 70° 21′			29.90‡	759.4‡	68.5	20.3		Calm			0		5					D. clouds	Commander E. Bourke, R. N.
H. M. S. Magpie, Shanghai, China			30.17‡	766.3‡	49.0	9.4		E			1		0					Misty	Capt. R. H. Napier, R.N.
Barque Belle-Isle, N. 34° 35′. W. 60° 50′			30.18	766.6	64	17.8		S			1		8			4	Con-fused	D. clouds	Capt. A. J. Brown
City of Cashmere, N. 0° 58′, W. 129° 45′			29.86‡	758.4‡	72	22.2		E			5		4					D. clouds	Capt. W. M. Grieve.
S. S. Ethiopia, N. 52° 50′, W. 29° 05′			29.43	747.5	54	12.2		SSE			6		10			6	S	Misty	Capt. Campbell.
Barque Fedalma, N. 25° 00′, W. 65° 05′			30.15	765.8	77	25.0		ENE			2		2			3	Con-fused	Blue sky	Capt. H. L. Fox.
Iron Cross, N. 36° 25′, W. 68° 25′			30.12	765.0	63	17.2		W			5		6			3	WNW	D. clouds	Capt. W. Randall.
Barque Mertole, N. 38° 05′, W. 11° 25′			30.30‡	769.6‡	58.9	14.9		N			4		8					D. clouds	Capt. Turner.
S. S. Peruvian, N. 39° 45′, W. 70° 05′			30.01	762.2	44	6.7		WSW			5		6			4		D. clouds	Capt. W. H. Smith
S. S. Strathleven, S. 29° 00′, E. 106° 35′			29.91‡	759.7‡	61.5	16.4		SSE			6		4					D. clouds	Capt. C. W. Pearson.
Light House Tender Richmond																			Capt. W. H. Stewart.
S. S. Gordon Castle																			Capt. Wm. Waring.
Brig Alliance																			Capt. W. Scott.

Note.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected.
‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.21	665.7	29.93	760.2	62.2	16,8	84	SE	.....	.....	2	1c	1s	.....	.....	Inap.	Inap.	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.46	773.6	30.50	774.8	31.3	— 0.4	90	WNW	.....	.....	2	.....	3	.....	.....	.....	.....	.....	.....
Fanöe	30.49	774.5	30.55	776.0	30.9	— 0.6	96	SW	.....	.....	2	.....	1	.....	.....	.....	.....	.....	.....
Godthaab (Greenland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stykkisholm (Iceland)	29.68	753.9	29.72	755.0	35.6	2.0	93	SE	.....	.....	7	.....	10	.....	.....	.....	.....	Raining	.....
Thorshavn (Faröe)	30.24	768.0	30.27	768.9	40.3	4.6	89	SW	.....	.....	7	.....	10	.....	.....	.....	.....	.....	.....
Vestervig	30.34	770.7	30.45	773.5	35.1	1.7	100	SSW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.95	760.8	30.50	774.8	31.1	— 0.5	63	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Collignon, Director.
Amiens, Normal School	30.26	768.7	30.39	771.9	12.6	—10.8	72	S	.....	.....	1	.....	0	.....	.....	0	0	Clear	Vaillant, Director.
Arras, Engin'r School	30.26	768.7	30.53	775.5	17.2	— 8.2	82	N	.....	.....	2	.....	.....	.....	.....	0	0	.....	Klein, Commandant.
Avignon, Normal School	30.16	766.0	30.24	768.0	36.5	2.5	58	N	.....	.....	1	.....	0	.....	.....	0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.86	758.4	30.48	774.3	9.5	—12.5	.....	NNW	.....	.....	1	.....	0	.....	.....	0	0	Clear.	C. Saillard, Director.
Beauvais, Normal School	30.27	768.8	30.57	776.4	15.6	— 9.1	78	NNE	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Frère Eugene Marie.
Besançon, Normal School	29.49	749.1	30.49	774.4	10.8	—11.8	.....	S	.....	.....	1	.....	0	.....	.....	0	0	Clear.	A. Carré, Director.
Bourg-en-Bresse, N. School	29.50	749.4	30.41	772.5	10.4	-12	100	SE	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Marlot, Diretor.
Bourges, Normal School	29.83	757.7	30.44	773.2	30.2	— 1.0	78	NNW	.....	.....	1	.....	1	.....	NW	0	0	Clear.	M. Gence, Director.
Brest, Naval Observatory	30.31	769.9	30.56	776.1	45.7	7.6	74	NE	.....	.....	1	.....	0	.....	.....	0	0	.....	Ch. de Kermaree, Dir.
Caen, Normal School	30.44	773.2	30.52	775.2	36.3	2.4	92	SE	.....	.....	1–2	.....	.....	.....	.....	0	0	.....	M. Bietrin, Director.
Carcassonne, N. School	29.84	758.0	30.28	769,0	43.2	6.2	37	W	.....	.....	3	.....	0	.....	.....	0	0	Clear.	September, Director.
Châlons-sur-Marne, N. Sch'l	30.16	766.0	30.51	774.9	15.1	— 9.4	.....	NE	.....	.....	1	.....	0	.....	.....	.....	.....	Clear.	Jadot, Director.
Chartres, Normal School	29.83	757.6	30.49	774.5	14.0	—10	67	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	Vergier, Director.
Clermont-Fd, Puy de D. Obs	28.97	735.8	30.44	773.2	21.7	— 5.7	85	N	.....	.....	1	.....	0	.....	.....	0	0	.....	Alluard, Director.
Commercy, Normal School	29.52	749.9	30.48	774.2	10.8	—11.8	.....	E	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Dr. Coullet, Director.
Commune de Gréasque*	29.06	738.0	30.20	767.0	55.6	13.1	25	NE	.....	.....	1	.....	5	.....	S	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.57	751.0	30.45	773.3	23.4	— 4.8	.....	E	.....	.....	1	.....	8	.....	.....	0	0	.....	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.26	768.6	30.49	774.5	34.2	1.2	93	N	.....	.....	1	.....	2	.....	.....	0	0	Slightly cld'y	Mouillot, Director.
Le Mans, Normal School	30.20	767.0	30.54	775.7	19.8	— 6.8	51	NNE	.....	.....	2	.....	0	.....	.....	0	0	Clear	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.39	746.5	30.36	771.1	9.1	-12.7	72	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Baudry, Director
Lorient, Naval Observatory	30.43	773.0	30.54	775.8	40.3	4.6	69	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Lt. T. Carré, Director
Lyons Obs'y (Park Station)	29.75	755.6	30.43	772.8	17.2	— 8.2	71	E	.....	.....	1	2c	.....	.....	.....	0	0	Misty	Ch. André, Director
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	29.87	758.6	30.14	765.5	54.7	12.6	73	SW	.....	.....	0–1	.....	6	.....	S	0	0	.....	E. Stephan, Director.
Mirecourt, Normal School	29.31	744.4	30.48	774.2	8.8	—12.9	84	N	.....	.....	1	.....	.....	.....	N	0	0	.....	Barbier, Director.
Mont-Louis	24.96	634.0	30.28	769.0	38.8	3.8	53	NE	13.0	5.8	.....	.....	3	.....	SW	0	0	.....	M. Cave.
Nice	30.14	765.6	30.17	766.4	65.8	13.2	60	W	.....	.....	3	.....	5	NW	W	0	0	Cloudy	M. Boissière, Director.
Nismes, Normal School	30.03	762.7	30.24	768.1	43.2	6.2	67	N	.....	.....	3	.....	2	.....	E	0	0	Slightly cld'y	M. Boyer, Director.
Paris, Montsouris Obs'y	30.21	767.3	.....	.....	16.2	— 8.8	82	WNW	.....	.....	1	.....	0	.....	.....	0	0	.....	Marié Davy, Director.
Perpignan	30.07	763.6	30.17	766.4	52.7	11.5	18	NW	16.8	7.5	.....	.....	1	NNE	.....	0	0	.....	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.57	573.4	.....	.....	25.2	— 3.8	.....	.....	.....	.....	.....	.....	.....	.....	E	0	0	.....	Gen'l de Nansouty.
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Privas, Normal School	29.20	741.7	30.35	771.0	24.1	— 4.4	.....	S	.....	.....	6	.....	1	S	S	0	0	Clear.	M. Tallieu
Puy de Dome (Summit) Obs	25.28	642.0	.....	.....	32.7	0.4	40	NE	.....	.....	3	.....	0	.....	.....	0	0	Clear	Alluard, Director.
Rochefort, Naval Obs'y	30.43	772.8	30.46	773.6	32.0	0.0	93	N	.....	.....	2	.....	0	.....	.....	0	0	Clear	Lt E. Decante, Director
Rouen, Normal School	30.43	773.0	30.52	775.2	19.6	— 6.9	98	ESE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.49	774.5	30.52	775.3	39.9	4.4	72	ENE	.....	.....	1	.....	2	ENE	ENE	0	0	Clear	Lt. Hercouet, Director
Saint Maur (near Paris)	30.34	770.6	30.50	774.8	15.8	— 9.0	75	N	.....	.....	2	.....	0	.....	.....	0	0	Foggy	E. Renou, Director.
Tarbes, Normal School	29.21	741.9	30.32	770.1	44.6	7	44	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.61	752.1	30.34	770.6	39.6	4.2	90	SSW	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. Juher Mercadier.
Tours	30.27	768.8	30.47	773.8	18.0	— 7.8	.....	ENE	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Cousin-Marquet.
Versailles, Observatory	29.97	761.3	30.47	773.8	13.3	—10.4	67	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.74	755.4	30.53	775.4	18.5	— 7.5	86	NW	.....	.....	1	.....	.....	.....	.....	0	0	Misty	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	30.01	762.2	30.04	762.9	74.1	23.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.20	5.	.....	L'Abbé Marchési
Zi-Ka-Wei (near Shanghai	30.13	765.2	30.15	765.8	42.1	5.6	97	ESE	5.4	2.4	.....	.....	0	.....	.....	0	0	Clear.	Marc Dechevrens.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.57	751.1	30.43	772.8	13.1	—10.5	50	NW			2		1s			0	0	Hazy	Prof. Dr. Hoh.
Berlin	30.32	770.2	30.51	774.9	28.8	— 1.8	68	SE			1		2			0	0		Prof. Dr. Arndt.
Breslau	30.02	762.6	30.57	776.4	23.2	— 4.9	74	ESE			2		0			0	0		Royal University Obs'y.
Carlsruhe	29.99	761.7	30.47	773.9	9.0	—12.8	91	S			0		0			0	0		Albert Senz.
Cassel	29.85	758.2	30.47	773.9	14.7	— 9.6	74	ESE			2		0			0	0		Dr. H. Möhl.
Emden			30.51	775.0	26.6	— 3.0	94	NNW			0		0			0	0		Prof. Dr. Prestel.
Frankfort on the Main	30.16	766.1	30.56	776.1	17.1	— 8.3	64	ENE			1		1			0	0		Physical Society.
Friedrichshafen	28.89	733.7	30.48	774.2	7.7	—13.5	88	NE			4		1			0	0		Chief Telegrapher Wilhelm.
Hamburg	30.46	773.7	30.53	775.5	24.8	— 4.0	89	SSW			1		10			0	0		Capt. P. F. A. Hegerman.
Kiel	30.50	774.7	30.52	775.1	29.8	— 1.2	83	Calm			0		0			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.41	772.5	30.50	774.7	34.7	1.5	93	W			7		9			0.016	0.4		Prof. E. Luther.
Köslin			30.55	776.0	30.0	— 1.1		SW			2		0			0.008	0.2		H. Müller.
Leipsic Observatory	30.10	764.4	30.55	776.0	21.2	— 6.0	77	SSE			0		6			0	0		Prof. Dr. Bruhns, Privy Counselor
Magdeburg	30.32	770.0	30.55	775.9	23.4	— 4.8	69	ESE			1		0			0	0		Dr. Assmann.
Memel	30.36	771.2	30.41	772.4	37.2	2.9	90	WNW			5.6		9k						Reimbrecht & Issermann.
Munich (München)	28.48	723.4	30.36	771.2	2.8	—16.2	95	Calm			0		0			0	0	Foggy	Dr. C. Lang.
Neufahrwasser	30.52	775.1	30.53	775.5	35.8	2.1	87	W			1		9			0	0		A. Lothes.
Neustadt (Palatinate)	29.90	759.5	30.43	773.0	14.4	— 9.8		Calm			0					0	0		Reallehrer Dicknether
Posen	30.26	768.7	30.58	776.6	27.5	— 2.5	63	Calm			0		0			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	29.91	759.6	30.54	775.6	2.8	—16.2	95	NNE			1		5			0	0		Imp. University Observatory.
Stuttgart	29.43	747.6	30.47	774.0	10.8	—11.8	74	NE			1		0			0	0		Prof. Dr. Schoder.
Weissenburg (Bavaria)	28.85	732.9	30.44	773.1	14.5	— 9.7	78	Calm			0	1c				0	0	Foggy	Reallehrer J. Hopfner.
Wustrow	30.51	775.0	30.54	775.6	29.8	— 1.2	88	SSE			2		3s			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens	29.90	759.4	30.30	769.6	49.5	9.7		NE			5.0		5					½ clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Kurrachee	30.01	762.1	30.06	763.5	72.2	22.3	68	WSW	12	5.4			0			0	0	Blue sky	
Deesa	29.57	751.0	30.05	763.3	71.7	22.1	28	NNW	8.5	3.8			0			0	0	Blue sky	
Bombay	29.92	759.8	29.95	760.8	73.3	22.9	72	NW	6	2.7			1	WSW		0	0	D. clouds	
Poona (Yarrowda)	28.10	713.8	29.99	761.7	72.0	22.2	39	ENE	5	2.2			8		SW	0	0	D. clouds	
Belgaum	27.42	696.4	30.02	762.5	64.3	17.9	72	N	5	2.2			10	SW	SW	0.07	1.8	Overcast	
Lahore	29.31	744.4	30.10	764.4	54.7	12.6	44	Calm	0.4	0.2			6			0	0	D. clouds	
Roorkee	29.12	739.6	30.06	763.5	59.8	15.4	34	W	2.6	1.2			0			0	0	Blue sky	
Agra	29.47	748.6	30.06	763.5	64.8	18.2	49	W	2.8	1.2			0			0	0		
Nagpur	28.97	734.5	30.05	763.3	65.6	18.7	60	Calm	1.4	0.6			10			0	0	Overcast	
Jubbulpore	28.63	727.1	30.05	763.2	62.8	17.1	66	Calm	1.0	0.4			4		N	0	0	Blue sky	
Lucknow	29.64	752.8	30.03	762.8	64.4	18.0	63	Calm	0.1	0.04			5			0	0	D. clouds	
Allahabad	29.72	754.9	30.05	763.2	62.6	17.0	73	Calm	1.2	0.5			3			0	0	D. clouds	
Patna	29.86	758.5	30.05	763.2	67.8	19.9	62	Calm	0.2	0.1			6			0	0	D. clouds	
Hazaribagh	27.96	710.3	30.05	763.2	63.0	17.2	70	SSW	2.4	1.1			10			0	0	Overcast	
Cuttack	29.92	760.0	30.00	762.1	73.0	22.8	80	NE	0.9	0.4			3			0	0	D. clouds	
Calcutta (Alipore)	29.98	761.4	30.00	762.0	71.1	21.7	73	Calm					9			0	0	D. clouds	
Goalpara	29.59	751.5	29.99	761.7	68.5	20.3	65	SE	3.5	1.6			7	W		0	0	D. clouds	
Chittagong	29.88	759.0	29.98	761.4	71.8	22.1	84	WNW	1.3	0.6			0			0	0		
Sibsagar	29.70	754.4	30.05	763.4	63.7	17.6	78	ENE	0.9	0.4			0			0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,361 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	30.01	762.2	30.45	773.4	33.8	1.0	81	E	8.1	3.6	.....	.....	10	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.89	759.1	30.45	773.3	23.4	— 4.8	80	N	.....	.....	1	.....	8	.....	.....	0.016	0.4	.....	Prof. Schiaparelli.
Padua	30.28	769.2	30.40	772.2	35.6	2.0	65	N	11.2	5.0	.....	.....	10	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.44	747.7	30.41	772.5	26.6	— 3.0	68	ENE	.....	.....	2	.....	2	NE	.....	0.240	6.1	.....	Prof. P. F. Denza.
Genoa	30.05	763.2	30.25	768 3	41.0	5.0	35	N	15.0	6.7	.....	.....	10	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.37	720.6	30.41	772.3	26.4	— 3.1	57	W	.....	.....	2	.....	7	NW	.....	0.028	0.7	.....	Prof. D. C. Bruno.
Pesaro	30.28	769.0	30.33	770 3	32.9	0.5	62	SW	5.6	2.5	.....	.....	10	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	30.02	762.6	30.30	769.6	39.2	4.0	49	N	.....	.....	6	.....	10	N	.....	0	0	.....	Cav. F. Meucci.
Leghorn	30.17	766.4	30.26	768 6	40.8	4.9	29	ENE	16.1	7.2	.....	.....	10	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.99	761.8	30.18	766.5	46.9	8.3	56	N	3.8	1.7	.....	.....	10	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.95	760.8	30.22	767.5	48.6	9.2	81	E	8.7	3.9	.....	.....	9	.....	.....	0.079	2.0	.....	Prof. C. De Giorgi.
Cosenza	29.29	743.9	30.22	767.6	43.2	6.3	73	NW	0	0	.....	.....	10	.....	.....	0.142	3.6	.....	Prof. D. Conti.
Cagliari	29.79	756.7	29.99	761.8	54.7	12.6	62	SE	.....	.....	2	.....	8	E	.....	0.177	4.5	.....	Prof. A. Pacinotti.
Palermo	29.83	757.6	30.09	764.3	54.7	12.6	58	NE	4.3	1.9	.....	.....	6	.....	.....	0	0	.....	Prof. G. Ciacciatore.
Syracuse	30.05	763.3	30.13	765.2	52.7	11.5	66	W	12.5	5.6	.....	.....	10	E	.....	0.138	3.5	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.62	752.3	30.17	766.2	42.8	6.0	80	NW	4.9	2.2	.....	.....	9	.....	.....	0.130	3.3	.....	Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.19	766.8	30.20	767.1	43.6	6.4	84	NNE	7.0	3.1	.....	0	0	.....	.....	0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	30.02	762.5	30.23	767.8	42.5	5.8	94	NNW	0.2	0.1	.....	.....	0	.....	.....	0	0	Clear	S. Takehayashi.
Tokei, (Yeddo) Observatory	30.07	763.8	30.14	765.5	43.5	6.4	90	NE	5.4	2.4	.....	0	0	.....	.....	0	0	Clear	The Staff.
Wakayama	29.95	760.7	30.18	766.6	46.8	8.2	73	NE	4.7	2.1	.....	.....	0	.....	.....	0	0	Clear	

NOTE.—The data are published as given. The ram-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima																			R. Banda, C. E.
Guadalajara	25.12	638.1	30.35	771.0	40.1	4.5	54	Calm	.....	.....	0	.....	1	.....	Calm	0	0	Clear	Prof. L. Perez.
Leon	24.49	622.0	30.32	770.2	48.7	9.3	77	N	.....	.....	1	1c	0	.....	.....	0	0	Clear	Prof. M. Leal.
Mazatlan	29.78	756.5	30.05	763.2	68.7	17.6	69	Calm	.....	.....	0	0	0	.....	.....	0	0	Pleasant	I. Guerrero, C. E.
Mexico, Central Observatory	23.13	587.5	30.26	768.6	47.8	8.8	69	Calm	0	0	.....	4ks	0	.....	.....	0	0	Fair	The Staff.
Pabellon (Aguascalientes)					39.6	4.2	67	NW	.....	.....	1	2c	0	.....	.....	0	0	Clear	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.45	599.5	30.32	770.2	46.4	8.0	33	Calm	0	0	.....	7s	0	.....	.....	0	0	Cloudy	Prof. P. Spina.
San Luis Potosi	24.26	616.1	30.47	774.0	41.4	5.2	38	E	.....	.....	1	3	4	W	E	0	0	Cloudy	G. Barroeta, M. D.
Tlacotalpam	30.09	764.2	30.10	764.5	66.6	19.2	87	W	.....	.....	1	4	5	.....	.....	0	0	Cloudy	Prof. M. M. Chazaro.
Vera-Cruz																			Prof. J. Rossell
Zacatecas	22.59	573.8	30.32	770.1	47.7	8.7	50	Calm	0	0	.....	2s	0	.....	.....	0	0	Clear	J. C. Castrillon.

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,453.9 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column; the instrumental correction —0.88 mm., or —0.035 inch, has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.56	776.1	30.56	776.1	32.5	0.3	.....	NNW	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Groningen	30.48	774.1	30.53	775.5	39.7	4.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	
Helder	30.53	775.4	30.53	775 4	28.4	— 2.0	.....	SSE	.....	.....	1	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.53	775.4	30.53	775.4	31.5	— 0.3	89	NE	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	
Utrecht	30.50	774.8	30.55	776.0	26.1	— 3.3	83	SE	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.45	773.5	30.51	774.9	40.3	4.6	97	Calm	0	0			3			0.378	9.6		
Brönö	29.88	759.0	29.92	760.0	36.0	2.2	79	S	9	4			10			0	0		
Christiana	30.11	764.8	30.26	768.7	32.2	0.1	98	NNE	2	1			7			0	0	Foggy	
Tromsö	29.44	747.8	29.48	748.9	27.9	— 2.3	81	NE	9	4			10			0.417	10.6	Snowing	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	29.72	754.9	29.91	759.8	62.2	16.8	92	E	11.2	5.0			7			0	0		Dr. J. A. Sampaio.
Campo Major	29.25	742.9	30.39	769.7	39.6	4.2	87	NNE	6.3	2.8			10			0	0		Dr. A. M. R. dos Santos.
Funchal (Maderia)	30.03	762.7	30.11	764.9	66.2	19.0	77	ESE	3.1	1.4			10			0	0		Capt. D. A. de Cunha.
Lisbon Observatory	29.94	760.5	30.32	770.1	43.9	6.6	82	NNE	22.4	10.0			2			0	0		The Staff.
Ponta Delgada (Azores)	29.86	758.4	29.93	760.2	63.3	17.4	88	ESE	21.7	9.7			10			0	0		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE Naval Series. Vessels.																Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias																			A. G. da Silva Costa, Com'd't.
D. Fernando																			A. M. de Sande, Com'd't.
Duque da Terceira																			J. C. M. Cabrate, 1st Lt.
Mindello																			J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos																			H. de C. C. e Athayde.
Rio Duro																			J. T. d'Oliveria, Com'd't.
Rio Lima. Capt. S. C. da Silva Costa. Santiago, Cape Verd Ids					80.6	27.0		E			2		10	E		1	E	Raining, 6 hr's rain-fall.	A. D. de Fouseca Sarurento
Sá da Bandeira																			F. Teixeira da Silva, Comd't.
Sado, Capt. J. A. de Brito Capello, St. Paul de Loando			29.88	759.0	81.3	27.4		NW			3		8					Overcast	F. de Assis Camillo, jun., Q. M.
Tejo, Capt. J. M. T. Guimaraes, Macao, China			30.30	769.5	68.0	20.0		NNE			2		0			1	N	Blue sky	J. G. Felgo, 2nd Lieut.

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sá da Bandeirà gives the barometer reduced tofreezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	28.86	733.0	28.88	733.5	27.0	— 2.8	96	SW	13	6			10						Capt. Sseliwerstow.
Astrakhan	30.33	770.4	30.25	768.3	29.8	— 1.2	76	NW	22	10			10ks			Blank	Blank		Capt. Wisganow.
Barnaul	29.61	752.2	30.15	765.7	21.7	— 5.7	85	SW	9	4			10						Meteorological Obs.
Dorpat	29.80	757.0	30.06	763.4	36.3	2.4	94	WSW	13	6			10n						Prof. Dr. Weihrauch.
Ekaterinburg	28.34	719.8	29.34	745.2	22.1	— 5.5	80	NW	7	3			10						Meteorological Obs.
Irkutsk																			
Kasan	29.43	747.6	29.71	754.7	25.2	— 3.8	73	NW	7	3			10						Physical Cabinet.
Kertch																			Lagorio.
Kieff	29.69	754.1	30.36	771.2	29.5	— 1.4	100	NW	4	2			10n					Light fog	Physical Cabinet.
Krotkowo*	29.34	745.2	29.84	757.9	23.7	— 4.6	69	NNW	11	5			10						Cand. Fatjanow.
Lugan	30.05	763.3	30.26	768.7	33.1	0.6	89	W	9	4			10						Meteorological Obs.
Moscow	29.39	746.5	29.96	761.0	33.1	0.6	90	S	7.8	3.5			10s						Meteorological Obs.
Nertchinsk	28.18	715.8	30.91	785.0	—23.3	—30.7	82	Calm	0	0			0						Meteorological Obs.
Nikolaiev	30.44	773.1	30.51	774.9	27.3	— 2.6	98	Calm	0	0			10n						Kurdakof.
Nukuss	29.80	756.9	30.02	762.4	31.8	— 0.1	85	WNW	11	5			0						
Orenberg																			
Pekin (China)	30.13	765.3	30.27	768.9	36.7	2.6	51	NW	7	3			3k						Physical Observatory.
St. Petersburg	29.71	754.7	29.73	755.1	36.3	2.4	87	W	27	12			4n						Central Physical Obs.
Tashkend	28.56	725.5	30.21	767.4	34.2	1.2	82						10						Teich, A. M.
Tiflis	28.84	732.6	30.30	769.6	46.4	8.6	34	NW	45	20			1k						Physical Observatory.
Vladivostock																			
Warsaw	30.12	765.0	30.57	776.5	31.1	— 0.5	100	W	7	3			10						Astronomical Obs.
Wilna	29.93	760.3	30.38	771.6	35.1	1.7	96	W	7	3			10					Heavy clouds	Astronomical Obs.
Yenisiesk	29.71	754.5	30.01	762.3	20.3	— 6.5	86	SE	16	7			10					Snowing	Marks.

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	30.07	763.8	30.18	766.6	50.0	10	49	NE	2.3	1.03			5			0	0	½ Covered	Antonio Rave, Director
Bilbao, Met. Obs'y	30.32	770.0	30.37	771.5	41.7	5.4	67	SE	2.0	0.87		2	3	E		0	0	Cloudy	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.30	693.4			41.0	5.0	44	NE	2.4	1.09		0	1			0	0	Light clouds	Domingo Martin y Perez.
Madrid, Royal Observatory	27.98	710.8	30.31	769.8	42.1	5.6	55	NE	12.7	5.67		0	0			0.012	0.3	Clear.	The Staff.
Murcia, Met. Obs'y	30.05	763.2	30.20	767.1	55.0	12.8	51	WNW	3.7	1.64		1	3	NE		0	0	Clouds	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.42	747.3	30.34	770.7	44.8	7.1	61	NE	13.0	5.8			0			0	0	Clear.	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	30.06	763.4	30.12	765.1	68.5	20.3	90	NE	0	0		1c	1s	WSW		0	0	Hazy	Benito Vines S. J.
Manilla, Phillippine Islands																			Federico Faura, S. J.
San Fernando, Naval Obs'y	30.14	765.6	30.24	768.2	55.2	12.9	64	NNE	2.6	1.2		0	10		WSW	0	0		Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.98	761.6	30.08	763.9	72.3	22.4	99	SE	2.2	1.00		4cs	4kn	SE	SE	0.207	5.25	Raining	EnriqueGadea, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8.19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.54	750.3	29.58	751.3	18.0	— 7.8	.....	NW	.....	.....	6	.....	10	.....	.....	0	0	.....	
Umea	29.87	758.7	29.92	760.0	33.4	0.8	58	NW	.....	.....	7	.....	0	.....	.....	0	0	.....	
Hernosand	30.01	762.2	30.06	763.5	38.1	3.4	93	WNW	.....	.....	6	.....	2	.....	.....	0	0	.....	
Stockholm	30.08	763.9	30.25	768.4	39.2	4.0	80	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	
Wisby	30.19	766.9	30.25	768.4	39.6	4.2	84	W	.....	.....	4	.....	10	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	30.10	764.4	30.18	766.6	37.6	3.1	94	W	5.6	2.5	.....	.....	1	.....	W	0.002	0.05	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	28.88	733.6	30.42	772.7	18.3	— 7.6	100	ESE	.....	.....	1	.....	10	.....	.....	0	0	Foggy	The Observatory.
Zurich	28.68	728.4	30.48	774.2	9.7	—12.4	92	NW	.....	.....	1	.....	3	.....	.....	0	0	Foggy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +6.1 mm.; Thermometer, —0.9 Cent.; Relative Humidity, +20 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Constantinople	.....	.....	30.42	772.7	43.5	6.4	78	NE	18	8.0	.....	.....	10	.....	NE	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	30.17	766.2	56.3	13.5	.....	W	.....	.....	4	.....	0	.....	.....	0	0	Clear.	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.88	758.9	29.99	761.8	67.8	19.9	71	SW	.....	.....	1	.....	10n	.....	SW	0.01	0.3	Overcast	Prof. C. V. A. van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bathurst, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B.	29.79	756.7	29.86	758.4	10.3	—12.1	90	SW	3	1.3	.....	.....	10s	.....	.....	0	0	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	29.84	757.9	29.88	758.9	14.7	— 9.6	83	W	3	1.3	.....	cs	7s	.....	.....	0	0	Fair	H. J. Cundall, C. E.
Cornwall, Ontario	29.64	752.8	29.85	758.2	16.8	— 8.4	97	NW	.....	.....	1	0	5s	.....	.....	0.10	2.5	Fair	James Smith, M. A.
Dalhousie, N. B.	29.67	753.6	29.85	758.2	3.0	—16.1	.....	W	.....	.....	2	.....	10s	.....	.....	0	0	Gloomy	H. A. Johnson.
Father Point, Quebec	29.79	756.7	29.82	757.4	4.5	—15.3	87	S	5	2.2	.....	.....	10s	.....	.....	0	0	Cloudy	J. McWilliams.
Fredericton, N. B.	29.83	757.7	29.91	759.7	9.1	—12.7	100	Calm	0	0	.....	.....	10n	.....	.....	0.03	0.8	Light snow.	Prof. Harrison.
Fort Garry, Manitoba	29.50	749.3	30.52	775.2	—35.4	—37.4	100	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear.	James Stewart.
Granton, Ontario	28.91	734.3	30.09	764.3	19	— 7.2	.....	NW	.....	.....	1	.....	10n	.....	.....	0.30	7.6	Cloudy	James Grant.
Halifax, N. S.	29.80	756.9	29.94	760.5	22.0	— 5.6	89	Calm	0	0	.....	.....	10n	.....	.....	Inap.	Inap.	Cloudy	A. Allison.
Hamilton, Ontario	29.69	754.1	30.08	764.0	21.7	— 5.7	90	NW	.....	.....	1	.....	10s	.....	.....	0.11	2.8	Cloudy	Geo. Dickson, B. A.
Heart's Content, N. F.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.59	751.6	29.95	760.7	18.0	— 7.8	87	W	10	4.5	.....	10cs	0	.....	.....	0.37	9.4	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S.	29.84	757.9	29.88	758.9	25.2	— 3.8	90	SW	6	2.7	.....	7k	0	SW	.....	0	0	Cloudy	C. H. Rigby.
Montreal, Quebec	29.62	752.3	29.84	757.9	15.3	— 9.3	88	W	4	1.8	.....	.....	10s	.....	.....	0.07	1.8	Overcast	C. H. McLeod, C. E.
Moose Factory, Ontario	30.02	762.5	30.06	763.5	—23.4	—30.8	100	W	.....	.....	4	0	0	.....	.....	0	0	Clear.	J. R. Nelson.
Norwood	29.20	741.7	29.94	760.5	19.2	— 7.1	.....	W	.....	.....	1	.....	10s	.....	.....	0.20	5.1	Cloudy	Rev. T. F. Fotheringham, M. A.
Parry Sound, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. R. Mosley.
Peterboro, Ontario	29.19	741.4	29.99	761.7	20.4	— 6.4	48	NW	.....	.....	2	.....	10n	.....	.....	0.13	3.3	Snowing	J. F. Jeffers, M. A.
Port Dover, Ontario	29.36	745.7	30.11	764.8	20.1	— 6.6	85	W	8	3.6	.....	5k	5n	W	W	0.30	7.6	Cloudy	H. Morgan.
Port Hastings, N. S.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.43	747.5	30.13	765.3	16 6	— 8 6	92	W	15	6.7	.....	.....	10ks	.....	W	0	0	Cloudy	M. Payne.
Quebec, Quebec	29.50	749.3	29.84	757.9	9	—12.8	89	Calm	.....	.....	0	.....	Fog	.....	.....	0.02	0.5	Light snow.	Capt. Ashe, R. N.
Rockliffe, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. McIntyre.
St. Andrews, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Gove.
St. John, N. B.	29.71	754.6	29.89	759.2	15	— 9.4	100	N	5	2.2	.....	.....	10n	.....	.....	0.12	3.0	Light snow.	G. Murdock, C. E.
Saugeen, Ontario	29.32	744.7	30.09	764.3	18.0	— 7.8	88	N	33	14.8	.....	.....	10s	.....	.....	0.17	4.3	Overcast	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.70	729.0	30.07	763.8	18.0	— 7.8	92	NW	10	4.5	.....	.....	10s	.....	.....	0.20	5.1	Cloudy	C. J. MacGregor, M. A.
Sydney, C. B.	29.84	757.9	29.88	758.9	23.4	— 4.8	77	SW	5	2.2	.....	10cs	3s	.....	.....	0.04	1.0	Overcast	T. C. Hill, C. E.
Toronto, Ontario	29.66	753.4	30.07	763.8	18.2	— 7.7	88	W	7	3.1	.....	0	10s	.....	NW	0.30	7.6	Cloudy	Magnetic Observatory.
Windsor, N. S.	29.79	756.7	29.89	759.2	18.0	— 7.8	100	SW	3	1.3	.....	.....	10n	.....	.....	.....	.....	Snowing	Prof. John E. Oram, M. A.
Woodstock, Ontario	28.96	735.6	30.11	764.8	18.3	— 7.6	90	W	13	5.8	.....	0	6s;ks	.....	.....	0	0	Fair	Prof. J. Montgomery.
Yarmouth, N. S.	29.83	757.7	29.90	759.4	30.7	— 0.7	95	SE	9	4.0	.....	.....	10n	.....	.....	0.08	2.0	Snowing	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.58	751.3	29.85	758.2	25	— 3.9	100	W	.....	.....	.....	.....	10	.....	.....	Inap.	Inap.	.....	John Delany.
St. Pierre, N. F., l'Hopital Maritime	.....	.....	29.84	757.8	27.3	— 2.6	.....	NW	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	The Commandant
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer.
Albany, New York	29.67	753.6	29.91	759.7	32	0.0	79	S	2	0.9	.....	.....	10s	.....	W	0.08	2.0	Cloudy	
Alpena, Michigan	29.47	748.5	30.18	766.6	10	—12.2	79	NW	14	6.3	.....	0	0	.....	.....	0.10	2.5	Clear.	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	29.03	737.3	30.20	767.1	46	7.8	61	NW	8	3.6	.....	0	Sm'e	.....	Calm	0	0	Smoky	
Atlantic City, New Jersey	29.98	761.5	30.00	762.0	40	4.4	73	SW	8	3.6	.....	10k	0	W	.....	Inap.	Inap.	Cloudy	
Augusta, Georgia	30.08	764.0	30.29	769.4	36	2.2	90	NW	2	0.9	.....	0	Haze	.....	Calm	0	0	Clear.	
Baltimore, Maryland	29.98	761.5	30.03	762.7	39	3.9	64	S	3	1.3	.....	8ck	0	W	.....	0	0	Fair	
Barnegat, New Jersey	29.96	761.0	29.98	761.5	39	3.9	73	W	10	4.5	.....	.....	10s	.....	W	0	0	Cloudy	
Bismarck, Dakota	28.56	725.4	30.42	772.7	—18	—27.8	100	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Boerne, Texas	28.59	726.2	29.91	759.7	54	12.2	100	SW	3	1.3	.....	.....	Fog	.....	Calm	0	0	Dense fog	
Boise City, Idaho	27.23	691.6	30.19	766.8	32	0.0	79	S	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Boston, Massachusetts	29.71	754.6	29.87	758.7	35	1.7	70	W	5	2.2	.....	0	8ks	.....	W	0	0	Fair	
Brackettville, Texas	28.85	732.8	29.92	760.0	48	8.9	93	E	7	3.1	.....	0	0	.....	.....	0	0	Clear.	
Breckenridge, Minnesota	29.43	747.5	30.64	778.2	—23	—30.6	100	W	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Brownsville, Texas	30.02	762.5	30.07	763.8	58	14.4	88	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Buffalo, New York	29.31	744.5	30.04	763.0	25	— 3.9	75	W	18	8.0	.....	0	5s	.....	W	0.33	8.4	Fair	
Burkes, Arizona	.....	.....	.....	.....	35	1.7	61	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear.	
Burlington, Vermont	29.56	750.8	29.86	758.4	27	— 2.8	88	S	6	2.7	.....	.....	10n	.....	W	0.05	1.3	Light snow.	
Cairo, Illinois	29.84	757.9	30.26	768.6	35	1.7	70	NE	20	8.9	.....	.....	10s	.....	W	0	0	Cloudy	
Campo, California	27.48	698.0	30.05	763.3	26	— 3.3	88	E	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Cape Hatteras, N. Carolina	30.15	765.8	30.16	766.1	50	10.0	52	W	8	3.6	.....	Haze	Haze	.....	.....	0	0	Hazy	
Cape Henry, Virginia	30.06	763.5	30.08	764.0	41	5.0	39	SW	16	7.2	.....	0	0	.....	.....	0	0	Clear.	
Cape Lookout, N. Carolina	30.15	765.8	30.17	766.3	51	10.6	59	NW	22	9.8	.....	0	0	.....	.....	0	0	Clear.	
Cape May, New Jersey	29.97	761.2	30.00	762.0	44	6.7	60	SW	22	9.8	.....	0	8ks	.....	SW	0	0	Cloudy	
Castroville, Texas	29.27	743.4	29.98	761.5	50	10.0	100	W	2	0.9	.....	.....	Fog	.....	S	0	0	Foggy	
Cedar Keys, Florida	30.22	767.6	30.24	768.1	48	8.9	63	N	11	4.9	.....	0	5s	.....	S	0	0	Fair	
Charleston, South Carolina	30.15	765.8	30.21	767.3	45	7.2	68	W	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Charlotte, North Carolina	29.28	743.7	30.13	765.3	36	2.2	71	SW	3	1.3	.....	0	Sm'e	.....	Calm	0	0	Smoky	
Chattanooga, Tennessee	29.38	746.2	30.21	767.3	40	4.4	73	W	4	1.8	.....	2k	Sm'e	W	Calm	0	0	Fair	
Cheyenne, Wyoming	24.01	609.8	29.95	760.7	11	—11.7	60	S	8	3.6	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Chicago, Illinois	29.57	751.1	30.33	770.4	9	—12.8	78	NW	8	3.6	.....	.....	10s	.....	Calm	0.15	3.8	Cloudy	
Cincinnati, Ohio	29.50	749.3	30.18	766.6	36	2.2	71	N	8	3.6	.....	5ck	2s	W	Calm	0	0	Fair	
Cleveland, Ohio	29.42	747.3	30.19	766.8	25	— 3.9	75	W	16	7.2	.....	10k	0	W	.....	0.02	0.5	Cloudy	
Coleman City, Texas	28.31	719.1	30.06	763.5	34	1.1	43	N	5	2.2	.....	0	0	.....	.....	0	0	Clear.	
Columbus, Ohio	29.29	744.0	30.18	766.6	31	— 0.6	79	N	10	4.5	.....	.....	10ks	.....	NW	0	0	Cloudy	
Concho, Texas	28.10	713.7	29.82	757.4	42	5.6	66	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear.	
Corsicana, Texas	29.54	750.3	30.00	762.0	58	14.4	88	S	20	8.9	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Davenport, Iowa	29.74	755.4	30.45	773.4	9	—12.8	78	NW	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Dayton, Washington T'y	.....	.....	.....	.....	33	0.6	79	SW	.....	.....	1	Haze	Haze	Calm	Calm	0	0	Hazy	
Deadwood, Dakota	25.44	646.2	.....	.....	— 6	—21.1	23	Calm	0	0	.....	0	0	.....	.....	0.68	17.3	Clear	
Decatur, Texas	29.01	736.8	30.24	768.1	35	1.7	61	NW	8	3.6	.....	.....	10s	.....	W	0	0	Cloudy	
Denison, Texas	29.18	741.1	29.98	761.5	51	10.6	86	NW	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Denver, Colorado	24.84	630.9	30.06	763.5	16	— 8.9	91	N	8	3.6	.....	.....	Fog	.....	.....	0	0	Foggy	
Des Moines, Iowa	29.57	751.1	30.57	776.5	3	—16.1	73	N	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy	
Detroit, Michigan	29.48	748.8	30.21	767.3	16	— 8.9	83	NW	4	1.8	.....	0	5s	.....	NW	0.36	9.1	Fair	
Dodge City, Kansas	27.70	703.6	30.25	768.3	8	—13.3	55	N	20	8.9	.....	.....	10s	.....	W	0	0	Cloudy	
Dubuque, Iowa	29.66	753.4	30.46	773.7	0	—17.8	70	NW	7	3.1	.....	.....	10ks	.....	SW	0	0	Cloudy	
Duluth, Minnesota	29.69	754.1	30.50	774.7	—15	—26.1	71	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Eagle Pass, Texas	29.26	743.2	30.02	762.5	40	4.4	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	29.77	756.1	29.84	757.9	23	— 5.0	100	NE	8	3.6	.....	.....	10n	.....	.....	0.11	2.8	Heavy snow	
Edinburg, Texas	.....	.....	.....	.....	61	16.1	88	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear.	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.37	746.0	30.12	765.0	28	— 2.2	77	NW	13	5.8	.....	.....	10ks	.....	NW	0.09	2.3	Cloudy	
Escanaba, Michigan	29.58	751.3	30.31	769.9	3	—16.1	73	NW	7	3.1	.....	0	0	.....	.....	0	0	Clear.	
Florence, Arizona	28.54	724.9	30.14	765.5	43	6.1	67	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	28.32	719.3	30.55	776.0	—28	—33.3	44	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Fort Custer, Montana	27.01	686.0	.....	.....	—15	—26.1	.....	SE	4	1.8	.....	0	0	.....	.....	0.01	0.3	Clear.	
Fort Davis, Texas	25.23	640.8	30.19	766.8	40	4.4	39	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Fort Gibson, Indian Ter	29.54	750.3	30.10	764.5	35	1.7	70	NW	9	4.0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Grant, Arizona	25.26	641.6	30.06	763.5	44	6.7	39	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Fort Griffin, Texas	28.83	732.3	30.16	766.1	32	0.0	69	NE	18	8.0	.....	0	0	.....	.....	.....	.....	.....	
Fort Keogh, Montana	27.55	699.8	.....	.....	—24	—31.1	.....	W	5	2.2	.....	0	2s	.....	Calm	Inap.	Inap.	Fair	
Fort McKavett, Texas	27.75	704.8	29.69	754.1	42	5.6	83	W	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.91	734.3	30.11	764.8	21	— 6.1	57	N	34	15.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Stevenson, Dakota	28.58	725.9	.....	.....	—24	—31.1	100	NW	5	2.2	.....	2c	0	Calm	.....	0	0	Fair	
Fort Verde, Arizona	.....	.....	.....	.....	25	— 3.9	62	NW	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.18	715.8	29.73	755.1	55	12.8	68	S	3	1.3	.....	.....	10s	.....	Calm	0	0	Foggy	
Galveston, Texas	30.08	764.0	30.13	765.3	62	16.7	88	S	3	1.3	.....	0	8ks	.....	SW	0	0	Cloudy	
Graham, Texas	29.14	740.1	30.28	769.1	28	— 2.2	77	NW	15	6.7	.....	.....	10s	.....	N	0	0	Cloudy	
Grand Haven, Michigan	29.53	750.0	30.23	767.8	21	— 6.1	100	N	8	3.6	.....	.....	10n	.....	Calm	0.65	16.5	Light snow.	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.21	741.9	30.22	767.6	22	— 5.6	72	N	24	10.7	.....	.....	10s	.....	N	0	0	Cloudy	
Indianapolis, Indiana	29.36	745.7	30.19	766.8	27	— 2.8	76	N	5	2.2	.....	.....	10s	.....	N	0	0	Cloudy	
Indianola, Texas	30.08	764.0	30.11	764.8	58	14.4	94	S	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Jacksboro, Texas	28.90	734.0	30.08	764.0	34	1.1	79	N	12	5.4	.....	0	8s	.....	N	0	0	Fair	
Jacksonville, Florida	30.23	767.8	30.25	768.3	38	3.3	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Keokuk, Iowa	29.71	754.6	30.40	772.1	14	—10.0	82	NW	7	3.1	.....	.....	10n	.....	Calm	0.02	0.5	Light snow.	
Key West, Florida	30.09	764.3	30.12	765.0	73	22.8	85	NE	8	3.6	.....	5k	0	N	.....	0	0	Fair	
Kittyhawk, North Carolina	30.10	764.5	30.12	765.0	46	7.8	54	W	16	7.2	.....	0	0	.....	.....	0	0	Clear.	
Knoxville, Tennessee	29.16	740.7	30.21	767.3	37	2.8	81	Calm	0	0	.....	0	Haze	.....	.....	0	0	Dense haze	
La Crosse, Wisconsin	29.62	752.3	30.47	773.9	— 4	—20.0	65	N	7	3.1	.....	0	0	.....	.....	0.09	2.3	Clear.	
La Mesilla, New Mexico	26.14	663.9	30.30	769.6	23	— 5.0	73	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Laredo, Texas	29.61	752.1	29.96	761.0	45	7.2	84	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.52	749.8	30.46	773.7	14	—10.0	64	N	17	7.6	.....	.....	10s	.....	.....	0	0	Cloudy	
Lewiston, Idaho	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Little Rock, Arkansas	29.76	755.9	30.12	765.0	46	7.8	92	SW	2	0.9	.....	.....	10s	.....	SW	0	0	Cloudy	
Los Angeles, California	29.73	755.1	30.07	763.8	45.0	7.2	92	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Louisville, Kentucky	29.59	751.6	30.18	766.6	33	0.6	70	N	11	4.9	.....	2ck	1s	Calm	Calm	0	0	Fair	
Lynchburg, Virginia	29.38	746.2	30.08	764.0	43	6.1	58	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Madison, Wisconsin	29.29	744.0	30.41	772.4	— 1	—18.3	68	W	11	4.9	.....	2cs	0	NW	.....	0.45	11.4	Fair	
Marquette, Michigan	29.50	749.3	30.28	769.1	4	—15.6	74	W	12	5.4	.....	0	0	.....	.....	0.04	1.0	Clear	
Mason, Texas	28.38	720.8	30.16	766.1	47	8.3	85	N	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Memphis, Tennessee	29.50	756.9	30.14	765.5	47	8.3	77	N	6	2.7	.....	5ck	Sm'e	W	Calm	0	0	Fair	
Milwaukee, Wisconsin	29.53	750.0	30.36	771	0	—17.8	70	NW	13	5.8	.....	0	1s	.....	Calm	0.48	12.2	Clear	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mobile, Alabama	30.20	767.1	30.25	768.3	40.5	4.7	95	S	1	0.4	.....	0	Sm'e	.....	.....	0	0	Smoky	
Montgomery, Alabama	30.04	763.0	30.28	769.1	39	3.9	95	S	1	0.4	.....	.....	Fog	.....	Calm	0	0	Dense fog	
Morgantown, West Virginia	29.11	739.4	30.13	765.3	36	2.2	80	NE	18	8.0	.....	.....	10n	.....	NE	Inap.	Inap.	Light snow.	
Mt. Washington, N. H.	23.24	590.3	29.60	751.8	10	—12.2	100	NW	54	24.1	.....	.....	Fog	.....	NW	0	0	Foggy	
Nashville, Tennessee	29.62	752.3	30.18	766.6	43	6.1	74	Calm	0	0	.....	0	5ks	.....	SW	0	0	Fair	
New Haven, Connecticut	29.79	756.7	29.91	759.7	42	5.6	58	W	10	4.5	.....	.....	10s	.....	W	0	0	Cloudy	
New London, Connecticut	29.84	757.9	29.89	759.2	40	4.4	65	W	6	2.7	.....	.....	10s	.....	W	Inap.	Inap.	Cloudy	
New Orleans, Louisiana	30.16	766.1	30.22	767.6	53	11.7	73	SE	4	1.8	.....	0	Sm'e	.....	Calm	0	0	Smoky	
Newport, Rhode Island	29.82	757.4	29.87	758.7	42	5.6	74	W	16	7.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
New River, North Carolina	.....	.....	.....	.....	44	6.7	60	W	.....	.....	1	0	0	.....	.....	.....	.....	Clear	
New York, New York	29.79	756.7	29.97	761.1	37	2.8	71	W	8	3.6	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Norfolk, Virginia	30.00	762.0	30.07	763.8	41	5.0	49	S	10	4.5	.....	0	0	.....	.....	0	0	Clear	
North Platte, Nebraska	27.41	696.2	30.32	770.1	3	—16.1	87	NE	6	2.7	.....	.....	10s	.....	Calm	0.04	1.0	Cloudy	
Olympia, Washington Ter.	30.03	762.7	30.07	763.8	38.0	3.3	96	S	3	1.3	.....	.....	10n	.....	Calm	0.07	1.8	Light rain	
Omaha, Nebraska	29.32	744.7	30.58	776.7	1	—17.2	71	NW	12	5.4	.....	.....	10s	.....	Calm	0.06	1.5	Cloudy	
Oswego, New York	29.64	752.8	29.97	761.2	31	— 0.6	69	NW	16	7.2	.....	.....	10s	.....	NW	0.49	12.4	Cloudy	
Pembina, Dakota	29.47	748.5	30.49	774.4	—40	—40.0	100	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Pensacola, Florida	30.26	768.6	30.29	769.4	42	5.6	83	NE	5	2.2	.....	0	Haze	.....	Calm	0	0	Clear.	
Philadelphia, Pennsylvania	29.92	760.0	29.98	761.5	38	3.3	63	SW	5	2.2	.....	.....	10ks	.....	W	0	0	Cloudy	
Phœnix, Arizona	28.88	733.5	30.74	780.8	43	6.1	67	E	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Pike's Peak, Colorado	17.52	445.0	29.73	755.1	8	—13.3	55	W	52	23.2	.....	2cs	0	Calm	.....	0	0	Clear	
Pilot Point, Texas	29.41	747.0	30.26	768.6	47	8.3	35	N	.....	.....	.....	2k	0	NW	.....	0	0	Fair	
Pioche, Nevada	.....	.....	.....	.....	33	0.6	51	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.28	743.7	30.13	765.3	32	0.0	79	NW	10	4.5	.....	.....	10s	.....	NW	0	0	Cloudy	
Port Huron, Michigan	29.45	748.0	30.18	766.6	8	—13.3	78	W	8	3.6	.....	.....	10s	.....	Calm	0.35	8.9	Cloudy	
Portland, Maine	29.78	756.4	29.83	757.7	29	— 1.7	78	W	8	3.6	.....	0	5s	.....	Calm	0.02	0.5	Fair	
Portland, Oregon	30.07	763.8	30.14	765.5	39	3.9	91	S	1	0.4	.....	Haze	8s	.....	.....	0	0	Cloudy	
Portsmouth, North Carolina	.....	.....	.....	.....	50	10.0	58	W	17	7.6	.....	0	0	.....	.....	0	0	Clear.	
Prescott, Arizona	24.82	630.4	30.18	766.6	25	— 3.9	75	NE	.....	.....	1	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.14	765.5	30.16	766.1	61	16.1	71	NE	12	5.4	.....	1k	0	Calm	.....	0	0	Clear	
Red Bluff, California	29.72	754.9	30.09	764.3	40	4.4	86	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.84	757.9	30.06	763.5	54	12.2	93	E	2	0.9	.....	0	Fog	.....	.....	0	0	Clear	
Rochester, New York	29.34	745.2	29.99	761.7	26	— 3.3	88	W	18	8.0	.....	.....	10s	.....	W	0.28	6.9	Cloudy	
Roseburg, Oregon	29.56	750.8	30.16	766.1	35.5	1.9	95	E	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sacramento, California	30.00	762.0	30.08	764.0	39	3.9	100	Calm	0	0	.....	.....	Fog	.....	.....	0	0	Foggy	
St. Louis, Missouri	29.71	754.6	30.33	770.4	24	— 4.4	74	N	14	6.3	.....	.....	10s	.....	NW	0	0	Cloudy	
St. Paul, Minnesota	29.52	749.8	30.48	774.2	— 6	—21.1	43	W	5	2.2	.....	0	0	.....	.....	0.02	0.5	Clear	
Salt Lake City, Utah	25.64	651.2	29.97	761.2	34	1.1	70	Calm	0	0	.....	2k	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.38	746.2	29.97	761.2	53	11.7	93	S	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
San Diego, California	30.02	762.5	30.10	764.5	51	10.6	93	N	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.49	749.0	30.21	767.3	25	— 3.9	87	NW	19	8.5	.....	.....	10s	.....	NW	0.06	1.5	Cloudy	
Sandy Hook, New Jersey	29.92	760.0	29.95	760.7	38	3.3	72	SW	16	7.2	.....	5ck	2s	NW	NW	0	0	Fair	
San Francisco, California	29.99	761.7	30.06	763.5	48	8.9	78	N	5	2.2	.....	0	0	.....	.....	0	0	Clear.	
Santa Fé, New Mexico	23.30	591.8	29.84	757.9	17	— 8.3	35	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.15	765.8	30.25	768.3	46	7.8	62	W	3	1.3	.....	0	Sm'e	.....	Calm	0	0	Clear.	
Shreveport, Louisiana	29.86	758.4	30.09	764.3	50	10.0	93	S	4	1.8	.....	0	5s	.....	Calm	0.02	0.5	Fair	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.17	766.3	30.21	767.3	44	6.7	60	W	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Socorro, New Mexico	25.47	646.9	29.54	750.3	22	— 5.6	45	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois	29.66	753.4	30.40	772.1	19	— 7.2	69	N	12	5.4	.....	.....	10s	.....	NW	0	0	Cloudy	
Springfield, Massachusetts	29.76	755.9	29.90	759.4	35	1.7	61	S	4	1.8	.....	.....	10ks	.....	SW	0	0	Cloudy	
Stockton, Texas	26.97	685.0	29.97	761.2	47	8.3	15	W	12	5.4	.....	0	0	.....	.....	0	0	Clear.	
Thatcher's Island, Mass	29.80	756.9	29.86	758.4	36	2.2	71	W	11	4.9	.....	.....	10s	.....	W	0	0	Cloudy	
Toledo, Ohio	29.48	748.8	30.21	767.3	25	— 3.9	87	N	8	3.6	.....	10k	0	NW	.....	0.12	3.0	Clearing	
Tucson, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon	29.76	755.9	30.27	768.8	31.5	— 0.3	94	SE	2	0.9	.....	.....	10s	.....	.....	0.04	1.0	Cloudy	
Uvalde, Texas	29.18	741.1	30.01	762.2	48	8.9	78	NE	2	0.9	.....	.....	Fog	.....	Calm	0	0	Dense fog	
Vicksburg, Mississippi	29.96	761.0	30.22	767.6	48	8.9	93	S	10	4.5	.....	0	0	.....	.....	0	0	Clear.	
Virginia City, Montana	24.17	613.9	29.65	753.1	3	—16.1	73	Calm	0	0	.....	0	0	.....	.....	0.02	0.5	Clear	
Visalia, California	29.66	753.4	30.05	763.3	32	0.0	100	N	1	0.4	.....	0	Fog	.....	Calm	0	0	Foggy	
Washington, D. C.	29.99	761.7	30.03	762.7	38	3.3	54	S	4	1.8	.....	8cs	0	SW	.....	0	0	Fair	
Wickenburg, Arizona	.....	.....	.....	.....	30	— 1.1	68	NW	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Wilmington, North Carolina	30.11	764.8	30.20	767.1	41	5.0	65	W	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Winnemucca, Nevada	25.62	650.7	29.98	761.5	37	2.8	71	SW	9	4.0	.....	0	4s	.....	Calm	0	0	Fair	
Wood's Holl, Massachusetts	29.84	757.9	29.87	758.7	44	6.7	59	W	16	7.2	.....	.....	10s	.....	SW	0	0	Cloudy	
Yankton, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Yuma, Arizona	29.87	758.7	30.02	762.5	44	6.7	68	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Sub-Series.																			
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	30.04	763.0	30.09	764.3	73	22.8	81	Calm	0	0	.....	0	0	.....	.....	0	0	Foggy	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.11	764.8	30.12	765.0	73	22.8	95	Calm	0	0	.....	.....	2cs	.....	.....	.....	.....	Fair	James Gall.
Navassa, W. I.	29.97	761.2	30.05	763.3	76	24.4	73	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.99	761.7	29.99	761.7	79	26.1	87	E	.....	.....	2	5k	8ks	E	.....	0.080	2.03	Cloudy	C. J. Hering.
Santiago de Cuba, W. I.	30.05	763.3	30.07	763.8	74	23.3	81	NNW	1.2	0.5	.....	0	2s	.....	NE	Blank	Blank	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	30.11	764.8	30.17	766.3	—45.0	—42.8	.....	E	12	5.4	.....	0	0	.....	.....	0.13	3.3	Clear.	J. Fortescue & W. Wood
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1 040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 5.15 in., or 130.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.3 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.34‡	770.6‡	.....	.....	44	6.7	84	NW	3	1.3	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Navy Yard, Portsmouth, N.H	29.77‡	756.1‡	.....	.....	28	— 2.2	88	N	3	1.3	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Adams, Mare I'd., Navy Yard, Cal.	30.17‡	766.3‡	.....	.....	44	6.7	100	SE	.....	.....	3	.....	10	.....	SE	.....	.....	.....	.....	Cloudy	
Alaska, S. 18° 30′, W. 70° 33′	29.97‡	761.2‡	.....	.....	67	19.4	84	E	.....	.....	2	.....	10	.....	.....	.....	.....	Long	SW	Hazy	
Colorado, New York, . Y.	29.92‡	760.0‡	.....	.....	37	2.8	71	WSW	5	2.2	.....	.....	10	.....	W	0	0	.....	.....	Misty	
Constitution, N. 31° 27′, W. 59° 54′	30.17‡	766.3‡	.....	.....	67	19.4	95	NE	.....	.....	3	.....	10	.....	ESE	.....	.....	Light	SE	Overcast	
Enterprise, Smyrna, Turkey	30.22‡	767.6‡	.....	.....	54	12.2	61	ENE	.....	.....	5	.....	1	.....	E	.....	.....	Mod'ate	.....	Clear	
Franklin, Off Navy Yard, Norfolk, Va.	30.11‡	764.8‡	.....	.....	40	4.4	56	WNW	9.6	4.3	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Independence, Mare I'd, Navy Yard, Cal.	30.05‡	763.3‡	.....	.....	49	9.4	85	SE	3.6	1.6	.....	.....	0	.....	.....	0.024	0.61	.....	.....	Foggy	
Kearsarge, Santiago de Cuba, W. I.	30.08‡	764.0‡	.....	.....	73	22.8	81	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	.....	Clear	
Lackawana, Honolulu, Sandwich Id's†	30.03‡	762.7‡	.....	.....	69	20.6	100	NE	.....	.....	1	.....	2	.....	.....	.....	.....	Smooth	.....	Clear	
Marion, N. 39° 30′, W. 66° 32′	30.00‡	762.0‡	.....	.....	54	12.2	80	WNW	.....	.....	1	.....	10	.....	Calm	Light	Light	Mod'ate	N;W	Drizzling	
Michigan, Erie, Pa.	30.09‡	764.3‡	.....	.....	28	— 2.2	88	SW	.....	.....	2	.....	8	.....	SW	.....	.....	.....	.....	Overcast	
Monocacy, Shanghai, China.	30.19‡	766.8‡	.....	.....	46	7.8	92	SE	.....	.....	0–1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
New Hampshire, Port Royal, S. C.	30.25‡	768.3‡	.....	.....	48	8.9	78	NW	6	2.7	.....	.....	1	.....	NW	0	0	.....	.....	Clear	
Nipsic, Norfolk, Va.	30.08‡	764.0‡	.....	.....	41	5.0	68	SW	.....	.....	3	.....	2	.....	.....	.....	.....	.....	.....	Hazy	
Onward, Callao, Peru †.	29.95‡	760.7‡	.....	.....	65	18.3	94	Calm	.....	.....	0	.....	8	.....	.....	.....	.....	Mod'ate smooth	W	Foggy	
Palos, Tientsin, China.	30.22‡	767.6‡	.....	.....	36	2.2	100	E	.....	.....	3	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Passaic, Washington, D. C.	30.00‡	762.0‡	.....	.....	39	3.9	91	SW	.....	.....	1	.....	8	.....	E	.....	.....	.....	.....	Cloudy	
Pensacola, Callao, Peru	29.95‡	760.7‡	.....	.....	65	18.3	94	SSE	.....	.....	1	.....	10	.....	.....	.....	.....	Smooth	.....	Foggy	
Powhatan, Navy Yard, Brooklyn, N.Y.	29.99‡	761.7‡	.....	.....	39	3.9	64	WSW	.....	.....	2	.....	8	.....	SW	0	0	.....	.....	Cloudy	
Quinnebaug, Villafranca, France.	30.15‡	765.8‡	.....	.....	59	15.0	38	W	.....	.....	2	.....	5	.....	W	.....	.....	.....	.....	Fair	
Ranger, N. 25° 55′, W. 160° 13′	30.11‡	764.8‡	.....	.....	72	22.2	80	ESE	.....	.....	3	.....	1	.....	SE	.....	.....	Smooth	.....	Fair	
Richmond, Amoy, China.	30.15‡	765.8‡	.....	.....	63	17.2	67	ENE	.....	.....	2	.....	0	.....	.....	.....	.....	Smooth	.....	Clear	
Rio Bravo, Brownsville, Texas. †	30.25‡	768.3‡	.....	.....	57	13.9	100	SW	2	0.9	.....	.....	2	.....	Calm	0	0	.....	.....	Foggy	
Santee. Annapolis, Md	30.12‡	762.5‡	.....	.....	42	5.6	74	SW	.....	.....	2	.....	10	.....	SW	0	0	.....	.....	Overcast	
Shenandoah, S. 34° 22′, W. 52° 30′	29.91‡	759.7‡	.....	.....	68	20.0	84	WNW	.....	.....	5	.....	1	.....	NNW	.....	.....	Smooth	.....	Clear	
St. Louis, League Island, Pa.	29.99‡	761.7‡	.....	.....	37	2.8	82	SW	8	3.6	.....	.....	8	.....	WSW	0	0	.....	.....	Cloudy	
Tennessee, Navy Yard, Brooklyn, N.Y.	29.96‡	761.0‡	.....	.....	37	2.8	90	SSW	.....	.....	3	.....	10	.....	.....	.....	.....	.....	.....	Cloudy	
Tuscarora, N. 15° 55′, W. 97° 27′	29.90‡	759.4‡	.....	.....	76	24.4	86	NE	.....	.....	2	.....	2	.....	Calm	0	0	Smooth	.....	Clear	
Vandalia, Navy Yard, Brooklyn, N.Y	29.95‡	760.7‡	.....	.....	41	5.0	74	WSW	.....	.....	2	.....	10	.....	WSW	.....	.....	.....	.....	Cloudy	
Wabash, Boston, Mass.	29.89‡	759.2‡	.....	.....	33	0.6	79	WSW	3	1.3	.....	.....	10	.....	.....	0	0	.....	.....	Overcast	
Wachusett, Rio de Janeiro, Brazil. †	30.44‡	773.2‡	.....	.....	75	23.9	90	SSE	.....	.....	2	.....	10	.....	Calm	.....	.....	.....	.....	Cloudy	
Wyoming, Cartagena, Spain	30.18‡	766.6‡	.....	.....	55	12.8	33	N	.....	.....	2–3	.....	2	.....	N	.....	.....	Smooth	N	Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		CHARACTER.	DIRECTION FROM—		

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S. S. Samaria																			Capt. T. Roberts.

NOTE—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitebury.
S. S. Costa Rica																			W. House & R. Lawless.
S. S. Dakota, Capt. H. G. Morse																			Capt. Connolly.
S. S. Georgia																			F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin																			Capt. A. Fuller.
S. S. Wilmington																			R. C. Ghest, 1st Officer.
S. S. Zealandia, Sydney, New South Wales		30.02‡	762.5‡				WSW			3				W				Fine	

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The orginals give the barometer as read off; wind-force by the scale 0 to to 12; for the Brittanic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer N. 39° 39′, E. 159° 37′...†		29.95‡	760.7‡	49	9.4	85	ENE			6		8		NE		Heavy	ENE	Squally	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson N. 40° 18′, W. 173° 20′...†		29.93‡	760.2‡	56	13.3		ESE			4		n		SE	Considerable	Rough	SE	Raining	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Pfeiffer																			S. Risius, 3rd Officer.
S. S. Nornberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa.		30.06‡	763.5‡	36	2.2		SW			2		6		SW	0			Cloudy	Capt. R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer
S. S. Pennsylvania																			Capt. Harris.
RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents.																			
S. S. Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland, N. 41° 21,′ W. 55° 48′†		29.95‡	760.7‡	52	11.1		NW	6	2.7			2		NW		Rough	NW	Fine	Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson,
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES—Miscellaneous.																			
Furnished by the co-operation of the Observers named.																			
Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Barkentine "Carrie Heckle" N. 24° 44′, W. 39° 45′...*		29.79‡	756 7‡	69.5	20.8		N			5		8		N	Showers.	Rough	NNE	Fair	B. F. Woodbury.
Brigantine "George" of Halifax																			N. B. Foss.
Schooner Harry and Fred																			Capt. George Gardner.
Haytian																			
§ Iron Cross																			Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; do not distinguish between upper and lower clouds; sea-swell in general terms, as published. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. *The error of the barometer is not known. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time. *Instrumental error not known.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

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BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 18, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE TOWN, C. G. H. mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.13	765.2	60.4	15.8	75	SE			1		2			0	0	Fair	
Nemours			30.24	768.2	57.6	14.2	76	E			1		8			0	0	Very cloudy	Kesxuche.
Algiers			30.22	767 6	54.3	12.4	80	W			3		10			0.866	22.0	Covered.	Tourilliere.
La Calle			30.18	766.5	53.2	11.8	89	NNW			2		8			0.075	1.9	Very cloudy	Foufrede.
Tunis																			Jacques.
Sfax			30.18	766.5															Gau.
Saida																			Herbin.
Tebessa			30.24	768.2	38.5	3.6	76	SSE			1		10			0	0	Covered	Watrin.
Geriville					42.3	5.7	51	NNW			2		10					Snowing	Brugniuax.
Laghouat			30.22	767.6	49.3	9.6	38	W			2		2			0	0	Fair	Bertrand.
Biskra			30.21	767.2	57.6	14.2	73	NNW			3		0			0	0	Clear.	Chanvaux.

NOTE.—The originals give the amount of cloudiness by the scale 0-4; no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.93	760.3	30.54	775.7	16.9	— 8.4	88	NE			1		6			0	0		Prof. Ivan Stosir.
Cracow, I. R. Observatory	29.70	754.3	30.53	775.5	20.8	— 6.2	84	WSW	4.9	2.2			4			0	0		Dr. Wierzbicki.
Eperies	29.50	749.2	30.43	773.0	30.9	— 0.6	88	Calm			0		4cs			0	0		Julius Mikolik.
Gratz	29.17	740.9	30.52	775.3	22.3	— 5.4	72	WSW			2		0			0	0		Andreas Rospini.
Hermannstadt	28.95	735.2	30.47	774.0	30.2	— 1.0	92	W			0		10			0.846	2.15		Prof. A. Gottschling
Kremsmünster	29.07	738.4	30.56	776.1	14.7	— 9.6	94	Calm			0		0			0	0		Prof. C. Wagner.
Lemberg	29.35	745.5	30.40	772.2	30.2	— 1.0	98	NE			1		10			0	0		Dr. T. Stanecki.
Pola	30.16	766.0	30.28	769.0	43.2	6.2	45	N			1		8			0	0		I.R.Hydrographic Office
Szathmar	30.02	762.5	30.54	775.6	15.8	— 9.0	94	S			2		10			0	0		Pet. Pancsics, S. J.
Szegedin	30.18	766.6	30.49	774.4	20.1	— 6.6		Calm			0		7			0	0		Karl Stancel.
Trieste	30.23	767.9	30.34	770.5	41.2	5.1	42	ENE			1		5			0	0		P. Busin.
Vienna	29.77	756.1	30.53	775.4	22.5	— 5.3	100	Calm			0		10			0	0		I.R.Central Met. Ob'sy

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C., as Second-Class Matter

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.49	774.4	30.59	777.0	38.5	3.6	.....	SSW	8	3.6	.....	.....	1	.....	.....	0	0	Misty.....	W. Boswell.
Ardrossan	30.62	777.7	30.64	778.2	43	6.1	.....	SSE	.....	.....	3	.....	7	.....	.....	.....	.....	D. clouds.....	Wm.McNeil &G.Carrick
Armagh, (Observatory)	30.40	772.1	30.64	778.2	34.7	1.5	.....	SSW	1	0.4	.....	.....	0	.....	.....	.....	.....	Blue sky.....	S. Call.
Bidston (Liverpool Obs)	.....	.....	30.67	779.0	34.2	1.2	.....	NNE	2	0.9	.....	.....	10	.....	.....	.....	.....	Foggy	John Hartnup.
Bolton (Sharples)	30.09	764.3	30.62	777.7	39.3	4.1	.....	NNW	0	0	.....	.....	10	.....	.....	.....	.....	Overcast.....	Thomas Mackereth.
Bradford, Yorkshire	30.24	768.1	30.63	778.0	39.7	4 3	.....	NE	.....	.....	2	.....	10	.....	.....	0	0	Overcast.....	J McLandsborough.
Bridgetown, Barbadoes	29.95	760.7	29.98	761.5	78.5	25.8	.....	NE	.....	.....	2	.....	6	.....	.....	.....	.....	.....	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	30.53	775.4	30.63	778.0	36.0	2.2	.....	N	.....	.....	1	.....	10	.....	.....	.....	.....	Foggy	H. Todd.
Cardington	.....	.....	30.61	777.5	36.0	2.2	.....	NE	.....	.....	0–1	.....	10	.....	.....	.....	.....	Foggy	John McLaren.
Chatham (School M. E.)	30.52	775.2	30.66	778.7	37.1	2.8	.....	N	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds.....	J. Carmell, Sapper, R.E.
Donaghadee	30.61	777.5	30.65	778.5	41	5.0	.....	SW	.....	.....	2	.....	8	.....	.....	.....	.....	D. clouds.....	J. Mac Gowan.
Dover	30.52	775.2	30.55	776.0	39	3.9	.....	E	.....	.....	3	.....	1	.....	.....	.....	.....	Misty.....	J. Costello.
Falmouth (Observatory)	30.33	770.4	30.57	776.5	42.8	6.0	.....	N	.....	.....	3	.....	7	.....	.....	.....	.....	Overcast.....	The Staff.
Fort Napier, Natal	27.36	694.9	29.68	753.9	96.2	35.7	.....	NE	.....	.....	1	.....	4	.....	.....	.....	.....	Blue sky.....	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Galway (Queen's College)	.....	.....	30.53	775.4	43	6.1	.....	SSE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky	Prof. A. H. Curtis.
Gibraltar, Mediterranean	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Sergt.Wm. Allen, A. H.
Glasgow, (Observatory)	30.43	772.9	30.63	778.0	39.2	4.0	.....	SW	.....	.....	1	.....	0	.....	.....	.....	.....	Foggy	D. G. Maclean. [C.
Great Yarmouth	30.60	777.2	30.61	777.5	38	3.3	.....	ENE	.....	.....	3	.....	4	.....	.....	.....	.....	Misty.....	G. T. Watson.
Greenwich (Royal Obs'y)	30.44	773.2	30.62	777.7	36.6	2.6	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	The Staff, for G.B.Airy.
Guernsey	30.25	768.3	30.48	774.2	43	6.1	.....	NE	.....	.....	4	.....	7	.....	.....	.....	.....	D. clouds.....	Dr.S.E Hoskins, F.R.S.
Helston	30.69	779.5	30.82	782.8	43	6.1	.....	N	.....	.....	0	1c	.....	.....	.....	0.26	6.6	Fine.....	M. P. Moyle.
Holyhead	30.57	776.5	30.64	778.2	41	5.0	.....	ENE	.....	.....	3	.....	0	.....	.....	.....	.....	Blue sky	John Tilston.
Jersey	30.19	766.8	30.50	774.7	41.7	5.4	.....	ENE	.....	.....	4	.....	1	.....	.....	.....	.....	D. clouds.....	J. Fisher.
Kew (Observatory)	30.58	776.7	30.62	777.7	37.6	3.1	.....	ENE	16	7.2	.....	.....	10	.....	.....	.....	.....	Misty.....	The Met'g'l Office.
Leicester (Museum)	30.37	771.4	30.64	778.2	37.0	2.8	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Foggy	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	29.93	760.2	30.00	762.0	55.4	13.0	.....	N	.....	.....	2	3ck	.....	.....	.....	.....	.....	Blue sky.....	A. King.
Nairn	30.44	773.2	30.54	775.7	37	2.8	.....	SW	.....	.....	1	.....	0	.....	.....	.....	.....	Clear.....	W. D. Penny.
Nassau, Bahamas	.....	.....	30.16	766.1	71.2	21.8	.....	E	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds.....	C. S. Duncombe.
Nottingham (Observatory)	30.45	773.4	30.65	778.5	38.7	3.7	.....	NNE	.....	.....	2	.....	10cs;s	.....	Calm	0	0	Foggy	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev.Stephen J.Whitty.
Oxford (Radcliffe Obs'y)	.....	.....	30.62	777.7	34	1.1	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Foggy	H. E. Bellamy.
Plymouth	30.48	774.2	30.55	776.0	39.6	4.2	.....	NE	.....	.....	2	.....	6	.....	.....	.....	.....	D. clouds.....	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	30.53	775.4	30.62	777.7	45	7.2	.....	SSE	.....	.....	3	.....	5	.....	.....	.....	.....	½ clouded...	Wm. Kennedy.
St. Ann's Head	30.34	770.6	30.51	774.9	42	5.6	.....	NE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky... ..	John C. Walker.
Sandwick Manse, Orkneys	.....	.....	30.52	775.2	41.2	5.1	.....	S	5	2.2	.....	.....	0	.....	.....	.....	.....	Blue sky.....	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	30.10	764.5	30.17	766.3	43.6	6.4	.....	NE	.....	.....	2	.....	10	.....	.....	.....	.....	Drizzling.....	Serg't W. H. Laue.
Sheffield	30.30	769.6	30.67	779.0	40.0	4.4	.....	Calm	.....	.....	0	.....	10	.....	.....	0	0	Misty.....	W. F. Cooper.
Silloth Rectory	30.65	778.5	30.68	779.3	38.7	3.7	85	Calm	.....	.....	0	.....	0	.....	.....	0	0	Blue sky.....	Francis Redford, A. M.
Stonyhurst (Observatory)	.....	.....	30.64	778.2	35.2	1.8	.....	NNE	5	2.2	.....	.....	10	.....	.....	.....	.....	Misty.....	Rev. S. J. Perry.
Stratfield, Turgiss	30.40	772.1	30.63	778 0	34.2	2.2	.....	E	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	30.48	774.2	30.57	776.5	44	6.7	.....	SE	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds.....	W. Newcombe.
Valencia Observatory)	30.52	775.2	30.54	775.7	48.4	9.1	.....	SSE	23	10.3	.....	.....	1	.....	.....	.....	.....	Blue sky.....	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
Constable, Cape Colony	26.60	675.6	.....	.....	71	21.7	.....	NW	.....	.....	.....	.....	8	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Hobart Town, Tasmania	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Leith(RestalrigPark)Sc'tl'd	.....	.....	30.67	779.0	38.9	3.8	.....	SW	.....	.....	1	.....	0	.....	.....	0	0	Fine.....	C. Meldrum.
Mauritius (Observatory)	29.58	751.3	29.77	756.2	80.2	26.8	69	SE	23.0	10.3	.....	2	7	.....	SE	0.02	0.5	Showery.....	R. L. J. Ellery.
Melbourne (Observatory)	29.57	751.1	29.66	753.3	61.4	16.3	91	SSW	27	12.1	.....	.....	9	.....	.....	.....	.....	Showery.....	J. Youngclause.
Monach Lt-house, Hebrides	.....	.....	30.47	773.9	48	8.9	.....	S	.....	.....	4	.....	10	.....	.....	0	0	.....	
North Unst, Shetland Is	.....	.....	30.45	773.4	.....	.....	.....	SW	.....	.....	4	3	5	W	.....	0	0	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters; Prince Town, 1,400 feet, or 427 meters; Colesberg Bridge and Constable, unknown.

BRITISH MARINE SERIES. VESSELS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. Alert, Tom Bay, Patagonia	.....	.....	29.52‡	749.8‡	46.5	8.1	.....	Calm	.....	.....	0	.....	9	.....	.....	.....	.....	Raining	Capt.J.P. Maclear, R.N.
H. M. Sloop Gannet, S. 18° 28′, W. 70° 21′	.....	.....	29.96‡	761.0‡	68	20.0	.....	Calm	.....	.....	0	.....	1	.....	.....	.....	.....	Blue sky	Commander E. Bourke, R. N.
H. M. S. Magpie, Kin-toan, Lt.-Vl. near Shanghai, China	.....	.....	30.18‡	766.6‡	46.0	7.8	.....	N	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy	Capt. R. H. Napier, R.N.
Barque Belle-Isle, N. 34° 50′, W. 59° 10′	.....	.....	30.11	764.8	66	18.9	.....	NW	.....	.....	4	.....	2	.....	.....	5	Confused.	Blue sky.....	Capt. A. J. Brown
City of Cashmere, N. 4° 25′, W. 130° 10′	.....	.....	29.87‡	758.7‡	74.7	23.7	.....	E	.....	.....	5	.....	8	.....	.....	.....	.....	Showery.....	Capt. W. M. Grieve.
S. S. Ethiopia, N. 51° 20′, W. 33° 00′	.....	.....	29.83	757.7	43	6.1	.....	WSW	.....	.....	5	.....	5	.....	.....	5	SW	Hailing.....	Capt. Campbell.
Barque Fedalma, N. 25° 35′, W. 65° 00′	.....	.....	30.18	766.6	75	23.9	.....	ESE	.....	.....	1	.....	5	.....	.....	3	confused	D. clouds.....	Capt. H. L. Fox.
Iron Cross, N. 37° 25′, W. 64° 30′	.....	.....	30.12	765.0	58	14.4	.....	NNW	.....	.....	4	.....	9	.....	.....	4	N	Overcast.....	Capt. W. Randall.
Barque Mertole, N. 40° 05′, W. 11° 55′	.....	.....	30.29	769.4‡	55.6	13.1	.....	ENE	.....	.....	2	.....	9	.....	.....	.....	.....	Overcast.....	Capt. Turner.
S. S. Strathleven, S. 26° 45′, E. 103° 20′	.....	.....	29.94‡	760.5‡	65.5	18.6	.....	S	.....	.....	4	.....	9	.....	.....	.....	.....	Overcast.....	Capt. C. W. Pearson.
Light House Tender Richmond	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. H. Stewart.
S. S. Gordon Castle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Wm. Waring.
Brig Alliance	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Scott.
S. S. Peruvian	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. H. Smith.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.23	666.2	29.95	760.7	65.3	18.5	38	NE			1	4d		NE		0	0		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Copenhagen	30.53	775.5	30.58	776.7	31.6	— 0.2	100	WNW			2		10					Foggy	
Faröe	30.60	777.2	30.62	777.7	34.0	1.1	100	WSW			2		10					Foggy	
Godthaab (Greenland)																			
Stykkisholm (Iceland)	29.66	753.4	29 71	754.5	36.3	2.4	89	S			7		10					Raining	
Thorshavn (Faröe)	30.13	765.2	30.16	766.1	48.9	9.4	88	S			8		10						
Vestervig	30.47	774.0	30.58	776.8	34.9	1.6	100	Calm			0		9						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alençon, Normal School	29.94	760.4	30.49	774.4	27.5	— 2.5	78	NE			1		0			0	0	Clear	Collignon, Director.
Amiens, Normal School	30.30	769.6	30.42	772.7	26.2	— 3.2	82	NNE			1		10			0	0	Covered	Vaillant, Director.
Arras, Engin'r School	30.30	769.5	30.57	776.4	22.3	— 5.4	85	NE								0	0		Klein, Commandant.
Avignon, Normal School	30.31	769.8	30.39	771.8	38.7	3.7	47	N			1		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.94	760.5	30.55	776.0	20.1	— 6.6		SE			1		0			0	0	Clear	C. Saillard, Director.
Beauvais, Normal School	30.28	769.2	30.58	776.6	24.3	— 4.3	75	ENE			1		0			0	0	Clear	Frère Eugene Marie.
Besançon, Normal School	29.38	746.2	30.36	771.1	14.7	— 9.6		S			1		0			0	0	Clear	A. Carré, Director.
Bourg-en-Bresse, N. School	29.63	752.5	30.54	775.6	14.9	— 9.5	100	SE			1		0			0	0	Clear	Marlot, Diretor.
Bourges, Normal School	29.78	756.3	30.38	771.6	20.3	— 6.5	88	NNE			4		1		NNE	0	0	Clear	M. Gence, Director.
Brest, Naval Observatory	30.20	767.1	30.45	773.3	47.1	8.4	59	NNE			3		5		NE	0	0		Ch. de Rermaree, Dir.
Caen, Normal School	30.40	772.1	30.48	774.2	33.4	0.8	84	SSE			0–1					0	0		M. Bietrin, Director.
Carcassonne, N. School	29.89	759.2	30.33	770.3	38.1	3.4	66	NNE			1		2	NNE	NNE	0	0	Slightly cld'y	September, Director.
Châlons-sur-Marne, N. Sch'l	30.22	767.6	30.58	776.6	19.9	— 6.7		Calm			0		0					Clear	Jadot, Director.
Chartres, Normal School	29.86	758.4	30.47	774.0	22.5	— 5.3	95	NE			1		0			0	0	Clear	Vergier, Director.
Clermont-Fd, Puy de D. Obs	29.02	737.0	30.51	774.9	17.6	— 8.0	94	W			1		10					Light snow	Alluard, Director.
Commercy, Normal School	29.57	751.0	30.54	775.8	19.4	— 7		E			1		0			0	0	Clear	Dr. Coullet, Director.
Commune de Gréasque*	29.18	741.2	30.32	770.2	50.4	10.2	44	N			1		2		N	0	0		L. Kina, Director.
Grenoble, Normal School	29.69	754.0	30.51	775.0	26.6	— 3		E			1		0			0	0	Clear	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.13	765.4	30.37	771.4	24.8	— 4.0	77	NE			3		0			0	0	Clear	Mouillot, Director.
Le Mans, Normal School	30.17	766.3	30.51	775.0	19.4	— 7	89	NE			2		0			0	0	Clear	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.57	751.0	30.53	775.5	15.6	— 9.1	75	N			1		10			0	0	Covered	A. Baudry, Director
Lorient, Naval Observatory	30.31	769.9	30.42	772.7	41.0	5.0	69	NNE			2				NNE	0	0		Lt. T. Carré, Director
Lyons Obs'y (Park Station)	29.85	758.3	30.53	775.4	23.0	— 5.0	66	E			1		1c			0	0	Misty	Ch. André, Director
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	30.03	762.7	30.30	769.7	51.1	10.6	53	W			1–2		1			0	0		E. Stephan, Director.
Mirecourt, Normal School	29.35	745.4	30.50	774.8	13.5	—10.3	87	N			1		n		N	0	0		Barbier, Director.
Mont-Louis	24.96	634.0	30.28	769.0	30.6	— 0.8	71	SW	13.0	5.8			4		W	0	0		M. Cave.
Nice	30.25	768.4	30.28	769.2	55.0	12.8	55	W			3		1	E	W	0	0	Clear	M. Boissière, Director.
Nismes, Normal School	30.16	766.1	30.33	770.4	43.3	6.3	67	N			1		2		E	0	0	Slightly cld'y	M. Boyer, Director.
Paris, Montsouris Obs'y	30.25	768.4			25.3	— 3.7	71	E			1		0			Inap.	Inap.		Marié Davy, Director.
Perpignan	30.23	767.8	30.34	770.6	39.9	4.4	81	E	5.6	2.5			10		SW	0	0		Dr. Fines.
Pic du Midi (Plantade) H. P.	22.44	570.1			28.0	— 5.0									NW	0	0		Gen'l de Nansouty.
Pic du Midi (Summit) H. P.																			M. Baylac.
Privas, Normal School	29.27	743.4	30.41	772.5	27.5	— 2.5		N			1		1	N	N	0	0	Clear	M. Tallieu
Puy de Dome (Summit) Obs	25.28	642.0			25.9	— 3.4	100	SE			4		0			0	0	Clear	Alluard, Director.
Rochefort, Naval Obs'y	30.30	769.5	30.33	770.3	37.0	2.8	87	NNE			3		2	NNE	NNE	0	0	¼ covered	Lt E. Decante, Director
Rouen, Normal School	30.44	773.1	30.52	775.3	31.6	— 0.2	79	E			1		0			0	0	Clear	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.42	772.6	30.45	773.3	37.8	3.2	63	E			3		0			0	0	Clear	Lt. Hercouet, Director
Saint Maur (near Paris)	30.38	771.7	30.5	775.9	24.8	— 4.0	70	N			1		0			0	0		E. Renou, Director.
Tarbes, Normal School	29.17	740.8	30.30	769.7	33.8	1	82	S			1		10			0	0	Covered	T. Huguet, Director.
Toulouse, Observatory	29.63	752.7	30.37	771.3	36.3	2.4	75	SSW			1		10			0	0	Covered	M. Juher Mercadier.
Tours	30.22	767.5	30.41	772.5	19.4	— 7.0		E			1		0			0	0	Clear	Cousin-Marquet.
Versailles, Observatory	30.01	762.3	30.50	774.8	25.2	— 3.8	77	NE			1		0			0	0	Clear	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.69	754.2			10.4	—12	79	NNW			1					0	0	Misty	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.94	760.5	29.97	761.2	75.6	24.2										0.71	18.		L'Abbé Marchési
Zi-Ka-Wei (near Shanghai	30.15	765.8	30.17	766.4	41.0	5.0	100	NNE	5.1	2.3			Fog			0	0	Foggy	Marc Dechevrens.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,369 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity Miles per hour.	Wind. Velocity Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.61	752.1	30.47	773.9	18.7	— 7.4	78	NE			2		1s			0	0	Foggy	Prof. Dr. Hoh.
Berlin	30.37	771.3	30.55	776.0	28.8	— 1.8	89	NW			1		5			0	0		Prof. Dr. Arndt.
Breslau	30.00	762.1	30.54	775.8	26.1	— 3.3	63	E			1		8			0	0		Royal University Obs'y.
Carlsruhe	30.08	764.0	30.56	776.1	16.9	— 8.4	76	SW			1		0			0	0	Light fog	Albert Senz.
Cassel	29.93	760.3	30.55	776.0	23.9	— 4.5	76	SW			1		1	NE		0	0		Dr. H. Möhl.
Emden			30.63	778.1	28.6	— 1.9	98	NE			0		10			0	0		Prof. Dr. Prestel.
Frankfort on the Main	30.24	768.0	30.63	778.0	25.3	— 3.7	65	E			0		2			0	0		Physical Society.
Friedrichshafen	29.00	736.6	30.58	776.8	12.9	—10.6	73	ESE			3		0			0	0	Hazy	Chief Telegrapher Wilhelm.
Hamburg	30.56	776.3	30.63	778.1	26.2	— 3.2	89	SE			1		10			0	0		Capt. P. F. A. Hegerman.
Kiel	30.61	777.4	30.63	777.9	31.3	— 0.4	100	NW			1		10			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.35	771.0	30.44	773.2	34.7	1.5	98	W			3		8			0.008	0.2		Prof. E. Luther.
Köslin			30.54	775.7	27.0	— 2.8		Calm			0		8			0	0		H. Müller.
Leipsic Observatory	30.16	766.0	30.62	777.7	19.0	— 7.2	90	SSW			1		9			0	0	Foggy	Prof. Dr. Bruhns, Privy Counselor
Magdeburg	30.37	771.5	30.61	777.4	26.2	— 3.2	76	Calm			0	6c				0	0		Dr. Assmann.
Memel	30.35	771.0	30.40	772.2	35.4	1.9	93	NW			4		9k			0	0		Reinbrecht & Issermann.
Munich (München)	28.58	725.9	30.47	773.9	10.2	—12.1	95	Calm			0		0			0	0	Light fog	Dr. C. Lang.
Neufahrwasser	30.47	773.9	30.48	774.3	33.9	1.6	98	NNW			3		10			0.004	0.1	Hazy	A. Lothes.
Neustadt (Palatinate)	29.97	761.1	30.50	774.7	22.1	— 5.5		SW			2					0	0		Reallehrer Dicknether.
Posen	30.24	768.2	30.56	776.2	24.6	— 4.1	76	W			2		9			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	29.98	761.5	30.60	777.1	11.5	—11.4	93	Calm			0		5			0	0		Imp. University Observatory.
Stuttgart	29.52	749.9	30.56	776.1	15.4	— 9.2	81	E			1		0			0	0		Prof. Dr. Schoder.
Weissenburg (Bavaria)	28.93	734.7	30.51	775.0	16.2	— 8.8	83	Calm			0		0			0	0	Foggy	Reallehrer J. Hopfner.
Wustrow	30.57	776.5	30.60	777.1	33.1	0.6	92	WSW			2		Fog			0	0		E. Schütz, Director.
German Naval Series.																			

NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.73	755.2	30.14	765.5	45.1	7.3		NE			2.5		10					Raining	Dr. J. F. J. Schmidt.

NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.97	761.3	30.03	762.6	70.8	21.6	78	SSW	17	7.6			4			0	0	D. clouds	
Deesa	29.53	750.2	30.02	762.5	71.7	22.1	40	SSE	8.9	4.0			0			0	0	Blue sky	
Bombay	29.87	758.8	29.91	759.7	75.3	24.1	77	NNW	17	7.6			0			0	0	Blue sky	
Poona (Yarrowda)	28.06	712.6	29.92	760.0	76.8	24.9	27	E	10	4.5			1			0	0	D. clouds	
Belgaum	27.38	695.4	29.95	760.8	69.9	21.1	46	E	3	1.3			7	SW	E	0	0	D. clouds.	
Lahore	29.26	743.2	30.05	763.2	56.6	13.7	52	Calm	0.3	0.1			3			0	0	D. clouds	
Roorkee	29.06	738.2	30.01	762.2	57.8	14.3	32	NW	2.6	1.2			0			0	0	Blue sky	
Agra	29.43	747.6	30.02	762.5	63.8	17.7	48	NW	2.4	1.1			0			0	0		
Nagpur	28.94	735.0	30.01	762.2	68.5	20.3	55	E	2.5	1.1			5	W		0	0	D. clouds	
Jubbulpore	28.61	726.8	30.04	763.0	60.8	16.0	69	Calm	1	0.4			0			0	0	Blue sky	
Lucknow	29.63	752.6	30.02	762.6	61.2	16.3	48	NNW	2.8	1.2			0			0	0	Blue sky	
Allahabad	29.71	754.7	30.04	763.1	59.3	15.2	57	Calm	0.9	0.4			0			0	0	Blue sky	
Patna	29.81	757.1	30.00	761.9	68.2	20.1	56	W	0.5	0.2			6	W	W	0	0	D. clouds	
Hazaribagh	27.94	709.6	30.02	762.5	62.6	17.0	64	NW	2.4	1.1			9		NW	0	0	Overcast	
Cuttack	29.91	759.8	30.00	761.9	73.8	23.2	76	NE	1.0	0.4			6			0	0	D. clouds	
Calcutta (Alipore)	29.98	761.4	30.00	761.9	66.8	19.3	84	Calm					10			0	0	Overcast	
Goalpara	29.59	751.5	30.00	761.7	66.7	19.3	73	Calm	1	0.4			3	W		0	0	D. clouds	
Chittagong	29.86	758.5	29.96	760.9	71.8	22.1	67	WNW	1	0.4			3			0	0		
Sibsagar	29.67	753.6	30.02	762.5	62.9	17.2	83	ENE	0.7	0.3			8			0	0	D. clouds	

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.91	759.7	30.35	770.9	37.4	3.0	50	NE	9.8	4.4	.....	.....	4	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.78	756.4	30.34	770.5	32.4	0.2	96	NNW	.....	.....	4	.....	7	ENE	.....	0	0	.....	Prof. Schiaparelli.
Padua	30.22	767.6	30.34	770.6	34.5	1.4	76	Calm	0	0	.....	.....	10	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.40	746.7	30.37	771.5	36.3	2.4	63	SE	.....	.....	2	.....	8	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	30.05	763.2	30.25	768.3	49.8	9.9	25	N	13.0	5.8	.....	.....	10	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.38	720.8	30.41	772.4	42.1	5.6	35	NW	.....	.....	2	.....	4	E	.....	0.043	1.1	.....	Prof. D. C. Bruno.
Pesaro	30.25	768.4	30.30	769.7	37.2	2.9	58	NW	23.7	10.6	.....	.....	10	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.98	761.6	30.26	768.6	48.2	9.0	22	NE	.....	.....	6	.....	5	N	.....	0	0	.....	Cav. F. Meucci.
Leghorn	30.16	766.1	30.25	768.3	48.6	9.2	37	ENE	3.8	1.7	.....	.....	2	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.97	761.1	30.15	765.8	48.4	9.1	60	NNE	5.6	2.5	.....	.....	4	.....	.....	0	0	.....	Prof. P. S. Ferrari
Lecce	29.85	758.3	30.12	765.1	49.6	9.8	62	NNE	10.5	4.7	.....	.....	9	.....	.....	0	0	.....	Prof. C. De Giorgi
Cosenza	29.22	742.1	30.15	765.8	45.3	7.4	77	NW	5.6	2.5	.....	.....	10	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.92	760.0	30.13	765.1	55.2	12.9	59	SE	.....	.....	2	.....	3	E	.....	0.059	1.5	.....	Prof. A. Pacinotti.
Palermo	29.84	758.0	30.11	764.7	50.9	10.5	82	W	3.8	1.7	.....	.....	10	.....	.....	0.051	1.3	.....	Prof. G. Ciacciatore.
Syracuse	29.98	761.6	30.06	763.5	52.9	11.6	77	ESE	19.9	8.9	.....	.....	5	E	.....	0.748	19.0	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.61	752.2	30.16	766.0	46.4	8.0	64	SE	3.8	1.7	.....	.....	8	.....	.....	0.008	0.2	.....	Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.12	765.0	30.14	765.5	41.9	5.5	91	NNE	7.0	3.1	.....	0	0	.....	.....	0	0	Clear.	K. Sasaki.
Nagasaki, I. M. Obs'y	29.94	760.5	30.15	765.8	43.3	6.3	93	NNW	0.3	0.7	.....	.....	0	.....	.....	0	0	Clear.	S. Takehayashi.
Tokei, (Yeddo) Observatory	30.11	764.8	30.18	766.6	43.1	6.2	94	NNE	5.4	2.4	.....	0	0	.....	.....	0	0	Clear.	The Staff.
Wakayama	30.07	763.8	30.12	765.0	43.7	6.5	92	E	4.7	2.1	.....	.....	0	.....	.....	0	0	Clear.	.....

NOTE.—The data are published as given. The ram-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	25.13	638.2	30.29	769.3	46.0	7.8	55	Calm	.....	.....	0	.....	9	....	SE	0	0	Very cloudy	Prof. L. Perez.
Leon	24.52	622.9	30.30	769.7	53.6	12.0	78	W	.....	.....	1	8c	1k	NE	.....	0	0	Cloudy	Prof. M. Leal.
Mazatlan	29.74	755.4	30.00	762.1	69.1	20.6	52	NE	.....	.....	1	7k	0	.....	.....	0	0	Cloudy	I. Guerrero, C. E.
Mexico, Central Observatory	23.15	587.9	30.28	769.0	48.0	8.9	65	Calm	0	0	.....	9k	0	.....	.....	0	0	Cloudy	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	48.6	8.2	62	Calm	.....	.....	0	4c	1s	.....	.....	0	0	½ covered	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.48	596.5	30.41	772.4	44.4	6.9	47	Calm	0	0	.....	3c	0	E	.....	0	0	Clear	Prof. P. Spina.
San Luis Potosi	24.30	617.3	30.47	774.0	45.5	7.4	59	E	.....	.....	1	2	1	W	E	0	0	Clear	G. Barroeta, M. D.
Tlacotalpam	30.11	764.7	30.12	765.0	70.2	21.2	92	S	.....	.....	1	2	7	E	S	0	0	Very cloudy	Prof. M. M. Châzaro
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell
Zacatecas	22.61	574.3	30.30	769.5	52.5	11.4	44	Calm	0	0	.....	6c	3s	Calm	.....	0	0	Cloudy	J. C. Castrillon

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,453.9 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column; the instrumental correction —0.88 mm., or —0.035 inch, has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.60	777.3	30.60	777.3	27.9 — 2.3	.....		E	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Groningen	30.57	776.4	30.62	777.8	28.2 — 2.1	.....		ENE	.....	.....	1	.....	.....	.....	.....	0	0	.....	
Helder	30.61	777.6	30.61	777.6	31.5 — 0.3	.....		NE	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.58	776.7	30.58	776.7	27.3 — 2.6	92		ENE	.....	.....	2	.....	.....	.....	.....			.....	
Utrecht	30.55	776.0	30.60	777.2	29.3 — 1.5	76		NNE	.....	.....	2	.....	0	.....	.....	0	0	Clear.	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Bergen	30.68	779.2	30.73	780.6	37.8	3.2	83	SE	2.2	1.0	.....	.....	10	.....	.....	0	0	.....	
Brönö	30.37	771.4	30.41	772.4	35.6	2.0	64	Calm	0	0	.....	.....	10	.....	.....	0	0	.....	
Christiana	30.42	772.7	30.58	776.7	28.0	— 2.2	100	WSW	0	0	.....	.....	10	.....	.....	0	0	Foggy	
Tromsö	30.16	766.0	30.20	767.1	24.1	— 4.4	86	SW	9	4	.....	.....	10	.....	.....	0.736	18.7	Snowing.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	29.68	753.9	29.87	758.8	63.3	17.4	92	ESE	6.9	3.1	.....	.....	8	.....	.....	0.295	7.5	.....	Dr. J. A. Sampaio.
Campo Major	29.25	742.9	30.30	769.5	41.0	5.0	61	ENE	1.3	0.6	.....	.....	2	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	29.89	759.2	29.98	761.4	64.8	18.2	73	SE	6.3	2.8	.....	.....	10	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.93	760.1	30.30	769.6	46.0	7.8	61	NNE	9.8	4.4	.....	.....	4	NW	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	29.81	757.2	29.88	759.0	64.0	17.8	90	SE	9.8	4.4	.....	.....	10	.....	.....	0.374	9.5	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.																Sea or swell Height scale 0-9	Sea or swell Direction form—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd't.
Duque da Terceira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa. Santiago, Cape Verd Ids	.....	.....	.....	.....	77.4	25.2	.....	SSW	.....	.....	1	.....	5	.....	SSW	0	.....	D. Clouds, 19 hr's	A. D. de Fouseca Sarurento
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	rain-fall.]	F. Teixeira da Silva, Comd't.
Sado, Capt. J. A de Brito Capello, St. Paul de Loando	.....	.....	29.88	759.0	82.0	27.8	.....	NW	.....	.....	3	.....	9	.....	.....	.....	.....	Overcast	F. de Assis Camillo, jun., Q. M.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	.....	.....	30.18	766.5	68.0	20.0	.....	NE	.....	.....	2	.....	0	.....	.....	1	.....	Blue sky	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sá da Bandeirá gives the barometer reduced tofreezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	29.55	750.6	29.57	751.1	15.4	— 9.2	91	NW	22	10	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Astrakhan	30.11	764.8	30.03	762.7	28.0	— 2.2	94	W	13	6	.....	.....	10cp	.....	.....	.....	.....	Heavy clouds...	Capt. Wisganow.
Barnaul	29.28	743.7	29.80	757.0	24.3	— 4.3	98	SW	18	8	.....	.....	10	.....	.....	.....	.....	Snowing.....	Meteorological Obs.
Dorpat	29.93	760.1	30.18	766.6	33.1	0.6	63	NW	11	5	.....	.....	9ks	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	27.77	705.4	29.16	740.6	19.9	— 6.7	84	SW	9	4	.....	.....	10	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	28.97	735.9	29.25	743.0	19.9	— 6.7	63	NW	20	9	.....	.....	9	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.53	750.0	30.20	767.0	32.9	0.5	85	NW	2	1	.....	.....	10ks;n	.....	.....	.....	.....	.....	Physical Cabinet.
Krotkowo*	28.98	736.1	29.48	748.7	21.6	— 5.8	48	NW	18	8	.....	.....	0	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	29.78	756.4	29.99	761.8	32.4	0.2	85	W	4	2	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Moscow	29.29	743.9	29.87	758.7	24.1	— 4.4	89	SSE	7.8	3.5	.....	.....	10s	.....	.....	.....	.....	Snowing....	Meteorological Obs.
Nertchinsk	28.24	717.4	30.99	787.1	—25.8	—32.1	83	Calm	0	0	.....	.....	1	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Nikolaiev	30.16	766.1	30.23	767.8	30.7	— 0.7	98	Calm	0	0	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	30.03	762.8	30.28	769.0	28.9	— 1.7	51	SSW	4	2	.....	.....	10n	.....	.....	.....	.....	.....	.....
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	30.40	772.1	30.54	775.7	27.5	— 2.5	38	NW	16	7	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	30.01	762.2	30.02	762.6	24.8	— 4.0	93	NNW	9	4	.....	.....	5ks;s	.....	.....	.....	.....	.....	Central Physical Obs.
Tashkend	28.71	729.2	30.39	772.0	26.6	— 3	100	.....	.....	.....	.....	.....	10	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.77	730.8	30.23	767.9	42.1	5.6	59	S	4	2	.....	.....	7cs	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	30.02	762.4	30.47	774.0	23.0	— 5.0	95	W	2	1	.....	.....	10ks	.....	.....	.....	.....	Foggy	Astronomical Obs.
Wilna	29.84	757.9	30.28	769.1	34.5	1.4	96	W	4	2	.....	.....	10	.....	.....	.....	.....	Heavy clouds...	Astronomical Obs.
Yenisiesk	29.55	750.6	29.85	758.3	23.2	— 4.9	69	SSE	7	3	.....	.....	10	.....	.....	.....	.....	.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	30.17	766.3	30.28	769.0	48.6	9.2	51	NNE	5.1	2.28	.....	.....	6	.....	.....	0	0	½ covered....	Antonio Rave, Director
Bilbao, Met. Obs'y	30.21	767.3	30.27	768.8	41.5	5.3	89	N	1.1	0.51	.....	.....	10	.....	.....	0	0	Covered.....	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.24	691.9	.....	.....	37.0	2.8	66	N	1.5	0.67	.....	0	7	.....	.....	0	0	Cloudy.....	Domingo Martin y Perez.
Madrid, Royal Observatory.	27.98	710.6	30.32	770.0	37.8	3.2	78	S	3.7	1.67	.....	1	0	.....	.....	0	0	Almost clear	The Staff.
Murcia, Met. Obs'y	30.10	764.5	30.25	768.4	58.3	14.6	48	NW	1.4	0.64	.....	0	3	.....	.....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.40	746.7	30.32	770.0	47.3	8.5	63	NE	9.8	4.4	.....	.....	0	.....	.....	0	0	Clear.	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.09	764.4	30.16	766.1	69.4	20.8	88	NE	-0	0	.....	0	1s;k	.....	NE	0	0	Fair.	Benito Vines S. J.
Manilla, Phillippine Islands	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.14	765.5	30.24	768 0	57.0	13.9	60	ENE	6.3	2.8	.....	0	4	.....	NE	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I	30.00	761.9	30.09	764.2	78.1	25.6	75	NE	14.9	6.67	.....	2cs	2k	NE	NE	0.256	6.50	Clear.	EnriqueGadea, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2.822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.32	770.0	30.35	771.0	15.4	— 9.2	.....	N	.....	.....	2	.....	10	.....	.....	0	0	.....	.....
Umea	30.28	769.1	30.33	770.4	29.1	— 1.6	72	N	.....	.....	4	.....	0	.....	.....	0	0	.....	.....
Hernosand	30.40	772.1	30.45	773.4	33.4	0.8	75	NW	.....	.....	6	.....	5	.....	.....	0	0	.....	.....
Stockholm	30.31	769.9	30.49	774.4	32.4	0.2	92	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	.....
Wisby	30.33	770.4	30.39	771.9	36.7	2.6	79	N	.....	.....	6	.....	3	.....	.....	0	0	.....	.....
Sub-Series.																			
Upsala	30.38	771.6	30.47	773.8	30.2	— 1.0	87	WNW	2.2	1.0	.....	.....	6	.....	.....	0	0	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	29.03	737.3	30.56	776.2	21.0	— 6.1	90	ENE	.....	.....	1	.....	10	.....	.....	0	0	Foggy	The Observatory.
Zurich	28.81	731.7	30.60	777.2	12.6	—10.8	90	W	.....	.....	1	.....	1	.....	.....	0	0	Clear.	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +9.8 mm.; Thermometer, —8.3 Cent.; Relative Humidity, +10 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.21	767.2	43.7	6.5	88	NE	11	5.0	.....	.....	10	.....	NE	0.209	5.3	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	29.99	761.7	54.1	12.3	.....	W	.....	.....	1	.....	2	.....	.....	0	0	Slightly cl'dy	A. Bertrand.
Sub-series.																			
Beirut, (Syria) Lee Obs'y	29.84	757.9	29.96	760.9	70.3	21.3	60	NNW	.....	.....	1	8ck	.....	.....	.....	0.05	1.3	Detached clouds	Prof. C. V. A. van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	30.16	766.1	30.23	767.8	— 8.3	—22.4	91	Calm	0	0	.....	0	0	.....	.....	0.01	0.3	Clear.	G. A. Blair.
Charlottetown, P. E. Island	30.05	763.3	30.10	764.5	5.6	—14.7	85	W	12	5.4	.....	0	8s	.....	.....	0.03	0.8	Fair.....	H. J. Cundall, C. E.
Cornwall, Ontario	30.14	765.5	30.37	771.4	—23.5	—30.8	100	NW	.....	.....	1	5cs	5c?	.....	.....	0	0	Overcast.....	James Smith, M. A.
Dalhousie, N. B	30.00	762.0	30.20	767.1	—10.5	—23.6	.....	W	.....	.....	2	0	0	.....	.....	0	0	Clear.	H. A. Johnson.
Father Point, Quebec	30.20	767.1	30.22	767.6	— 8.1	—22.3	16	NW	30	13.4	.....	0	8s	.....	.....	0.02	0.5	Cloudy.....	J. McWilliams.
Fredericton, N. B	30.21	767.3	30.29	769.4	— 7.9	—22.2	100	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	Prof. Harrison.
Fort Garry, Manitoba	29.48	748.8	30.48	774.2	—29.0	—33.9	100	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear.	James Stewart.
Granton, Ontario	29.18	741.1	30.42	772.7	1	—17.2	.....	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear.	James Grant.
Halifax, N. S	30.01	762.2	30.15	765.8	9.6	—12.4	83	NW	12	5.4	.....	0	0	.....	.....	0.20	5.1	Clear.	A. Allison.
Hamilton, Ontario	29.98	761.5	30.39	771.9	9.7	—12.4	81	NW	.....	.....	2	cs	0	NW	.....	0	0	Clear.	Geo. Dickson, B. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.99	761.7	30.36	771.1	2.5	—16.4	86	NE	4	1.8	.....	.....	10ks	.....	.....	0	0	Cloudy.....	S. Woods, M. A.
Little Glace Bay, N. S	29.84	757.9	29.98	761.5	17.2	— 8.2	90	W	9	4.0	.....	7k	0	N	.....	0.20	5.1	Cloudy.....	C. H. Rigby.
Montreal, Quebec	30.15	765.8	30.38	771.6	— 3.0	—19.4	68	SW	9	4.0	.....	0	1ks	.....	.....	0.02	0.5	Fine	C. H. McLeod, C. E.
Moose Factory, Ontario	30.09	764.3	30.13	765.3	—28.9	—33.8	89	W	.....	.....	2	0	0	.....	.....	0	0	Clear.	J. R. Nelson.
Norwood	29.54	750.3	30.31	769.9	3.7	—15.7	.....	SE	.....	.....	2	8k	0	W	.....	0	0	Fair.....	Rev. T. F. Fotheringham, M. A.
Parry Sound, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. R. Mosley.
Peterboro, Ontario	29.51	749.5	30.35	770.9	4.8	—15.1	100	W	.....	.....	1	0	8ks	.....	.....	0	0	Cloudy.....	J. F. Jeffers, M. A.
Port Dover, Ontario	29.63	752.6	30.40	772.1	6.1	—14.4	100	W	7	3.1	.....	8ck	0	SW	.....	0.05	1.3	Fair.....	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.69	754.1	30.41	772.4	6.5	—14.2	86	W	16	7.2	.....	2k	0	W	.....	0	0	Fair.....	M. Payne.
Quebec, Quebec	29.99	761.7	30.36	771.1	—14	—25.6	45	W	.....	.....	1	0	0	.....	.....	0.03	0.8	Clear.	Capt. Ashe, R. N.
Rockliffe, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. McIntyre.
St. Andrews, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Gove.
St. John, N. B	30.08	764.0	30.27	768.8	— 2	—18.9	100	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	G. Murdock, C. E.
Saugeen, Ontario	29.53	750.0	30.30	769.6	18.0	— 7.8	90	SW	23	10.3	.....	.....	10n	.....	.....	0.17	4.3	Overcast.....	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.96	735.6	30.39	771.9	6.4	—14.2	88	SW	5	2.2	.....	.....	10s	.....	.....	0.10	2.5	Cloudy.....	C. J. MacGregor, M. A.
Sydney, C. B	29.91	759.7	29.95	760.7	20.4	— 6.4	76	NW	12	5.4	.....	0	5ks	.....	NW	0.07	1.8	Fair...	T. C. Hill, C. E.
Toronto, Ontario	29.93	760.2	30.35	770.9	15.3	— 9.3	81	W	8	3.6	.....	0	10ks	.....	W	0.02	0.5	Cloudy.....	Magnetic Observatory
Windsor, N. S	30.04	763.0	30.15	765.8	8.0	—13.3	100	NW	10	4.5	.....	0	4ks	.....	.....	0	0	Fair.....	Prof. John E. Oram, M. A.
Woodstock, Ontario	29.21	741.9	30.41	772.4	0.8	—17.3	94	SW	10	4.5	.....	6cs	1s	W	.....	0	0	Fair...	Prof. J. Montgomery.
Yarmouth, N. S	30.16	766.1	30.23	767.8	14.4	— 9.8	83	NE	7	3.1	.....	0	8s	.....	.....	0.12	3.0	Cloudy.....	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.47	748.5	29.74	755.4	25	— 3.9	62	NW	.....	.....	.....	.....	10n	.....	.....	0.10	2.5	Snowing.....	John Delany.
St. Pierre, N. F., l'Hopital Maritime.	.....	.....	29.76	756.0	23.7	— 4.6	.....	NW	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	The Commandant.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper.	Clouds. Direction. Lower.	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer.
Albany, New York	30.18	766.6	30.44	773.2	10	—12.2	90	N	4	1.8		0	5s		NW	0	0	Fair	
Alpena, Michigan	29.59	751.6	30.31	769.9	10	—12.2	79	SW	13	5.8			10s		W	0	0	Cloudy	
Atcha, Aleutian Is., Alaska																			
Atlanta, Georgia	29.07	738.4	30.25	768.3	46	7.8	85	W	1	0.4		0	Sm'e		Calm	0	0	Smoky	
Atlantic City, New Jersey	30.39	771.9	30.45	773.4	27	— 2.8	76	N	10	4.5		0	0			Inap.	Inap.	Clear	
Augusta, Georgia	30.13	765.3	30.34	770.6	42	5.6	91	NW	1	0.4		Haze	Haze	Calm	Calm	0	0	Light haze	
Baltimore, Maryland	30.40	772.1	30.45	773.4	30	— 1.1	57	N	9	4.0		0	0			0.01	0.3	Clear	
Barnegat, New Jersey	30.38	771.6	30.40	772.1	26	— 3.3	75	N	18	8.0		0	0			0	0	Clear	
Bismarck, Dakota	28.33	719.6	30.18	766.6	— 8	—22.2	100	N	8	3.6		0	0			0	0	Clear	
Boerne, Texas	28.72	729.5	30.09	764.3	38	3.3	72	N	8	3.6			10s		S	0	0	Cloudy	
Boise City, Idaho	26.95	684.5	29.91	759.7	31	— 0.6	79	NW	4	1.8			10s		Calm	0	0	Cloudy	
Boston, Massachusetts	30.20	767.1	30.38	771.6	13	—10.6	62	N	13	5.8		0	0			0	0	Clear	
Brackettville, Texas	29.00	736.6	30.09	764.3	48	8.9	100	E	4	1.8			Fog		Calm	0	0	Foggy	
Breckenridge, Minnesota	29.22	742.2	30.38	771.6	—12	—24.4	100	SW	3	1.3			10s		Calm	0	0	Cloudy	
Brownsville, Texas	30.07	763.8	30.12	765.0	63	17.2	89	Calm	0	0		0	Fog		Calm	0	0	Foggy	
Buffalo, New York	29.59	751.6	30.36	771.1	15	— 9.4	65	NW	8	3.6		0	5s		SW	0	0	Fair	
Burkes, Arizona					34	1.1	70	Calm			0	5c	2s	Calm	Calm	0	0	Cloudy	
Burlington, Vermont	30.08	764.0	30.41	772.4	0	—17.8	70	SE	3	1.3		0	2ks		W	0.01	0.3	Fair	
Cairo, Illinois	29.97	761.2	30.39	771.9	28	— 2.2	77	NE	10	4.5			10s		Calm	0	0	Cloudy	
Campo, California	27.43	696.7	30.00	762.0	24	— 4.4	87	Calm	0	0		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	30.26	768.6	30.27	768.8	51	10.6	93	NE	12	5.4		0	8s		NE	0	0	Cloudy	
Cape Henry, Virginia	30.34	770.6	30.36	771.1	42	5.6	58	N	19	8.5			10s		Calm	0	0	Cloudy	
Cape Lookout, N. Carolina	30.26	768.6	30.28	769.1	48	8.9	93	NE	12	5.4		0	2s		Calm	0	0	Clear	
Cape May, New Jersey	30.37	771.4	30.40	772.1	30	— 1.1	68	N	8	3.6		0	2k		W	0	0	Clear	
Castroville, Texas	29.40	746.7	30.13	765.3	46	7.8	54	E	10	4.5			10s		E	0	0	Cloudy	
Cedar Keys, Florida	30.74	768.1	30.27	768.8	52	11.1	73	NE	7	3.1		1c	0	Calm		0	0	Clear	
Charleston, South Carolina	30.21	767.3	30.27	768.8	50	10.0	72	SW	4	1.8		0	0			0	0	Clear	
Charlotte, North Carolina	29.39	746.5	30.23	767.8	44	6.7	84	E	6	2.7		10ck	Sm'e	Calm	Calm	0	0	Cloudy	
Chattanooga, Tennessee	29.45	748.0	30.28	769.1	46	7.8	84	NE	6	2.7			10s		W	0	0	Cloudy	
Cheyenne, Wyoming	23.77	603.8	29.71	754.6	40	4.4	31	W	24	10.7		0	0			0	0	Clear	
Chicago, Illinois	29.71	754.6	30.50	774.7	3	—16.1	73	W	7	3.1		0	0			0	0	Clear	
Cincinnati, Ohio	29.74	755.4	30.44	773.2	25	— 3.9	75	NE	5	2.2			10s		Calm	0	0	Cloudy	
Cleveland, Ohio	29.66	753.4	30.47	773.9	13	—10.6	81	S	14	6.3		5k	2s	SW	Calm	Inap.	Inap.	Fair	
Coleman City, Texas	28.42	721.9	30.22	767.6	24	— 4.4	48	N	10	4.5			10s		Calm	0	0	Cloudy	
Columbus, Ohio	29.54	750.3	30.46	773.7	17	— 8.3	67	N	6	2.7		0	0			0	0	Clear	
Concho, Texas	28.28	718.3	30.10	764.5	21	— 6.1	57	N			2		10s		Calm	0	0	Cloudy	
Corsicana, Texas	29.81	757.2	30.31	769.9	33	0.6	70	N	4	1.8			10s		Calm	0	0	Cloudy	
Davenport, Iowa	29.77	756.1	30.50	774.7	1	—17.2	71	N	3	1.3		0	0			0	0	Clear	
Dayton, Washington T'y					31	— 0.6	100	SW			1		10n		Calm	0.26	6.6	Light snow	
Deadwood, Dakota	25.18	639.6			7	—13.9	77	NE	4	1.8			10s		Calm	0	0	Cloudy	
Decatur, Texas	29.12	739.6	30.36	771.1	32	0.0	69	SW	3	1.3			10s		SW	0	0	Cloudy	
Denison, Texas	29.46	748.3	30.31	769.9	28	— 2.2	88	NW	4	1.8			10s		NW	0	0	Cloudy	
Denver, Colorado	24.58	624.3	29.80	756.8	19	— 7.2	85	W	2	0.9			Fog			Inap.	Inap.	Foggy	
Des Moines, Iowa	29.43	747.5	30.42	772.7	4	—15.6	74	SE	1	0.4		0	5s		S	0	0	Fair	
Detroit, Michigan	29.69	754.1	30.44	773.2	5	—15.0	75	SW	4	1.8		0	2s		Calm	0	0	Clear	
Dodge City, Kansas	27.48	698.0	29.96	761.0	15	— 9.4	48	S	8	3.6			10s		Calm	0	0	Cloudy	
Dubuque, Iowa	29.70	754.4	30.52	775.2	—10	—23.3	78	Calm	0	0			10ks		Calm	0	0	Cloudy	
Duluth, Minnesota	29.62	752.3	30.41	772.4	— 8	—22.2	79	SW	4	1.8		0	5s		Calm	0	0	Fair	
Eagle Pass, Texas	29.46	748.3	30.21	767.3	49	9.4	51	NE	6	2.7			10s		E	0	0	Cloudy	
Eastport, Maine	30.21	767.3	30.29	769.4	0	—17.8	70	NW	13	5.8		2k	0	NW		0.09	2.3	Clear	
Edinburg, Texas					64	17.8	89	Calm			0		Fog			0	0	Foggy	
El Paso, Texas																			
Erie, Pennsylvania	29.62	752.3	30.39	771.9	24	— 4.4	87	SW	6	2.7			10s		SW	0.02	0.5	Cloudy	
Escanaba, Michigan	29.63	752.6	30.39	771.9	— 7	—21.7	59	W	13	5.8		0	2s		W	0	0	Fair	
Florence, Arizona	28.50	723.9	30.10	764.5	44	6.7	68	E	2	0.9		5cs	0	NW		0	0	Fair	
Fort Assiniboine, Montana																			
Fort Buford, Dakota	28.10	713.7	30.28	769.1	—23	—30.6	58	Calm	0	0		0	0			0	0	Clear	
Fort Custer, Montana	26.78	680.2			— 6	—21.1	81	N	5	2.2			10n		Calm	0.02	0.5	Light snow	
Fort Davis, Texas	25.21	640.3	30.17	766.3	32	0.0	50	Calm	0	0		0	0			0	0	Clear	
Fort Gibson, Indian Ter	29.68	753.9	30.26	768.6	32	0.0	59	NW	8	3.6			10s		Calm	0	0	Cloudy	
Fort Grant, Arizona	25.23	640.8	30.03	762.7	41	5.0	42	N	4	1.8		0	0			0	0	Clear	
Fort Griffin, Texas	28.98	736.1	30.36	771.1	25	— 3.9	95	N	4	1.8			10s		Calm	0	0	Cloudy	
Fort Keogh, Montana	27.29	693.2			— 4	—20.0	55	NE	4	1.8		0	8s		Calm	0.20	5.1	Fair	
Fort McKavett, Texas	27.87	707.9	29.91	759.7	28	— 2.2	88	E	5	2.2			10s		E	0	0	Cloudy	
Fort St. Michael, Alaska																			
Fort Shaw, Montana																			
Fort Sill, Indian Territory	29.00	736.6	30.20	767.1	25	— 3.9	62	Calm	0	0			10s		Calm	0	0	Cloudy	
Fort Stevenson, Dakota	28.32	719.3			—12	—24.4	100	N	2	0.9		0	0			Inap.	Inap.	Clear	
Fort Verde, Arizona					27	— 2.8	64	W			1	0	0			0	0	Clear	
Fort Yates, Dakota																			
Fredericksburg, Texas	28.34	719.8	29.99	761.7	34	1.1	61	N	4	1.8			10ks		Calm	0	0	Cloudy	
Galveston, Texas	30.19	766.8	30.23	767.8	51	10.6	86	N	12	5.4		2ck	8s	Calm	N	0	0	Cloudy	
Graham, Texas	29.16	740.7	30.31	769.9	21	— 6.1	86	N	2	0.9			10s		Calm	0	0	Cloudy	
Grand Haven, Michigan	29.71	754.6	30.42	772.7	18	— 7.8	100	NW	8	3.6			10n		Calm	0.29	7.4	Light snow	
Helena, Montana																			
Henrietta, Texas	29.29	744.0	30.30	769.6	24	— 4.4	74	N	4	1.8		0	8s		Calm	0	0	Cloudy	
Indianapolis, Indiana	29.56	750.8	30.42	772.7	15	— 9.4	65	N	5	2.2		0	0			Inap.	Inap.	Clear	
Indianola, Texas	30.21	767.3	30.24	768.1	45	7.2	76	N	21	9.4			10s		N	0	0	Cloudy	
Jacksboro, Texas	29.10	739.1	30.32	770.1	27	— 2.8	76	N	6	2.7		0	5s		N	0	0	Fair	
Jacksonville, Florida	30.27	768.8	30.30	769.6	42	5.6	83	N	1	0.4		0	0			0	0	Clear	
Keokuk, Iowa	29.73	755.1	30.43	772.9	8	—13.3	78	E	5	2.2			10s		Calm	0.01	0.3	Cloudy	
Key West, Florida	30.14	765.5	30.17	766.3	72	22.2	90	NE	12	5.4		1k	0	NE		0	0	Clear	
Kittyhawk, North Carolina	30.30	769.6	30.32	770.1	47	8.3	77	NE	36	16.1		10k	0	NE		0	0	Cloudy	
Knoxville, Tennessee	29.28	743.7	30.33	770.4	41	5.0	95	NE	3	1.3			10n		Calm	0.09	2.2	Light rain	
La Crosse, Wisconsin	29.63	752.6	30.50	774.7	—12	—24.4	100	S	4	1.8		0	0			0	0	Clear	
La Mesilla, New Mexico	26.14	663.9	30.29	769.4	26	— 3.3	52	Calm	0	0		0	0			0	0	Clear	
Laredo, Texas	29.78	756.4	30.14	765.5	48	8.9	85	Calm	0	0			10s		Calm	0	0	Cloudy	
Leavenworth, Kansas	29.39	746.5	30.31	769.9	19	— 7.2	69	E	6	2.7			10s			0	0	Cloudy	
Lewiston, Idaho																			
Little Rock, Arkansas	29.95	760.7	30.33	770.4	34	1.1	90	N	4	1.8			10s		Calm	0.03	0.8	Cloudy	
Los Angeles, California	29.75	755.6	30.09	764.3	49.5	9.7	78	NE	3	1.3			10s		Calm	0	0	Cloudy	
Louisville, Kentucky	29.79	756.7	30.39	771.9	29	— 1.7	67	NE	9	4.0			10s		Calm	0	0	Cloudy	
Lynchburg, Virginia	29.67	753.6	30.38	771.6	40	4.4	64	E	4	1.8			10s		SW	0	0	Cloudy	
Madison, Wisconsin	29.33	745.0	30.48	774.2	— 8	—22.2	56	NW	2	0.9		2cs	0	NW		0	0	Fair	
Marquette, Michigan	29.49	749.0	30.29	769.4	— 5	—20.6	63	W	20	8.9		0	0			0	0	Clear	
Mason, Texas	28.57	725.7	30.46	773.7	29	— 1.7	78	N	4	1.8			10s		Calm	0	0	Cloudy	
Memphis, Tennessee	29.93	760.2	30.29	769.4	33	0.6	88	NE	4	1.8			10s		Calm	0.09	2.3	Cloudy	
Milwaukee, Wisconsin	29.65	753.1	30.51	774.9	—10	—23.3	54	NW	7	3.1		0	0			0	0	Clear	

UNITED STATES SERIES—Continued.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mobile, Alabama	30.25	768.3	30.30	769.6	43	6.1	100	S	3	1.3	.....	0	Sm'e	.....	.....	0	0	Smoky	
Montgomery, Alabama	30.05	763.3	30.29	769.4	44	6.7	92	SW	1	0.4	.....	.....	Fog	.....	Calm	0	0	Dense fog	
Morgantown, West Virginia	29.39	746.5	30.47	773.9	21	— 6.1	71	Calm	0	0	.....	2cs	0	NW	.....	0.09	2.3	Fair	
Mt. Washington, N. H.	23.37	593.6	29.73	755.1	—16	—26.7	39	NW	48	21.5	.....	0	0	.....	.....	0.28	7.1	Clear	
Nashville, Tennessee	29.74	755.4	30.30	769.6	36	2.2	100	N	3	1.3	.....	.....	10n	.....	Calm	0.18	4.6	Light rain	
New Haven, Connecticut	30.27	768.8	30.40	772.1	23	— 5.0	73	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
New London, Connecticut	30.33	770.4	30.38	771.6	21	— 6.1	53	NW	7	3.1	.....	0	0	.....	.....	0	0	Clear	
New Orleans, Louisiana	30.21	767.3	30.27	768.8	57	13.9	81	SE	4	1.8	.....	.....	10s;sme	.....	Calm	0	0	Cloudy	
Newport, Rhode Island	30.31	769.9	30.36	771.1	22	— 5.6	72	NW	14	6.3	.....	0	0	.....	.....	0	0	Clear	
New River, North Carolina	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
New York, New York	30.23	767.8	30.42	772.7	24	— 4.4	74	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Norfolk, Virginia	30.30	769.6	30.36	771.1	40	4.4	65	NW	12	5.4	.....	.....	10ks	.....	W	0	0	Cloudy	
North Platte, Nebraska	27.01	686.0	29.73	755.1	18	— 7.8	69	S	20	8.9	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Olympia, Washington Ter.	29.89	759.2	29.93	760.2	33.0	0.6	95	N	1	0.4	.....	8k	0	Calm	.....	0.09	2.3	Cloudy	
Omaha, Nebraska	29.09	738.9	30.32	770.1	7	—13.9	77	E	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Oswego, New York	30.02	762.5	30.37	771.4	20	— 6.7	70	S	6	2.7	.....	.....	10s	.....	W	0.20	5.1	Cloudy	
Pembina, Dakota	29.37	746.0	30.37	771.4	—32	—35.6	100	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Pensacola, Florida	30.30	769.6	30.33	770.4	45	7.2	92	SE	3	1.3	.....	2cs	Haze	SW	Calm	0	0	Fair	
Philadelphia, Pennsylvania	30.36	771.1	30.41	772.4	28	— 2.2	66	N	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Phœnix, Arizona	28.85	732.8	30.70	779.8	43	6.1	59	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.46	443.5	29.67	753.6	8	—13.3	55	W	50	22.4	.....	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	29.50	749.3	30.39	771.9	29	— 1.7	59	N	.....	.....	.....	8k	2s	S	SE	0	0	Cloudy	
Pioche, Nevada	.....	.....	.....	.....	33	0.6	51	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.58	751.3	30.46	773.7	21	— 6.1	71	W	2	0.9	.....	4ck	0	Calm	.....	0.01	0.3	Fair	
Port Huron, Michigan	29.66	753.4	30.40	772.1	6	—14.4	76	SW	9	4.0	.....	0	0	.....	.....	0.02	0.5	Clear	
Portland, Maine	30.25	768.3	30.30	769.6	12	—11.1	61	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Portland, Oregon	29.87	758.7	29.94	760.5	38.5	3.6	91	NW	2	0.9	.....	0	9s	.....	.....	0.13	3.3	Cloudy	
Portsmouth, North Carolina	.....	.....	.....	.....	50	10.0	93	NE	23	10.3	.....	8k	0	N	.....	0	0	Fair	
Prescott, Arizona	24.76	628.9	30.12	765.0	27	— 2.8	76	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.19	766.8	30.21	767.3	63	17.2	94	NE	9	4.0	.....	5c.	2ks	W	NE	0	0	Fair	
Red Bluff, California	29.61	752.1	29.98	761.5	42	5.6	91	SE	6	2.7	.....	.....	10s;fog	.....	Calm	0.01	0.3	Light rain	
Rio Grande City, Texas	29.93	760.2	30.15	765.8	64	17.8	94	E	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Rochester, New York	29.66	753.4	30.33	770.4	18	— 7.8	84	SW	10	4.5	.....	5k	0	SW	.....	0.04	1.0	Fair	
Roseburg, Oregon	29.40	746.7	29.98	761.5	38	3.3	90	SE	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sacramento, California	29.90	759.4	29.97	761.2	43	6.1	92	SE	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
St. Louis, Missouri	29.78	756.4	30.41	772.4	19	— 7.2	69	NE	11	4.9	.....	.....	10s	.....	.....	0	0	Cloudy	
St. Paul, Minnesota	29.45	748.0	30.42	772.7	—11	—23.9	52	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Salt Lake City, Utah	25.46	646.7	29.79	756.7	43	6.1	36	SE	10	4.5	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.46	748.3	29.97	761.2	43	6.1	92	SE	2	0.9	.....	0	0	.....	.....	Inap.	Inap.	Clear	
San Diego, California	30.04	763.0	30.12	765.0	53	11.7	86	E	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.74	755.4	30.48	774.2	13	—10.6	81	SW	7	3.1	.....	0	0	.....	.....	0.01	0.3	Clear	
Sandy Hook, New Jersey	30.38	771.6	30.41	772.4	24	— 4.4	74	N	18	8.0	.....	0	0	.....	.....	0	0	Clear	
San Francisco, California	29.91	759.7	29.98	761.5	52	11.1	86	SE	4	1.8	.....	.....	10s	.....	Calm	0.01	0.3	Threatening	
Santa Fé, New Mexico	23.30	591.8	29.84	757.9	23	— 5.0	47	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.21	767.3	30.30	769.6	50	10.0	65	W	2	0.9	.....	0	Sm'e	.....	Calm	0	0	Clear	
Shreveport, Louisiana	30.05	763.3	30.28	769.1	43	6.1	67	W	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.22	767.6	30.26	768.6	48	8.9	85	NW	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Socorro, New Mexico	25.45	646.4	29.52	749.8	23	— 5.0	47	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois	29.73	755.1	30.48	774.2	14	—10.0	72	NE	8	3.6	.....	.....	10s	.....	W	Inap.	Inap.	Cloudy	
Springfield, Massachusetts	30.26	768.6	30.40	772.1	17	— 8.3	58	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Stockton, Texas	27.08	687.8	30.08	764.0	27	— 2.8	30	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	30.26	768.6	30.32	770.1	15	— 9.4	65	NW	22	9.8	.....	0	0	.....	.....	0	0	Clear	
Toledo, Ohio	29.68	753.9	30.45	773.4	11	—11.7	80	W	7	3.1	.....	0	1s;sm'e	.....	.....	Inap.	Inap.	Clear	
Tucson, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon	29.64	752.8	30.16	766.1	32.0	0.0	94	SE	8	3.6	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Uvalde, Texas	29.29	744.0	30.12	765.0	49	9.4	71	E	5	2.2	.....	.....	10s	.....	E	0	0	Cloudy	
Vicksburg, Mississippi	29.98	761.5	30.25	768.3	56	13.3	94	SW	4	1.8	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy	
Virginia City, Montana	23.88	606.5	29.37	746.0	21	— 6.1	86	Calm	0	0	.....	.....	10n	.....	Calm	0.02	0.5	Light snow	
Visalia, California	29.60	751.8	29.99	761.7	33	0.6	100	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Dense fog	
Washington, D. C.	30.31	769.9	30.43	772.9	29	— 1.7	67	NE	4	1.8	.....	0	2s;fog	.....	Calm	Inap.	Inap.	Fair	
Wickenburg, Arizona	.....	.....	.....	.....	32	0.0	79	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, North Carolina	30.18	766.6	30.26	768.6	45	7.2	76	W	2	0.9	.....	c	0	.....	.....	0	0	Clear	
Winnemucca, Nevada	25.43	645.9	29.79	756.7	39	3.9	55	SW	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
Wood's Holl, Massachusetts	30.29	769.9	30.34	770.6	21	— 6.1	71	NW	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Yankton, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Yuma, Arizona	29.83	757.7	29.98	761.5	42	5.6	74	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	30.07	763.8	30.12	765.0	73	22.8	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.14	765.5	30.15	765.8	72	22.2	95	Calm	0	0	.....	0	2cs	.....	.....	.....	.....	Fair	James Gall.
Navassa, W. I.	29.99	761.7	30.07	763.8	76	24.4	73	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.00	762.0	30.00	762.0	78	25.6	86	E	.....	.....	2	.....	8ks	.....	.....	0.060	1.52	Cloudy	C. J. Hering.
Santiago de Cuba, W. I.	30.08	764.0	30.11	764.8	73	22.8	85	N	6	2.7	.....	0	0	.....	.....	0	0	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	29.93	760.2	29.99	761.7	—22.0	—30.0	.....	SE	17	7.6	.....	4k	3s	S	S	0	0	Cloudy	J. Fortescue & W. Wood

Note.—The originals give the amount of cloudiness by the scale 0 to 4, except Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.33 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
NavyYard,Pensacola, Fla.†	30.24‡	768.1‡	.....	.....	52	11.1	86	NE	6	2.7	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
NavyYard,Portsmouth,N.H	30.20‡	767.1‡	.....	.....	10	—12.2	100	W	2	0.9	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Adams, Mare I'd., Navy Yard, Cal.	30.06‡	763.5‡	.....	.....	50	10.0	100	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....	Cloudy.....	
Alaska, Arica, Peru.....*.	29.99‡	761.7‡	.....	.....	67	19.4	89	S	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Blue sky.....	
Colorado, New York, . Y.....	30.39‡	771.9‡	.....	.....	24	— 4.4	.....	NW	9	4.0	.....	.....	0?	.....	.....	0	0	.....	.....	Hazy.....	
Constitution, N. 30° 33′, W. 58° 50′.....	30.13‡	765.3‡	.....	.....	70	21.1	100	SW	.....	.....	4	.....	5	.....	W	.....	.....	Smooth	.....	Pleasant.....	
Enterprise. Smyrna, Turkey.....	30.12‡	765.0‡	.....	.....	51	10.6	59	E	.....	.....	3	.....	8	.....	E	.....	.....	Mod'ate	.....	Cloudy.....	
Franklin, Off Navy Yard, Norfolk,Va.	30.35‡	770.9‡	.....	.....	42	5.6	66	NE	12	5.4	.....	.....	10	.....	NW	0	0	.....	.....	Cloudy.....	
Independence, Mare I'd, Navy Yard, Cal.	29.97‡	761.2‡	.....	.....	57	13.9	81	Calm	0	0	.....	.....	0	.....	.....	0.031	0.79	.....	.....	Foggy..	
Kearsarge, Santiago de Cuba, W. I.	30.10‡	764.5‡	.....	.....	72	22.2	80	NNE	.....	.....	2	.....	2	.....	NE	0	0	.....	.....	Fair...	
Lackawana, Honolulu, Sandwich Id's†	30.03‡	762.7‡	.....	.....	68	20.0	90	N	.....	.....	0–1	.....	2	.....	NE	.....	.....	Smooth	.....	Fair.....	
Marion, N. 39° 31′, W. 62° 18′. . .	30.07‡	763.8‡	.....	.....	51	10.6	65	WNW	.....	.....	4	.....	10	.....	NW	0	0	Mod'ate	WSW	Cloudy.....	
Michigan, Erie, Pa.....	30.33‡	770.4‡	.....	.....	23	— 5.0	86	SW	.....	.....	1	.....	10	.....	W	.....	.....	.....	.....	Light snow..	
Monocacy, Shanghai, China..	30.15‡	765.8‡	.....	.....	45	7.2	92	NE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
New Hampshire, Port Royal, S. C.....	30.27‡	768.8‡	.....	.....	54	12.2	80	W	2	0.9	.	.....	.....	.....	.....	0	0	.....	.....	Clear	
Nipsic, Norfolk, Va.....	30.33‡	770.4‡	.....	.....	43	6.1	61	NNE	.....	.....	2	.....	8	.....	.....	.....	.....	.....	.....	D. clouds.....	
Onward, Callao, Peru ....†.	29.97‡	761.2‡	.....	.....	66	18.9	89	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Mod'ate smooth	W	Foggy.,.....	
Palos. Tientsin, China.	30.48‡	774.4‡	.....	.....	32	0.0	79	E	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Passaic, Washington, D. C.....	30.37‡	771.4‡	.....	.....	30	— 1.1	78	NNE	.....	.....	1	.....	8	.....	.....	.....	.....	.....	.....	Cloudy.....	
Pensacola, Callao, Peru	29.94‡	760.5‡	.....	.....	66	18.9	100	ENE	.....	.....	1	.....	10	.....	.....	.....	.....	Smooth	.....	Foggy.....	
Powhatan, Navy Yard, Brooklyn, N.Y.	30.37‡	771.4‡	.....	.....	30	— 1.1	57	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	.....	Clear.	
Quinnebaug, Villafranca, France....	30.24‡	768.1‡	.....	.....	58	14.4	42	SW	.....	.....	1	.....	2	.....	W	.....	.....	.....	.....	Fair.....	
Ranger, N. 24° 00′, W. 159° 25′.....	30.06‡	763.5‡	.....	.....	73	22.8	95	SE	.....	... ..	3	.....	5?	.....	.....	.....	.....	Smooth	.....	Cloudy?.....	
Richmond, N. 25° 18′, E. 118° 07′.....	30.07‡	763.8‡	.....	.....	65	18.3	89	NE	.....	.....	4	.....	5	.....	.....	.....	.....	Smooth	.....	.....	
Rio Bravo, Brownsville, Texas... †.	30.27‡	768.8‡	.....	.....	62	16.7	??	NE	1	0.4	.....	.....	2	.....	Calm	0	0	.....	.....	Foggy.....	
Santee. Annapolis, Md	30.43‡	772.9‡	.....	.....	30	— 1.1	.....	NNE	.....	.....	2	.....	0	.....	.....	0	0	.....	.....	Clear	
Shenandoah, Montivideo, Uruguay. .	29.73‡	755.1‡	.....	.....	70	21.1	80	NW	.....	.....	7	.....	10	.....	.....	.....	.....	Mod'ate	.....	Cloudy.....	
St. Louis, League Island, Pa.....	30.32‡	770.9‡	.....	.....	29	— 1.7	.....	NW	3	1.3	.....	.....	2	.....	.....	0	0	.....	.....	Clear.	
Tennessee, Navy Yard, Brooklyn, N.Y.	30.44‡	773.2‡	.....	.....	35	1.7	70	NW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Tuscarora. N. 16° 00′, W. 95° 30′.....	29.91‡	759.7‡	.....	.....	76	24.4	86	NNE	.....	.....	1-2	.....	2	.....	Calm	0	0	Smooth	.....	Clear	
Vandalia. Navy Yard, Brooklyn, N.Y	30.37‡	771.4‡	.....	.....	39	3.9	55	NW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Wabash, Boston, Mass.....	30.28‡	769 1‡	.....	.....	14	-10.0	82	W	16	7.2	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Wachusett, Rio de Janeiro, Brazil.†	30.43‡	772.9‡	.....	.....	75	23.9	90	NW	.....	.....	2	.....	10	.....	Calm	.....	.....	.....	.....	Cloudy	
Wyoming, Cartagena, Spain.....	30.25‡	768.3‡	.....	.....	56	13.3	57	ENE	.....	.....	2	.....	2	.....	E	.....	.....	Smooth	E	Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		CHARACTER.	DIRECTION FROM—		
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S. S. Samaria																		Capt. T. Roberts.	
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																		Capt. Cobb.	
S. S. City of New York																		Capt. Seabury.	
S. S. City of Panama																		Capt. Berry.	
S. S. City of Peking																		Capt. Dearborn.	
S. S. City of Sydney																		L. B. Walls.	
S. S. City of Tokio, Capt. Maury																		Capt. R. Searle.	
S. S. Colima																		Capt. Whitebury.	
S. S. Costa Rica																		W. House & R. J. awless.	
S. S. Dakota, Capt. H. G. Morse																		Capt. Connolly.	
S. S. Georgia																		F. W. Hart, 1st Officer.	
S. S. Granada, Capt. Austin																		Capt. A. Fuller.	
S. S. Wilmington																		R. C. Ghest, 1st Officer.	
S. S. Zealandia, Sydney, New South Wales.		29.63‡	752 6‡				SW			3				W			Cloudy		

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																		Capt. J. W. Kennedy.	
S. S. Baltic																		Capt. H. Perry.	
S. S. Britannic																		Capt. B. Gleadell	
S. S. Celtic																		Capt. C. W. Kennedy.	
S. S. Germanic																			

NOTE.—The orginals give the barometer as read off; wind-force by the scale 0 to 12; for the Brittanic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer N. 40° 11′, E. 164° 00′		30.06‡	763.5‡	45	7.2	84	ENE			5		5		NE		Heavy	ENE	Squally	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson N. 40° 18′, W. 178° 27′		29.89‡?	759.2‡?	53	11.7		ESE			2		n		SE	Considerable	Rough	ESE	Raining	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES

Furnished by the co-operation of A. Schumacher & Co., Agents

S. S. Baltimore																		Capt. H. Andressen.	
S. S. Berlin																		Capt. T. H. Lamke.	
S. S. Braunschweig																		Capt. C. Undutsch.	
S. S. Leipzig, Capt. F. Pfeiffer																		S. Risius, 3rd Officer.	
S. S. Nürnberg																		Capt. A. Jaeger.	
S. S. Ohio																		Capt. G. Meyer	

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa		30.44‡	773.2‡	29	— 1.7		NW			3		2		NW	0			Fair	Capt. R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents.

S. S. Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland, N. 42° 46,′ W. 50° 09′†		29.79‡	756.7‡	40	4.4		NW	5	2.2			1		WNW		Heavy	NW	Fine	Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

Note.—The originals give the barometer as read off; do not distinguish between upper and lower clouds; sea-swell in general terms, as published. ‡Corrections for temperature, instrumental error and elevation applied at this office.

ALLAN LINE MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12. *The error of the barometer is not known. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES—Miscellaneous.

Furnished by the co-operation of the Observers named.

Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Barkentine "Carrie Heckle" N. 22° 02′, W. 37° 43′	*	29.83‡	757.7‡	71	21.7		N			5		5		N	Showers.	Rough	N	Fair	B. F. Woodbury.
Brigantine "George" of Halifax																			N. B. Foss.
Schooner Harry and Fred																			Capt. George Gardner.
Haytian																			
§ Iron Cross																			Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time. *Instrumental error not known.

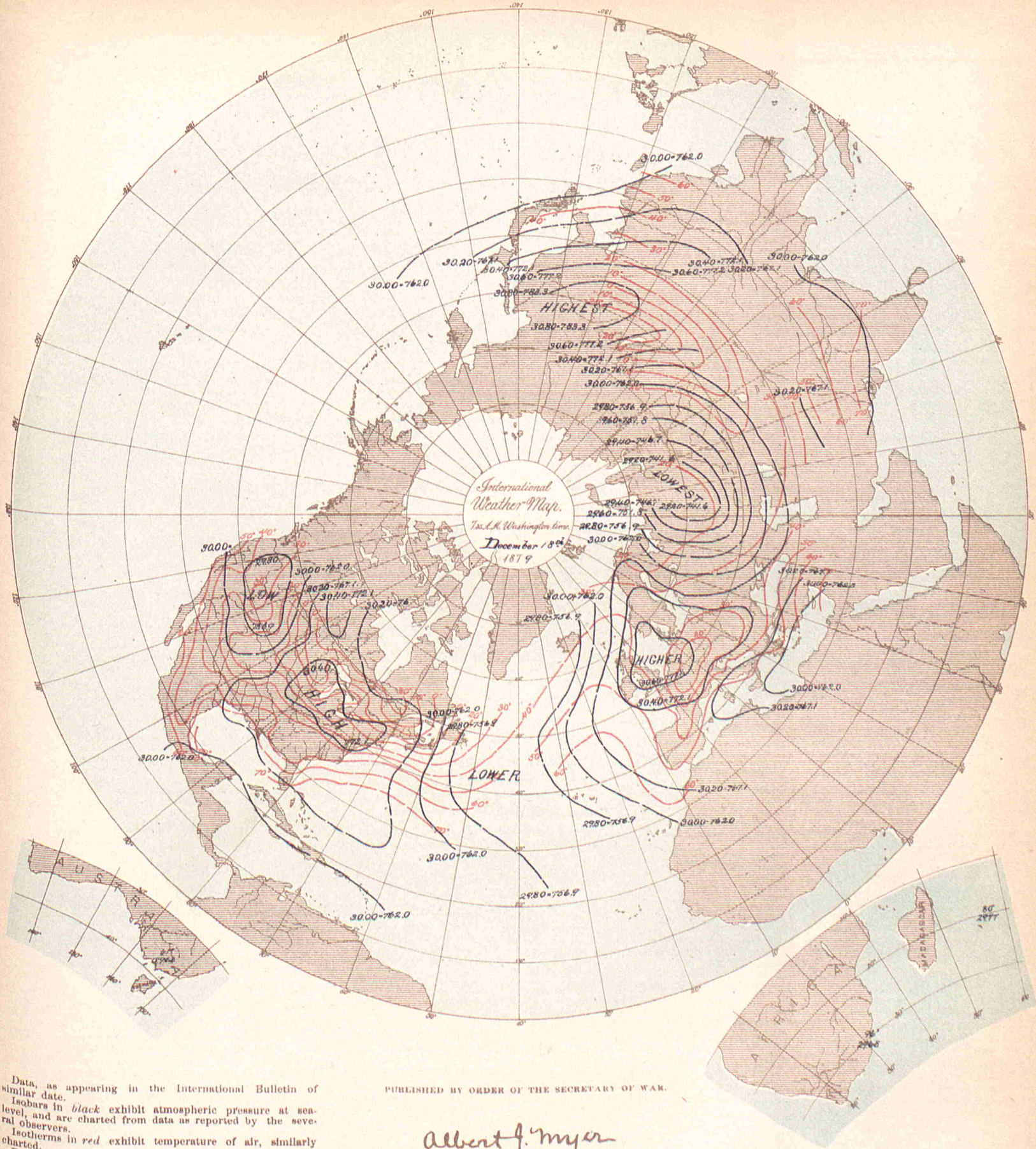
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 19, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE TOWN, C. G. H. mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Barometer. Corrected for instru-m'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 1—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.14	765.5	60.3	15.7	74	E			1		5			0	0	Cloudy	
Nemours			30.22	767.5	62.2	16.8	72	ENE			1		8			0	0	Very cloudy	Kesxuche.
Algiers			30.32	770.2	55.4	13.0	66	ENE			2		0			0	0	Clear	Tourillere.
La Calle			30.26	768.5	52.3	11.3	80	W			4		10			0.417	10.6	Raining	Foufrede.
Tunis																			Jacques.
Sfax			30.23	767.7															Gau.
Saida																			Herbin.
Tebessa			30.34	770.6	41.2	5.1	84	N			1		8			0.004	0.1	Very cloudy	Watrin.
Geriville					45.5	7.5	49	N			1		2			0.197	5.0	Fair	Brugniuax
Laghouat			30.32	770.1	50.7	10.4	15	NE			1		5			6	0	Cloudy	Bertrand.
Biskra			30.31	769.9	59.7	15.4	68	NW			1		0			0	0	Clear	Chanvaux.

NOTE.—The originals give the amount of cloudiness by the scale 0-4; no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.94	760.5	30.54	775.6	27.1	— 2.7	89	W			2		10			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.84	757.8	30.06	778.8	26.6	— 3.0	89	E	3.8	1.7			10			0.016	0.4		Dr. Wierzbicki.
Eperies	29.63	752.5	30.57	776.5	29.5	— 1.4	72	N			1		9ks		S	0	0		Julius Mikolik.
Gratz	29.23	742.4	30.56	776.2	29.8	— 1.2	68	S			2		3			0	0		Andreas Rospini.
Hermannstadt	28.89	733.9	30.43	772.9	26.8	— 2.9	94	NNW			1		6			0	0		Prof. A. Gottschling.
Kremsmünster	29.15	740.3	30.60	777.2	25.0	— 3.9	89	ENE			3		6			0	0		Prof. C. Wagner.
Lemberg	29.51	749.5	30.58	776.7	24.3	— 4.3	98	NE			1		0			0	0		Dr. T. Stanecki.
Pola	30.18	766.5	30.30	769.5	47.8	8.8	35	NE			3		0			0	0		I.R.Hydrographic Office
Szathmar	30.02	762.5	30.54	775.6	19.4	— 7.0	86	NE			2		0			0	0		Pet. Pancsics, S. J.
Szegedin	30.15	765.9	30.46	773.6	28.4	— 2.0		W			4		0			0	0		Karl Stancel.
Trieste	30.29	769.3	30.39	771.9	41.4	5.2	54	ENE			1		0			0	0		P. Busin.
Vienna	29.85	758.2	30.61	777 5	31.1	— 0.5	94	N			2		10			0	0		I.R.Central Met. Ob'sy

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

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BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.50	774.7	30.60	777.2	33.6	0.9		SSW	6	2.7			0			0.010	0.25	Misty	W. Boswell.
Ardrossan	30.64	778.2	30.66	778.7	37	2.8		E			1		8					Foggy	Wm. McNeil & G. Carrick
Armagh, (Observatory)	30.43	772.9	30.66	778.7	31.2	— 0.4		SSW	1	0.4			10					Foggy	S. Call.
Bidston (Liverpool Obs)			30.65	778.5	33	0.6		ESE	18	8.0			5					D. clouds	John Hartnup.
Bolton (Sharples)	30.09	764.3	30.63	778.0	31.0	— 0.6		SW	0	0			10					Gloomy	Thomas M. ckereth.
Bradford, Yorkshire	30.25	768.3	30.65	778.5	36.9	2.7		NW			4		10			0	0	Overcast	J McLandsborough.
Bridgetown, Barbadoes	29.96	761.0	29.99	761.7	81	27.2		NE			2		8					Overcast	Pvt. G. Surgener, A.H.C.
Cambridge (Observatory)	30.57	776.5	30.67	779.0	34.0	1.1		NE			1		10					Drizzling	H. Todd.
Cardington			30.65	778.5	33.4	0.8		NE			0–1		10					Overcast	John McLaren.
Chatham (School M. E.)	30.51	774.9	30.65	778.5	36.2	2.3		NE			1		10					Overcast	J. Carmell, Sapper, R.E.
Donaghadee	30.63	778.0	30.67	779.0	42	5.6		SSW			2		5					D. clouds	J. Mac Gowan.
Dover	30.54	775.7	30.53	776.7	39	3.9		ENE			4		3					¼ clouded	J. Costello.
Falmouth (Observatory)	30.32	770.1	30.56	776.2	37.8	3.2		ENE			3		7					Foggy	The Staff.
Fort Napier, Natal	27.39	695.7	29.60	751.8	80.4	26.9		NE			1		3					Blue sky	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone																			
Galway (Queen's College)			30.56	776.2	31	— 0.6		N			1		0					Blue sky	Prof. A. H. Curtis.
Gibraltar, Mediterranean																			Sergt. Wm. Allen, A. H.
Glasgow, (Observatory)	30.44	773.2	30.64	778.2	36.5	2.5		SW			0		0					Dense fog	D. G. Maclean. [C.
Great Yarmouth	30.64	778.2	30.65	778.5	37	2.8		ENE			3		8					Misty	G. T. Watson.
Greenwich (Royal Obs'y)	30.45	773.4	30.64	778.2	33.8	1.0		NE			1		10					Overcast	The Staff, for G. B. Airy.
Guernsey	30.26	768.6	30.49	774.4	43.5	6.4		NE			3		0					Blue sky	Dr. S. E Hoskins, F.R.S.
Helston	30.68	779.3	30.80	782.3	42	5.6		E			1	3ck				0	0	Fine	M. P. Moyle.
Holyhead	30.54	775.7	30.62	777 7	37	2.8		E			1		0					Blue sky	John Tilston.
Jersey	30.18	766.6	30.49	774.4	42.1	5.6		NE			3		0					Misty	J. Fisher.
Kew (Observatory)	30.61	777.5	30.64	778.2	35.0	1.7		NE	12	5.4			10					Misty	The Met'g'l Office.
Leicester (Museum)	30.40	772.1	30.68	779.3	34.8	1.6		NE			1		10					Overcast	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	29.92	760.0	29.99	761.7	57	13.9		N			2		6cn					D. clouds	A. King.
Nairn	30.48	774.2	30.58	776.7	40	4.4		Calm			0		0					Clear	W. D. Penny.
Nassau, Bahamas			30.19	766.8	73.5	23.1		E			1		4					D. clouds	C. S. Duncombe.
Nottingham (Observatory)	30.49	774.4	30.69	779.5	36.2	2.3		NNE			2		10k		ENE	0	0	Overcast	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)																			Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)			30.65	778.5	33	0.6		NE			1		10					Threatening	H. E. Bellamy.
Plymouth	30.47	773.9	30.55	776.0	33.2	0.7		N			1		0					Misty	John Merrifield.
Prince Town																			W. H. Tooker.
*Roche's Point	30.53	775.4	30.62	777.7	44	6.7		E			3		8					¾ clouded	Wm. Kennedy.
St. Ann's Head	30.43	772.9	30.60	777.2	38	3.3		ENE			2		2					Blue sky	John C. Walker.
Sandwick Manse, Orkneys			30.53	775.4	43.8	6.6		SW	13	5.8			8					D. clouds	Rev. C. Clouston, L.L.D.
Scutari Cemetery, Turkey	29.84	757.9	29.91	759.7	37.2	2.9		NE			4		10					Raining	Serg't W. H. Lane.
Sheffield	30.38	771.6	30.72	780.3	37.4	3.0		Calm			0		10s			0.02	0.5		W. F. Cooper.
Silloth Rectory	30.63	778.0	30.66	778.7	36.5	2.5	80	Calm			0		0			0	0	Blue sky	Francis Redford, A. M.
Stonyhurst (Observatory)			30.64	778.2	34.0	1.1		NNE	5	2.2								Misty	Rev. S. J. Perry.
Straffield, Turgiss	30.42	772.7	30.65	778.5	35.0	1.7		E			2		10					Overcast	Rev. C. H. Griffith, F.M.S.
Truro (Royal Institution)	30.36	771.1	30.55	776.0	46	7.8		E			2		3					D. clouds	W. Newcombe.
Valencia Observatory)	30.56	776.2	30.58	776.7	44.0	6.7		SE	14	6.3			0					Misty	The Met'g'l Office.
Sub-Series.																			
Cape Town (C. G. H. Obs'y)																			The Staff, for D. Gill.
Colesberg Bridge, Cape Col.																			Robert Burnet
Constable, Cape Colony	26.62	676.1			76	24.4		W			1		0						Francis Abbott, F.R.A.S.
Hobart Town, Tasmania																			Andrew Gibb.
Leith (Restalrig Park) Sc'tl'd			30.68	779.3	36.8	2.7		W			1		0			0	0	Hazy	C. Meldrum.
Mauritius (Observatory)	29.37	746.0	29.55	750.6	80.0	26.7	71	S	19.5	8.7		3	6		S	0.32	8.1	Squally	R. L. J. Ellery.
Melbourne (Observatory)	29.75	755.6	29.84	757.9	58.0	14.4	65	SW	16	7.2			4			0.18	4.6	Squally	J. Youngclause.
Monach Lt-house, Hebrides			30.53	775.4	48	8.9		SSW			4		10			0	0		
North Unst, Shetland Is			30.45	773.4				SW			7	10	10	SW		0	0		

Note.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters; Prince Town, 1,400 feet, or 427 meters; Colesberg Bridge and Constable, unknown.

British Marine Series. Vessels.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. Alert, Tom Bay, Patagonia			29.85‡	758.2‡	46.2	7.9		N			3		10					Raining	Capt. J. P. Maclear, R.N.
H. M. Sloop Gannet, S. 18° 28′, W. 71° 21′			29.97‡	761.2‡	68.5	20.3		SW			1		4					D. clouds	Commander E. Bourke, R. N.
H. M. S. Magpie, Kin-toan, Lt. VL. near Shanghai, China			30.41‡	772.4‡	42.0	5.6		NNW			6		10					Misty	Capt. R. H. Napier, R.N.
Barque Belle-Isle, N. 35° 00′, W. 56° 50′			30.31	769.9	62	16.7		NE			6		6			6	Confused	D. clouds	Capt. A. J. Brown
City of Cashmere, S. 7° 52′, W. 130° 43′			29.93‡	760.2‡	75.5	24.2		ESE			5		4					D. clouds	Capt. W. M. Grieve.
S. S. Ethiopia, N. 50° 15′, W. 38° 10′			29.78	756.4	37	2.8		W			6		8			8	W	Snow & sleet	Capt. Campbell.
Barque Fedalma, N. 25° 50′, W. 65° 10′			30.23	767.8	75	23.9		Calm			0		2			2	Confused	Blue sky	Capt. H. L. Fox.
Iron Cross, N. 38° 20′, W. 64° 50′			30.42	772.7	51	10.6		NE			2		4			3	NE	D. clouds	Capt. W. Randall.
Barque Mertole, N. 41° 20′, W. 13° 20′			30.25‡	768.3‡	53.5	11.9		N			2		2					Blue sky	Capt. Turner.
S. S. Strathleven, S. 24° 30′, E. 100° 10′			29.90‡	759.4‡	67.5	19.7		SE			2		6					D. clouds	Capt. C. W. Pearson.
Light House Tender Richmond.																			Capt. W. H. Stewart.
S. S. Gordon Castle																			Capt. Wm. Waring.
Brig Alliance																			Capt. W. Scott.
S. S. Peruvian																			Capt. W. H. Smith.

Note.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected.
‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. L'w'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
San José	26.26	667.0	29.98	761.5	65.8	18.8	81	SE	.....	.....	3	.....	3d	.....	E	0	0	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.65	778.5	29.70	779.7	32.0	0.0	96	SW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	
Fanöe	30.69	779.5	30.71	780.0	28.4	— 2.0	100	S	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy	
Godthaab (Greenland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Stykkisholm (Iceland)	29.61	752.0	29.65	753.1	36.7	2.6	79	SE	.....	.....	6	.....	8	.....	.....	.....	.....	.....	
Thorshavn (Faröe)	30.24	768.1	30.28	769.0	46.8	8.2	88	WSW	.....	.....	6	.....	3	.....	.....	.....	.....	.....	
Vestervig	30.57	776.4	30.68	779.2	28.2	— 2.1	100	SSW	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.90	759.5	30.45	773.5	32.9	0.5	72	NE	.....	.....	1	.....	2s	.....	.....	0	0	Slightly cld'y	Collignon, Director.
Amiens, Normal School	30.30	769.7	30.42	772.7	31.6	— 0.2	89	NNE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Vaillant, Director.
Arras, Engin'r school	30.30	769.5	30.57	776.4	23.7	— 4.6	90	NE	.....	.....	2	.....	.....	.....	.....	0	0	.....	Klein, Commandant.
Avignon, Normal School	30.29	769.4	30.37	771.4	39.7	4.3	67	N	.....	.....	1	.....	0	.....	.....	0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.87	758.6	30.47	774.0	23.4	— 4.8	.....	SSE	.....	.....	1	.....	0	.....	.....	0	0	Clear	C. Saillard, Director.
Beauvais, Normal School	30.26	768.5	30.54	775.8	27.1	— 2.7	78	NW	.....	.....	1	.....	2	.....	.....	0	0	Slightly cld'y	Frère Eugene Marie.
Besançon, Normal School	29.54	750.4	30.52	775.1	20.8	— 6.2	.....	S	.....	.....	1	.....	0	.....	.....	0	0	Clear.	A. Carré, Director.
Bourg-en-Bresse, N. School	29.54	750.3	30.45	773.5	19.0	— 7.2	100	SE	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Marlot, Diretor.
Bourges, Normal School	29.83	757.7	30.44	773.1	17.6	— 8	89	NE	.....	.....	3	.....	2cs	.....	NE	0	0	Slightly cld'y	M. Gence, Director.
Brest, Naval Observatory	30.22	767.6	30.46	773.7	41.0	5.0	74	NE	.....	.....	1	.....	0	.....	.....	0	0	.....	Ch. de Kermaree, Dir.
Caen, Normal School	30.38	771.7	30.47	773.8	33.3	0.7	59	NE	.....	.....	0–1	.....	.....	.....	.....	0	0	.....	M. Bietrin, Director.
Carcassonne, N. School	29.91	759.7	30.34	770.6	45.5	7.5	61	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear.	September, Director.
Châlons-sur-Marne, N. Sch'	30.17	766.4	30.52	775.1	32.0	0.0	.....	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	Clear.	Jadot, Director.
Chartres, Normal School	29.82	757.4	30.43	773.0	26.6	— 3	82	N	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Vergier, Director.
Clermont-Fd, Puy de D. Obs	28.98	736.2	30.44	773.5	22.5	— 5.3	76	N	.....	.....	1	.....	0	.....	.....	0	0	.....	Alluard, Director.
Commercy, Normal School	29.58	751.4	30.54	775.6	30.7	— 0.7	.....	ENE	.....	.....	1	.....	5	.....	ENE	0	0	Cloudy	Dr. Coullet, Director.
Commune de Gréasque*	29.20	741.7	30.34	770.7	52.3	11.3	36	N	.....	.....	1	.....	2	.....	SW	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.70	754.4	30.53	775.5	26.6	— 3	.....	E	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.15	765.8	30.38	771.6	29.5	— 1.4	68	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	Mouillot, Director.
Le Mans, Normal School	30.10	764.6	30.43	773.0	23.4	— 4.8	86	N	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.51	749.5	30.48	774.1	18.9	— 7.3	73	NW	.....	.....	1	.....	0	.....	.....	0	0	Misty	A. Baudry, Director
Lorient, Naval Observatory	30.33	770.3	30.44	773.1	39.2	4.0	67	NE	.....	.....	2	.....	0	.....	.....	0	0	Clear	Lt. T. Carré, Director
Lyons Obs'y (Park Station)	29.82	757.5	30.49	774.5	24.4	— 4.2	72	ESE	.....	.....	1	.....	0	.....	.....	0	0	Misty	Ch. André, Director
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	29.97	761.3	30.24	768.2	54.7	12.6	47	W	.....	.....	0–1	.....	1	.....	.....	0	0	.....	E. Stephan, Director.
Mirecourt, Normal School	29.34	745.3	30.48	774.2	20.7	— 6.3	95	NW	.....	.....	1	.....	kn	.....	NW	0	0	.....	Barbier, Director.
Mont-Louis	25.00	634.9	30.31	769.9	37.4	3.0	60	WSW	9.4	4.2	.....	.....	0	.....	.....	0	0	.....	M. Cave.
Nice	30.24	768.1	30.27	768.9	56.8	13.8	57	E	.....	.....	2	.....	1	E	E	0	0	Clear	M. Boissière, Director.
Nismes, Normal School	30.13	765.4	30.35	770.9	50.9	10.5	58	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. Boyer, Director.
Paris, Montsouris Obs'y	30.20	767.1	.....	.....	27.3	— 2.6	78	N	.....	.....	1	.....	2	.....	.....	0	0	.....	Marié Davy, Director.
Perpignan	30.23	767.7	30.34	770.5	46.9	8.3	65	SE	3.8	1.7	.....	.....	0	.....	.....	0	0	.....	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.59	573.8	.....	.....	33.4	0.8	.....	.....	.....	.....	.....	.....	.....	.....	W	0	0	.....	Gen'l de Nansouty.
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Privas, Normal School	29.25	742.9	30.39	771.9	30.2	— 1	.....	N	.....	.....	1	.....	1	N	N	0	0	Clear.	M. Tallieu
Puy de Dome (Summit) Obs	25.31	642.8	.....	.....	35.6	2.0	43	S	.....	.....	3	.....	0	.....	.....	0	0	Clear	Alluard, Director.
Rochefort, Naval Obs'y	30.36	771.2	30.39	772.0	32.4	0.2	85	N	.....	.....	3	.....	0	.....	.....	0	0	Clear	Lt E. Decante, Director
Rouen, Normal School	30.42	772.7	30.51	774.9	28.4	— 2.0	78	W	.....	.....	1	.....	2	.....	SE	0	0	Slightly cld'y	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.41	772.3	30.44	773.1	39.2	4.0	59	NE	.....	.....	2	.....	0	.....	.....	0	0	Clear	Lt. Hercouet, Director
Saint Maur (near Paris)	30.32	770.2	30.49	774.4	26.1	— 3.3	74	NNE	.....	.....	2	1	.....	ESE	.....	0	0	.....	E. Renou, Director.
Tarbes, Normal School	29.17	740.9	30.27	768.9	48.6	9.2	46	SW	.....	.....	1	.....	2	.....	.....	0	0	Slightly cld'y	T. Huguet, Director.
Toulouse, Observatory	29.63	752.6	30.36	771.1	39.9	4.4	58	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. Juher Mercadier.
Tours	30.19	766.9	30.39	771.9	23.0	— 5.0	.....	E	.....	.....	2	.....	0	.....	.....	0	0	Clear	Cousin-Marquet.
Versailles, Observatory	29.96	761.0	30.46	773.6	28.4	— 2.0	75	E	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.75	755.7	30.52	775.2	27.5	— 2.5	89	SE	.....	.....	1	.....	.....	.....	.....	0	0	Misty	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	30.01	762.2	30.04	762.9	73.4	23	.....	.....	.....	.....	.....	.....	.....	.....	.....	3.15	80.	.....	L'Abbé Marchési
Zi-Ka-Wei (near Shanghai	30.40	772.2	30.43	772.8	37.9	3.3	69	NNW	13.7	6.1	.....	.....	10k	.....	NNW	0.008	0.2	Covered	Marc Dechevrens.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.67	753.6	30.53	775.4	24.1	— 4.4	68	NW			2		3s			0	0	Foggy	Prof. Dr. Hoh.
Berlin	30.50	774.8	30.59	779.5	33.8	1.0	90	NE			1		4			0	0		Prof. Dr. Arndt.
Breslau	30.18	766.6	30.72	780.4	29.1	— 1.6	90	ESE			2		10			0	0		Royal University Obs'y.
Carlsruhe	30.07	763.8	30.54	775.6	28.8	— 1.8	82	N			1		0			0	0		Albert Senz.
Cassel	30.00	762.0	30.62	777.7	26.6	— 3.0	84	NE			1		0			0	0		Dr. H. Möhl.
Emden			30.67	779.0	30.0	— 1.1	98	NE			2		10			0	0		Prof. Dr. Prestel.
Frankfort on the Main	30.28	769.2	30.68	779.2	29.5	— 1.4	51	NNE			4		3			0	0		Physical Society.
Friedrichshafen	28.99	736.3	30.55	775.9	20.7	— 6.6	68	E			4		0			0	0		Chief Telegrapher Wilhelm.
Hamburg	30.65	778.5	30.72	780.3	29.8	— 1.2	94	N			1		10			0	0		Capt. P. F. A. Hegerman.
Kiel	30.70	779.7	30.71	780.1	30.7	— 0.7	100	SSW			1		10			0.008	0.20		Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.61	777.6	30.70	779.8	31.6	— 0.2	86	W			2		4			Inap.	Inap.		Prof. E. Luther.
Köslin			30.74	780.7	21.6	— 5.8		S			2		8			0	0		H. Müller.
Leipsic Observatory	30.26	768.5	30.71	780.1	27.0	— 2.8	96	ENE			1		10			0	0		Prof. Dr. Bruhns, Privy Counselor
Magdeburg	30.48	774.3	30.72	780.2	32.5	0.3	90	E			1		9ks			0	0		Dr. Assmann.
Memel	30.60	777.1	30.64	778.3	34.3	1.3	82	WNW			3		2ck						Reinbrecht & Issermann.
Munich (München)	28.60	726.5	30.50	774.6	19.9	— 6.7	95	Calm			0		10			0	0	Dense fog	Dr. C. Lang.
Neufahrwasser	30.70	779.8	30.72	780.2	35.8	2.1	80	W			1		2			0	0		A. Lothes.
Neustadt (Palatinate)	29.99	761.8	30.63	775.4	30.7	— 0.7		WSW			1					0	0		Reallehrer Dicknether.
Posen	30.42	772.7	30.74	780.7	27.1	— 4.4	88	S			1		10			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	29.97	761.2	30.57	776.5	21.2	— 6.0	90	N			1		3			0	0		Imp. University Observatory.
Stuttgart	29.53	750.0	30.56	775.9	20.7	— 6.3	76	E			1		0			0	0		Prof. Dr. Schoder.
Weissenburg (Bavaria)	28.98	736.2	30.58	776.6	26.1	— 3.3	89	NE			2	1c		E		0	0	Foggy	Reallehrer J. Hopfner.
Wustrow	30.71	780.0	30.73	780.6	31.3	— 0.4	96	SE			1		5s			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.52	749.9	29.93	760.2	42.3	5.7		N			7.0		10					Sprinkling	Dr. J. F. J. Schmidt

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.97	761.3	30.02	762.6	73.6	23.1	62	SW	19	8.5			0			0	0	Blue sky	
Deesa	29.54	750.2	30.02	762.5	72.0	22.2	30	NNW	6.2	2.8			0			0	0	Blue sky	
Bombay	29.88	759.0	29.92	760.0	76.3	24.6	74	NNW	15	6.7			0			0	0	Blue sky	
Poona (Yarrowda)	28.05	712.5	29.91	759.6	79.8	26.6	27	ESE	6	2.7			2		W	0	0	D. clouds	
Belgaum	27.36	694.8	29.90	759.4	75.0	23.9	56	ESE	1	0.4			6	SW	E	0	0	D. clouds	
Lahore	29.26	743.1	30.04	762.9	59.6	15.3	44	NE	1.6	0.7			9			0	0	Overcast	
Roorkee	29.11	739.4	30.06	763.6	64.8	12.7	50	SW	1.4	0.6			2			0	0		
Agra	29.46	748.4	30.05	763.3	64.8	18.2	49	SW	1.4	0.6			6		SW	0	0		
Nagpur	28.92	734.5	29.99	761.6	70.2	21.2	53	Calm	2.4	1.1			0			0	0	Blue sky	
Jubbulpore	28.60	726.5	30.02	762.4	64.6	18.1	57	Calm	1.2	0.5			0			0	0	Blue sky	
Lucknow	29.65	753.0	30.04	763.0	60.3	15.7	57	NNW	1.2	0.5			0			0	0	Blue sky	
Allahabad	29.72	754.9	30.05	763.3	58.9	14.9	64	Calm	0.5	0.2			0			0	0	Blue sky	
Patna	29.85	758.1	30.04	762.9	67.2	19.6	37	W	0.6	0.3			0			0	0	Blue sky	
Hazaribagh	27.95	710.0	30.04	763.0	61.6	16.4	35	NW	3.7	1.6			0			0	0	Blue sky	
Cuttack	29.91	759.6	29.99	761.7	72.1	22.3	69	ENE	2.0	0.9			1			0	0	Blue sky	
Calcutta (Alipore)	29.97	761.2	29.99	761.8	64.8	18.2	73	N	2	0.9			1			0	0	D. clouds	
Goalpara	29.57	751.0	29.97	761.2	68.8	20.4	60	Calm	0.9	0.4			0			0	0	Blue sky	
Chittagong	29.85	758.2	29.94	760.5	70.4	21.3	66	WNW	1.4	0.6			4			0	0		
Sibsagar	29.65	753.2	30.00	762.0	62.3	16.8	85	ENE	0.7	0.3			0			0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	29.93	760.3	30.37	771.5	38.5	3.6	56	NE	3.8	1.7			0			0	0		Prof. Giovanni Clodig.
Milan	29.82	757.4	30.37	771.5	35.4	1.9	59	N			1		0			0	0		Prof. Schiaparelli.
Padua	30.24	768.0	30.35	771.0	36.7	2.6	98	N	0.7	0.3			0			0	0		Prof. Dott. Lorenzoni.
Moncalieri	29.43	747.4	30.40	772.2	33.8	1.0	61	NE			2		2	N		0	0		Prof. P. F. Denza.
Genoa	30.08	763.9	30.28	769.0	55.6	13.1	24	N	9.8	4.4			0			0	0		Prof. G. M. Garibaldi.
Mondovi	28.37	720.7	30.41	772.4	35.8	2.1	60	W			2		1			0	0		Prof. D. C. Bruno.
Pesaro	30.26	768.7	30.32	770.0	40.6	4.8	50	W	19.9	8.9			0			0	0		Prof. Luigi Guidi.
Florence	30.00	762.1	30.28	769.1	49.1	9.5	35	NE			4		0			0	0		Cav. F. Meucci.
Leghorn	30.15	765.8	30.24	768.1	51.4	10.8	36	ENE	8.7	3.9			4			0	0		Prof. P. Monte.
Rome	29.96	761.0	30.15	765.7	48.4	9.1	57	ENE	1.8	0.8			6			0	0		Prof. P. S. Ferrari
Lecce	29.76	755.9	30.02	762.6	48.4	9.1	69	NNW	23.7	10.6			3	N		0	0		Prof. C. De Giorgi
Cosenza	29.15	740.3	30.08	764.0	48.6	9.2	71	SE	0.7	0.3			9			0	0		Prof. D. Conti.
Cagliari	29.95	760.8	30.15	765.9	53.6	12.0	64	NW			4		0			0.020	0.5		Prof. A. Pacinotti.
Palermo	29.83	757.7	30.10	764.4	52.3	11.3	59	W	6.3	2.8			9			0.209	5.3		Prof. G. Cincciatore.
Syracuse	29.94	760.5	30.01	762.3	54.7	12.6	62	NE	6.3	2.8			10	ENE		0.327	8.3		Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.56	750.7	30.09	764.3	47.3	8.5	57	ESE	6.3	2.8			3			0	0		Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 461 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.97	761.2	29.98	761.5	50.3	10.2	95	SW	1.7	0.7			10n			0.043	1.10	Raining	K. Sasaki.
Nagasaki, I. M. Obs'y	29.88	758.9	30.09	764.3	50.0	10.0	72	NW	8.0	3.6		ck	9s			0.015	0.38	Cloudy	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.90	759.4	29.97	761.2	46.4	8.0	92	NE	2.5	1.1		ck	7ks		SW	0	0	Cloudy	The Staff.
Wakayama	29.93	760.2	29.98	761.5	46.9	8.3	90	E	4.0	1.8		ck	5cs			0	0	Fair	

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima																			R. Banda, C. E.
Guadalajara	25.16	639.0	30.37	771.5	41.9	5.5	60	Calm			0		1		Calm	0.08	2.0	Clear	Prof. L. Perez.
Leon	24.57	624.0	30.40	772.1	50.5	10.3	80	N			1	0	0			0.03	0.7	Fine	Prof. M. Leal.
Mazatlan	29.83	757.6	30.09	764.3	67.6	19.8	66	E			2	2c	0			0	0	Clear	I. Guerrero, C. E.
Mexico, Central Observatory	30.16	588.2	30.30	769.5	47.8	8.8	66	Calm	0	0		8ck	0	SW		0	0	Cloudy	The Staff.
Pabellon (Aguascalientes)					48.2	9.0	67	NW			1	1s	0			0	0	Clear	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.50	596.9	30.46	773.6	42.8	6.0	29	Calm	0	0		4c	0	E		0	0	Fair	Prof. P. Spina.
San Luis Potosi	24.29	616.9	30.36	771.1	52.0	11.1	40	E			1	3	0	W		0	0	Clear	G. Barroeta, M. D.
Tlacotalpam																			Prof. M. M. Châzaro.
Vera-Cruz																			Prof. J. Rossell
Zacatecas	22.63	574.9	30.35	771.0	49.6	9.8	63	Calm	0	0		0	0			0	0	Clear	J. C. Castrillon.

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,708.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column; the instrumental correction —0.88 mm., or —0.035 inch, has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.63	778.0	30.63	778.0	28.8	— 1.8		NE			4					0	0		
Groningen	30.62	777.7	30.67	779.1	29.8	— 1.2		E			1					0	0		
Helder	30.66	778.8	30.66	778.8	30.9	— 0.6		ENE			2					0	0		
Hellevoetsluis	30.62	777.7	30.62	777.7	29.8	— 1.2	100	ENE			4								
Utrecht	30.60	777.3	30.65	778.5	30.0	— 1.1	78	NE			3					0	0	Misty	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania

STATIONS.	Barometer: Corrected for instrum'tal error and temperature (Inches.)	Barometer: Corrected for instrum'tal error and temperature (Millimeters.)	Barometer: Reduced to sea-level. (Inches.)	Barometer: Reduced to sea-level. (Millimeters.)	Temperature of the Air. (Fahrenheit)	Temperature of the Air. (Centigrade.)	Relative Humidity. (Per cent.)	Wind. Direction. (From—)	Wind. Velocity (Miles per hour.)	Wind. Velocity (Meters per second.)	Wind. Force. (0—10.)	Clouds. Amount. (Up'er 0—10.)	Clouds. Amount. (Lo'er 0—10.)	Clouds. Direction. (Upper. From—)	Clouds. Direction. (Lower. From—)	Rain-fall or melted snow in the past 24 hours. (Inches.)	Rain-fall or melted snow in the past 24 hours. (Millimeters.)	Weather.	Observer
Bergen	30.67	779.1	30.73	780.5	38.1	3.4	83	S	13.7	6.1	.....	.....	10	.....	.....	0	0	.....	
Brönö	30.05	763.3	30.09	764.3	44.6	7.0	92	SW	29	13	.....	.....	10	.....	.....	0.425	10.8	Raining	
Christiana	30.37	771.4	30.53	775.4	23.4	— 4.8	100	N	2	1	.....	.....	10	.....	.....	0	0	Foggy	
Tromsö	29.53	750.0	29.57	751.1	37.8	3.2	68	W	11	5	.....	.....	10	.....	.....	0.394	10.0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	29.94	760.4	30.13	765.3	61.9	16.6	83	SE	10.5	4.7	.....	.....	5	.....	.....	0.333	8.5	.....	Dr. J. A. Sampaio.
Campo Major	29.20	741.7	30.23	767.9	47.5	8.6	55	E	7.4	3.3	.....	.....	2	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	29.75	755.6	29.84	757.8	62.6	17.0	97	SE	3.8	1.7	.....	.....	10	.....	.....	1.371	34.8	Raining	Capt. D. A. de Cunha.
Lisbon Observatory	29.87	758.8	30.25	768.3	43.7	6.5	78	NE	12.5	5.6	.....	.....	2	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	29.98	761.5	30.05	763.3	63.0	17.2	72	ESE	13.0	5.8	.....	.....	3	NNE	.....	0.193	4.9	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.	Sea or swell: Height scale 0-9	Sea or swell: Direction from—		
Bartholomew Dias	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	A. M. de Sande, Com'd't.
Duque da Terceira	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Rio Lima. Capt. S. C. da Silva Costa.				
Santiago, Cape Verd Ids	7	S	D. clouds	A. D. de Fouseca Sarurento
Sà da Bandeira	.....	.....	.....	F. Teixeira da Silva, Comd't.
Sado, Capt. J. A de Brito Capello, St. Paul de Loando	.....	NW	D. clouds	F. de Assis Camillo, jun., Q. M.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	1	.....	Blue sky	J. G. Felgo, 2nd Lieut.
	.....	.....	.....	
	.....	.....	.....	
	.....	.....	.....	

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sà da Bandeirà gives the barometer reduced tofreezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	29.61	752.1	29.63	752.6	12.2	—11.0	97	SSW	13	6	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Astrakhan	29.91	759.7	29.83	757.6	30.0	— 1.1	92	NW	4	2	.....	.....	10n	.....	.....	.....	.....	Heavy clouds	Capt. Wisganow.
Barnaul	29.38	746.3	29.91	759.7	24.3	— 4.3	100	SW	31	14	.....	.....	10	.....	.....	.....	.....	Snowing	Meteorological Obs.
Dorpat	30.11	764.8	30.37	771.4	28.9	— 1.7	90	WSW	11	5	.....	.....	6ks	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	28.46	722.8	29.51	749.5	— 1.1	—18.4	73	W	13	6	.....	4c;ck	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	29.55	750.5	29.84	757.9	12.0	—11.1	72	NNW	11	5	.....	.....	7	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.76	755.8	30.45	773.4	17.8	— 7.9	80	N	9	4	.....	.....	1ks	.....	.....	.....	.....	.....	Physical Cabinet.
Krotkowo*	29.37	746.0	29.89	759.1	7.9	—13.4	71	N	0	0	.....	.....	3	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	29.81	757.1	30.03	762.7	18.0	— 7.8	83	NNE	31	14	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Moscow	29.71	754.5	30.32	770.0	8.6	—13.0	84	N	7.8	3.5	.....	.....	3ks	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	28.13	714.4	30.85	783.5	—24.2	—31.2	83	Calm	0	0	.....	.....	2	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Nikolaiev	30.19	766.9	30.26	768.7	24.6	— 4.1	61	NNE	45	20	.....	.....	0	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	29.72	754.2	29.94	760.4	34.2	1.2	80	SSE	4	2	.....	.....	9ks	.....	.....	.....	.....	.....	.....
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	30.45	773.4	30.59	777.0	21.7	— 5.7	40	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	30.07	763.8	30.09	764.2	27.3	— 2.6	92	WSW	22	10	.....	.....	9n	.....	.....	.....	.....	Snow-drift	Central Physical Obs.
Tashkend	28.52	724.5	30.22	767.5	21.6	— 5.8	100	.....	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.39	721.2	29.84	757.9	43.7	6.5	65	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	30.25	768.3	30.71	780.0	19.8	— 6.8	97	S	2	1	.....	.....	10	.....	.....	.....	.....	Dense fog	Astronomical Obs.
Wilna	30.17	766.3	30.62	777.8	28.9	— 1.7	91	Calm	0	0	.....	.....	3	.....	.....	.....	.....	.....	Astronomical Obs.
Yenisiesk	29.41	746.9	29.71	754.5	25.5	— 3.6	72	S	18	8	.....	.....	10	.....	.....	.....	.....	.....	Marks.
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	30.21	767.2	30.31	769.9	48.7	9.3	52	SE	2.0	0.89	.....	.....	0	.....	.....	0	0	Light mist	Antonio Rave, Director
Bilbao, Met. Obs'y	30.20	767.0	30.26	768.5	49.6	9.8	61	SE	2.0	0.89	.....	0	0	.....	.....	0.039	1.0	Clear.	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.28	692.8	.....	.....	37.8	3.2	66	NE	1.3	0.60	.....	0	0	.....	.....	0	0	Clear.	Domingo Martin y Perez.
Madrid, Royal Observatory	28.03	712.0	30.35	770.9	42.6	5.9	75	NE	8.9	4.00	.....	0	9	.....	.....	0	0	Almost cov'd	The Staff.
Murcia, Met. Obs'y	30.17	766.2	30.32	770.1	56.3	13.5	63	NW	3.4	1.50	.....	1	2	SE	.....	0.195	4.94	Clouds	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.25	742.9	30.17	766.2	46.4	8.0	65	SE	6.9	3.1	.....	7	0	.....	.....	0	0	Cloudy	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.14	765.6	30.21	767.4	66.1	18.9	90	Calm	0	0	.....	0	0	.....	.....	0	0	Hazy	Benito Vines S. J.
Manilla, Phillippine Islands	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
San Fernando, Naval Obs'y	30.06	763.4	30.15	765.9	59.5	15.3	58	E	20.1	9.0	.....	4	5	E	W	0	0	.....	Federico Faura, S. J.
San Juan de Porto Rico, W. I.	30.00	761.9	30.09	764.2	75.9	24.4	74	NE	23.8	10.64	.....	2cs	2k	NE	NE	0.069	1.75	Clear.	Capt. C. Pujazon, R. N., Dir. EnriqueGadea, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.67	753.7	29.71	754.7	38.5	3.6	.....	SW	.....	.....	4	.....	9	.....	.....	0	0	.....	
Umea	29.95	760.6	30.00	761.9	41.4	5.2	78	NW	.....	.....	4	.....	0	.....	.....	0	0	.....	
Hernosand	30.09	764.3	30.14	765.6	43.2	6.2	74	WNW	.....	.....	4	.....	0	.....	.....	0	0	.....	
Stockholm	30.24	768.1	30.42	772.6	32.9	0.5	70	W	.....	.....	4	.....	0	.....	.....	0	0	.....	
Wisby	30.41	772.3	30.47	773.8	35.6	2.0	71	W	.....	.....	6	.....	0	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	30.28	769.1	30.37	771.3	30.6	— 0.8	83	SW	9.4	4.2	.....	.....	0	.....	.....	0.004	0.11	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	29.03	737.3	30.55	775.9	24.6	— 4.1	80	E	.....	.....	1	.....	3	.....	.....	0	0	Clear.	The Observatory.
Zurich	28.79	731.3	30.56	776.2	18.3	— 7.6	95	SW	.....	.....	2	.....	2	.....	.....	0	0	Clear.	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +9.8 mm.; Thermometer, —6.2 Cent.; Relative Humidity, 0 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.00	762.1	38.8	3.8	88	N	34	15.0	.....	.....	10	.....	N	0.197	5.0	Snowing.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.01	762.3	50.2	10.1	.....	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear.	A. Bertrand.
Sub-series.																			
Beirut, (Syria) Lee Obs'y	29.58	751.3	29.70	754.4	63.5	17.5	88	SW	.....	.....	2	.....	10n	.....	SW	0.37	9.4	Overcast.....	Prof. C. V. A. van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. B. Bigg.
Chatham, N. B.	30.30	769.6	30.38	771.6	—12.9	—24.9	99	Calm	0	0	.....	2k	0	NW	.....	0	0	.....	G. A. Blair.
Charlottetown, P. E. Island	30.22	767.6	30.27	768.8	8.3	—13.2	78	NW	8	3.6	.....	0	5s	.....	.....	0.04	1.0	Fair.....	H. J. Cundall, C. E.
Cornwall, Ontario	30.22	767.6	30.43	772.9	4.0	—15.6	100	NE	.....	.....	1	0	8s	.....	.....	0.05	1.3	Fair.....	James Smith, M. A.
Dalhousie, N. B.	30.20	767.1	30.39	771.9	—10.0	—23.3	.....	W	.....	.....	3	0	1ks	.....	.....	0	0	Fine.....	H. A. Johnson.
Father Point, Quebec	30.45	773.4	30.47	773.9	— 7.9	—22.2	79	NW	30	13.4	.....	.....	10s	.....	.....	0.02	0.5	Cloudy.....	J. McWilliams.
Fredericton, N. B.	30.34	770.6	30.41	772.4	— 6.2	—21.2	100	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	Prof. Harrison.
Fort Garry, Manitoba	29.45	748.0	30 44	773.2	—25.0	—31.7	100	W	5	2.2	.....	0	0	.....	.....	0	0	Clear.	James Stewart.
Granton, Ontario	29.14	740.1	30.36	771.1	8	—13.3	.....	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear.	James Grant.
Halifax, N. S.	30.17	766.3	30.31	769.9	20.5	— 6.4	93	W	10	4.5	.....	.....	10n	.....	.....	0.08	2.0	Cloudy.....	A. Allison.
Hamilton, Ontario	29.98	761.5	30.38	771.6	16.7	— 8.5	88	NW	.....	.....	1	0	0	.....	.....	0.01	0.3	Clear.	Geo. Dickson, B. A.
Heart's Content, N. F.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.98	761.5	30.35	770.9	9.9	—12.3	73	NE	14	6.3	.....	10cs	0	NE	.....	0.04	1.0	Cloudy.....	S. Woods, M. A.
Little Glace Bay, N. S.	30.13	765.3	30.17	766.3	15.2	— 9.3	90	NW	12	5.4	.....	4k	0	NW	.....	0	0	Fair.....	C. H. Rigby.
Montreal, Quebec	30.26	768.6	30.49	774.4	0.8	—17.3	77	NE	12	5.4	.....	0	2s	.....	.....	0.01	0.3	Fine.....	C. H. McLeod, C. E.
Moose Factory, Ontario	30.31	769.9	30.35	770.9	—28.9	—33.8	89	SW	.....	.....	2	0	3	.....	.....	0	0	Fine.....	J. R. Nelson.
Norwood	29.60	751.8	30.37	771.4	9.2	—12.7	.....	Calm	.....	.....	0	9c	0	.....	.....	0	0	Fair.....	Rev. T. F. Fotheringham, M. A.
Parry Sound, Ontario	29.65	753.1	30.44	773.2	0.5	—17.5	68	E	8	3.6	.....	0	0	.....	.....	0.18	4.6	Clear.	Rev. R. Mosley.
Peterboro, Ontario	29.57	751.1	30.40	772.1	9.7	—12.4	68	NE	.....	.....	2	0	8ks	.....	.....	0.025	0.64	Cloudy.....	J. F. Jeffers, M. A.
Port Dover, Ontario	29.60	751.8	30.36	771.1	15.1	— 9.4	82	N	6	2.7	.....	10ck	0	SW	.....	0	0	Fair.....	H. Morgan.
Port Hastings, N. S.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.64	752.8	30.34	770.6	16.0	— 8.9	86	N	5	2.2	.....	.....	10ks	.....	NW	0	0	Cloudy.....	M. Payne.
Quebec, Quebec	30.12	765.0	30.49	774.4	— 7	—21.7	80	N	.....	.....	3	0	0	.....	.....	0.04	1.0	Clear.	Capt. Ashe, R. N.
Rockliffe, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. McIntyre.
St. Andrews, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Gove.
St. John, N. B.	30.21	767.3	30.39	771.9	12	—11.1	80	NW	9	4.0	.....	0	8ks	.....	.....	0	0	Cloudy.....	G. Murdock, C. E.
Saugeen, Ontario	29.55	750.6	30.33	770.4	16 0	— 8 9	85	SE	17	7.6	.....	.....	10ks	.....	.....	0.14	3.6	Overcast.....	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.95	735.3	30.37	771.4	5.2	—14.9	93	Calm	0	0	.....	1cs	5s	NW	.....	0.10	2.5	Cloudy.....	C. J. MacGregor, M. A.
Sydney, C. B.	30.16	766.1	30.20	767.1	13.8	—10.1	87	SW	17	7.6	.....	5cs	5n	.....	.....	0.01	0.3	Overcast.....	T. C. Hill, C. E.
Toronto, Ontario	29.96	761.0	30.38	771.6	16.0	— 8.9	90	NW	6	2.7	.....	0	10n	.....	.....	0.02	0.5	Cloudy.....	Magnetic Observatory
Windsor, N. S.	30.21	767.3	30.31	769.9	16.5	— 8.6	91	W	8	3.6	.....	0	7ks	.....	.....	0	0	Fair.....	Prof. John E. Oram, M. A.
Woodstock, Ontario	29.18	741.1	30.36	771.1	9.1	—12.7	100	NW	3	1.3	.....	0	9ks;s	.....	.....	0	0	Cloudy.....	Prof. J. Montgomery.
Yarmouth, N. S.	30.25	768.3	30.32	770.1	27.7	— 2.4	87	N	9	4.0	.....	.....	10n	.....	.....	0.11	2.8	Cloudy.....	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.87	758.7	30.15	765.8	10	—12.2	58	NW	.....	.....	.....	.....	10	.....	.....	Inap.	Inap.	Overcast.....	John Delany.
St. Pierre, N. F., l'Hopital Maritime.	.....	.....	30.16	766.0	17.6	— 8	.....	NW	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	The Commandant
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0-10.	CLOUDS. Amount. Up'er 0-10.	Lo'er 0-10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER	OBSERVER.
Albany, New York	30.14	765.5	30.39	771.9	23	— 5.0	86	Calm	0	0	.....	.....	10n	.....	Calm	0.01	0.3	Light snow.	
Alpena, Michigan	29.63	752.6	30.54	770.6	10	—12.2	79	W	8	3.6	.....	.....	10n	.....	Calm	0.05	1.3	Light snow.	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	29.12	739.6	30.29	769.4	52	11.1	59	S	12	5.4	.....	0	2s	.....	Calm	0	0	Fair	
Atlantic City, New Jersey	30.26	768.6	30.28	769.1	39	3.9	100	SE	4	1.8	.....	.....	10n	.....	Calm	0.11	2.8	Light rain...	
Augusta, Georgia	30.20	767.1	30.41	772.4	43	6.1	92	Calm	0	0	.....	2ck	Haze	NW	Calm	0	0	Fair...	
Baltimore, Maryland	30.23	767.8	30.28	769.1	35	1.7	90	S	3	1.3	.....	.....	10s	.....	Calm	0.12	3.0	Threatening	
Barnegat, New Jersey	30.27	768.8	30.29	769.4	36	2.2	100	SE	7	3.1	.....	.....	10n	.....	E	0.15	3.8	Light rain...	
Bismarck, Dakota	28.45	722.6	30.30	769.6	— 6	—21.1	100	N	12	5.4	.....	.....	10s	.....	Calm	0.07	1.8	Cloudy.....	
Boerne, Texas	28.63	727.2	29.94	760.5	56	13.3	100	SE	4	1.8	.....	.....	Fog	.....	Calm	0	0	Dense fog....	
Boise City, Idaho	26.80	680.7	29.76	755.9	33	0.6	94	W	4	1.8	.....	0	8s	.....	W	0.20	5.1	Fair...	
Boston, Massachusetts	30.22	767.6	30.38	771.6	26	— 3.3	100	W	3	1.3	.....	.....	10n	.....	W	0.02	0.5	Light snow.	
Brackettville, Texas	28.92	734.6	29.98	761.5	52	11.1	100	E	4	1.8	.....	.....	Fog	.....	Calm	0.01	0.3	Foggy.....	
Breckenridge, Minnesota	29.26	743.2	30.42	772.7	—11	—23.9	100	N	8	3.6	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy.....	
Brownsville, Texas	30.04	763.0	30.08	764.0	71	21.7	90	S	4	1.8	.....	0	0	.....	.....	0.02	0.5	Clear.	
Buffalo, New York	29.57	751.1	30.32	770 1	22	— 5.6	72	E	2	0.9	.....	2ck	5s	Calm	SW	0.01	0.3	Fair...	
Burkes, Arizona	.....	.....	.....	.....	34	1.1	52	Calm	.....	.....	0	5c	2s	Calm	Calm	0	0	Cloudy.....	
Burlington, Vermont	30.12	765.0	30.44	773.2	13	—10.6	81	NE	9	4.0	.....	5ck	2ks	NW	NE	0.04	1.0	Clearing.....	
Cairo, Illinois	29.86	758.4	30.28	769.1	36	2.2	90	E	2	0.9	.....	.....	Fog	.....	.....	0.05	1.3	Light rain...	
Campo, California	27.44	697.0	30.01	762.2	37	2.8	90	SE	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Cape Hatteras, N. Carolina	30.30	769.6	30.30	769.6	53	11.7	93	Calm	0	0	.....	5c	1ks	W	Calm	0	0	Fair...	
Cape Henry, Virginia	30.28	769 1	30.29	769.4	44	6.7	92	W	6	2.7	.....	.....	10s	.....	W	0.05	1.3	Cloudy.....	
Cape Lookout, N. Carolina	30.30	769.6	30.32	770.1	47	8.3	92	N	4	1.8	.....	.....	8s	.....	SW	0	0	Cloudy.....	
Cape May, New Jersey	30.22	767.6	30.25	768.3	48	8.9	85	N	12	5.4	.....	.....	10n	.....	S	0.10	2.5	Light rain...	
Castroville, Texas	29.31	744.5	30.02	762.5	53	11.7	93	Calm	0	0	.....	.....	10n	.....	Calm	0.06	1.5	Light rain...	
Cedar Keys, Florida	30.25	768.3	30.28	769.1	59	15.0	82	NE	9	4.0	.....	0	4s	.....	SE	0	0	Fair...	
Charleston, South Carolina	30.28	769.1	30.34	770.6	49	9.4	85	NE	4	1.8	.....	.....	Fog	.....	.....	0	0	Foggy.....	
Charlotte, North Carolina	29.44	747.8	30.28	769.1	44	6.7	92	S	3	1.3	.....	.....	Fog	.....	Calm	0	0	Foggy.....	
Chattanooga, Tennessee	29.44	747.8	30.25	768.3	54	12.2	80	S	3	1.3	.....	.....	10s;sne	.....	W;Calm	Inap.	Inap.	Cloudy.....	
Cheyenne, Wyoming	23.81	604.8	29.75	755.6	17	— 8.3	51	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear.	
Chicago, Illinois	29.50	749.3	30.24	768.1	29	— 1.7	67	SE	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Cincinnati, Ohio	29.61	752.1	30.30	769.6	35	1.7	80	SE	4	1.8	.....	.....	10s;fog	.....	Calm	0.01	0.3	Cloudy.....	
Cleveland, Ohio	29.55	750.6	30.33	770.4	25	— 3.9	75	E	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Coleman City, Texas	28.30	718.8	30.00	762.0	48	8.9	78	SW	13	5.8	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Columbus, Ohio	29.41	747.0	30.30	769.6	28	— 2.2	77	W	3	1.3	.....	.....	10ks	.....	NW	0	0	Cloudy.....	
Concho, Texas	28.14	714.7	29.81	757.2	54	12.2	87	SW	.....	.....	1	.....	10s	.....	Calm	0	0	Cloudy.....	
Corsicana, Texas	29.63	752.6	30.11	764.8	52	11.1	86	S	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Davenport, Iowa	29.55	750.6	30.24	768.1	20	— 6.7	70	E	20	8.9	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy.....	
Dayton, Washington T'y	.....	.....	.....	.....	22	— 5.6	93	NE	.....	.....	2	.....	10n	.....	Calm	0.18	4.6	Light snow.	
Deadwood, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Decatur, Texas	28.89	733.8	30.09	764.3	48	8.9	56	SW	12	5.4	.....	.....	Fog	.....	.....	0	0	Foggy.....	
Denison, Texas	29.28	743.7	30.07	763 8	52	11.1	86	S	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Denver, Colorado	24.56	623.8	29.78	756.4	41	5.0	25	S	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Des Moines, Iowa	29.25	742.9	30.20	767.1	19	— 7.2	78	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Detroit, Michigan	29.61	752.1	30.35	770 9	16	— 8.9	83	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Dodge City, Kansas	27.27	692.6	29.66	753.4	22	— 5.6	45	N	16	7.2	.....	0	5s	.....	W	0	0	Fair...	
Dubuque, Iowa	29.51	749.5	30.28	769.1	15	— 9.4	82	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Duluth, Minnesota	29.56	750.8	30.32	770.1	3	—16.1	86	SW	1	0.4	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy.....	
Eagle Pass, Texas	29.29	744.0	30.03	762.7	54	12.2	87	E	4	1.8	.....	.....	10s	.....	E	0	0	Cloudy.....	
Eastport, Maine	30.31	769.9	30.38	771.6	12	—11.1	80	NW	10	4.5	.....	5cs	5s	W	NW	0	0	Cloudy.....	
Edinburg, Texas	.....	.....	.....	.....	64	17.8	89	S	.....	.....	4	0	5s	.....	S	0	0	Fair...	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.56	750.8	30.32	770.1	25	— 3.9	75	SE	4	1.8	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy.....	
Escanaba, Michigan	29.61	752.1	30.34	770.6	5	—15.0	75	NW	3	1.3	.....	.....	10s	.....	NW	0.05	1.3	Cloudy.....	
Florence, Arizona	28.49	723.6	30.09	764.3	48	8.9	63	NE	4	1.8	.....	8cs	0	Calm	.....	0	0	Fair...	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	28.28	718.3	30.43	772.9	—15	—26.1	71	NW	6	2.7	.....	0	0	.....	.....	0.02	0.5	Clear.	
Fort Custer, Montana	27.08	687.8	.....	.....	— 5	—20.6	63	NW	4	1.8	.....	.....	10n	.....	Calm	0.22	5.6	Light snow..	
Fort Davis, Texas	25.22	640.6	30.18	766.6	34	1.1	34	W	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Fort Gibson, Indian Ter	29.45	748.0	30.00	762.0	46	7.8	77	S	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Fort Grant, Arizona	25.22	640.6	30.02	762.5	44	6.7	24	NE	9	4.0	.....	0	0	.....	.....	0	0	Clear.	
Fort Griffin, Texas	29.73	755.1	30.00	762.0	55	12.8	81	SE	8	3.6	.....	0	2s	.....	Calm	0	0	Fair...	
Fort Keogh, Montana	27.60	701.0	.....	.....	— 3	—19.4	100	NE	9	4.0	.....	.....	10n	.....	NE	0.05	1.3	Light snow..	
Fort McKavett, Texas	27.79	705.8	29.70	754.4	54	12.2	93	SW	10	4.5	.....	.....	10s	.....	SW	0	0	Cloudy.	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.76	730.5	29.90	759.4	37	2.8	81	S	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Fort Stevenson, Dakota	28.44	722.4	.....	.....	— 8	—22.2	79	N	12	5.4	.....	8k	0	N	.....	0.01	0.3	Cloudy.....	
Fort Verde, Arizona	.....	.....	.....	.....	29	— 1.7	67	W	.....	.....	1	5cs	0	SW	.....	0	0	Fair...	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.22	716.8	29.77	756.1	55	12.8	68	S	6	2.7	.....	.....	10s	.....	Calm	0	0	Foggy.....	
Galveston, Texas	30.14	765.3	30.18	766.6	64	17.8	89	SE	7	3.1	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Graham, Texas	28.93	734.8	29.98	761.5	54	12.2	67	S	4	1.8	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Grand Haven, Michigan	29.60	751.8	30.31	769.9	17	— 8.3	83	E	10	4.5	.....	10cs	0	Calm	.....	0.04	1.0	Cloudy.....	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.09	738.9	30.07	763.8	37	2.8	71	SW	2	0.9	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Indianapolis, Indiana	29.40	746.7	30.23	767.8	28	— 2.2	88	NE	4	1.8	.....	.....	10s	.....	NE	0.01	0.3	Cloudy.....	
Indianola, Texas	30.11	764 8	30.14	765.5	57	13.9	94	E	9	4.0	.....	.....	10s	.....	.....	Inap.	Inap.	Cloudy.....	
Jacksboro, Texas	28.87	733.3	30.00	762.0	55	12.8	81	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Jacksonville, Florida	30.29	769.4	30.32	770.1	55	12.8	81	NE	5	2.2	.....	0	0	.....	.....	0	0	Clear.	
Keokuk, Iowa	29.50	749.3	30.16	766.1	24	— 4.4	74	E	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Key West, Florida	30.18	766.6	30.21	767.3	73	22.8	85	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Kittyhawk, North Carolina	30.28	769.1	30.30	769.6	48	8.9	93	W	10	4.5	.....	8ck	0	W	.....	0	0	Fair...	
Knoxville, Tennessee	29.23	742.4	30.26	768.6	50	10.0	86	W	1	0.4	.....	.....	10ks	.....	W	0.19	4.8	Cloudy.....	
La Crosse, Wisconsin	29.47	748.5	30.30	769.6	5	—15.0	75	N	2	0.9	.....	.....	10n	.....	Calm	0.15	3.8	Light snow..	
La Mesilla, New Mexico	26.12	663.4	30.27	768.8	26	— 3.3	52	Calm	0	0	.....	0	5s	.....	Calm	0	0	Fair...	
Laredo, Texas	29.70	754.4	30.05	763.3	53	11.7	93	N	2	0.9	.....	.....	10s	.....	N	0	0	Cloudy.....	
Leavenworth, Kansas	29.24	742.7	30.13	765.3	26	— 3.3	63	E	3	1.3	.....	.....	10s	.....	.....	0	0	Cloudy.....	
Lewiston, Idaho	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Little Rock, Arkansas	29.82	757.4	30.19	766.8	45	7.2	92	SE	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Los Angeles, California	29.70	754.4	30.04	763.0	50.0	10.0	75	NE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Louisville, Kentucky	29.69	754.1	30.28	769.1	39	3.9	73	SW	2	0.9	.....	.....	10s	.....	Calm	Inap	In ap	Cloudy.....	
Lynchburg, Virginia	29.55	750.6	30.26	768.6	37	2.8	90	SW	4	1.8	.....	0	0	.....	.....	0.04	1.0	Clear	
Madison, Wisconsin	29.18	741.1	30.26	768.6	13	—10.6	81	NE	3	1.3	.....	.....	10n	.....	Calm	0.01	0.3	Light snow.	
Marquette, Michigan	29.52	749.8	30.29	769.4	12	—11.1	80	SW	4	1.8	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Mason, Texas	28.42	721.9	30.18	766.6	56	13.3	81	S	1	0.4	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Memphis, Tennessee	29.85	758.2	30.20	767.1	44	6.7	92	E	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Milwaukee, Wisconsin	29.45	748.0	30.24	768 1	17	— 8.3	83	NW	5	2.2	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy.....	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mobile, Alabama	30.27	768.8	30.31	769.9	45	7.2	100	S	4	1.8	.....	0	Sm'e	.....	.....	0	0	Clear	
Montgomery, Alabama	30.10	764.5	30.35	770.9	44	6.7	92	Calm	0	0	.....	2c	Fog	W	Calm	0	0	Foggy	
Morgantown, West Virginia	29.26	743.2	30.30	769.6	33	0.6	79	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Mt. Washington, N. H.	23.60	599.4	29.96	761.0	0	—17.8	100	NW	30	13.4	.....	.....	Fog	.....	NW	0.04	1.0	Foggy	
Nashville, Tennessee	29.71	754.6	30.26	768.6	45	7.2	84	S	2	0.9	.....	.....	10s	.....	Calm	0.10	2.5	Cloudy	
New Haven, Connecticut	30.22	767.6	30.35	770.9	30	— 1.1	89	NW	3	1.3	.....	.....	10n	.....	Calm	0.06	1.5	Light snow.	
New London, Connecticut	30.32	770.1	30.38	771.6	29	— 1.7	89	N	3	1.3	.....	.....	10n	.....	Calm	0.01	0.3	Light snow.	
New Orleans, Louisiana	30.21	767.3	30.28	769.1	56	13.3	87	E	3	1.3	.....	0	2s;sme	.....	Calm	0	0	Smoky	
Newport, Rhode Island	30.31	769.9	30.37	771.4	31	— 0.6	100	NW	6	2.7	.....	.....	10n	.....	Calm	0.05	1.3	Light snow.	
New River, North Carolina	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
New York, New York	30.14	765.5	30.33	770.4	33	0.6	100	NE	4	1.8	.....	.....	10n	.....	Calm	0.07	1.8	Light snow.	
Norfolk, Virginia	30.18	766.6	30.24	768.1	44	6.7	76	SW	4	1.8	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
North Platte, Nebraska	27.13	689.1	29.97	761.2	4	—15.6	74	NE	21	9.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Olympia, Washington Ter.	29.76	755.9	29.80	756.9	29.0	— 1.7	89	N	12	5.4	.....	.....	10s	.....	Calm	0.07	1.8	Cloudy	
Omaha, Nebraska	28.99	736.3	30.17	766.3	20	— 6.7	85	E	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Oswego, New York	30.01	762.2	30.35	770.9	26	— 3.3	75	E	6	2.7	.....	.....	10s	.....	Calm	0.25	6.3	Cloudy	
Pembina, Dakota	29.38	746.2	30.36	771.1	—19	—28.3	100	Calm	0	0	.....	0	5s	.....	Calm	0	0	Fair	
Pensacola, Florida	30.30	769.6	30.34	770.6	48	8.9	85	NE	4	1.8	.....	0	Haze	.....	Calm	0	0	Hazy	
Philadelphia, Pennsylvania	30.23	767.8	30.29	769.4	31	— 0.6	100	NE	8	3.6	.....	.....	10n	.....	Calm	0.12	3.0	Light snow.	
Phœnix, Arizona	28.81	731.8	30.66	778.7	44	6.7	68	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Pike's Peak, Colorado	17.46	443.5	29.67	753.6	7	—21.7	54	SW	56	25.0	.....	2cs	0	Calm	.....	0	0	Clear	
Pilot Point, Texas	29.29	744.0	30.13	765.3	50	10.0	86	SE	.....	.....	.....	8k	2s	S	SE	0	0	Cloudy	
Pioche, Nevada	.....	.....	.....	.....	34	1.1	52	S	9	4.0	.....	0	0	.....	.....	0	0	Clear.	
Pittsburg, Pennsylvania	29.43	747.5	30.29	769.4	30	— 1.1	78	NW	3	1.3	.....	.....	10s;fg	.....	Calm	0	0	Cloudy	
Port Huron, Michigan	29.60	751.8	30.33	770.4	16	— 8.9	83	W	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Portland, Maine	30.30	769.6	30.35	770.9	22	— 5.6	72	W	8	3.6	.....	.....	10n	.....	Calm	Inap.	Inap.	Light snow.	
Portland, Oregon	29.67	753.6	29.75	755.6	33	0.6	70	E	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Portsmouth, North Carolina	.....	.....	.....	.....	50	10.0	93	Calm	0	0	.....	5k	Fog	Calm	Calm	0	0	Fair	
Prescott, Arizona	24.70	627.4	30.06	763.5	41	5.0	41	SE	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Punta Rassa, Florida	30.22	767.6	30.24	768.1	68	26.0	90	NE	3	1.3	.....	0	8ks	.....	NW	Inap.	Inap.	Fair	
Red Bluff, California	29.23	742.4	29.58	751.3	48	8.9	93	SE	30	13.4	.....	.....	10n	.....	.....	2.59	65.8	Heavy rain.	
Rio Grande City, Texas	29.90	759.4	30.12	765.0	62	16.7	94	S	4	1.8	.....	.....	10s	.....	S	0	0	Cloudy	
Rochester, New York	29.65	753.1	30.32	770.1	19	— 7.2	85	SW	5	2.2	.....	.....	10s	.....	Calm	0.08	2.0	Cloudy	
Roseburg, Oregon	29.03	737.3	29.60	751.8	34.5	1.4	95	W	1	0.4	.....	.....	10s	.....	Calm	0.18	4.6	Cloudy	
Sacramento, California	29.59	751.6	29.67	753.6	51	10.6	79	S	28	12.5	.....	.....	10n	.....	Calm	0.01	0.3	Light rain	
St. Louis, Missouri	29.60	751.8	30.22	767.6	28	— 2.2	88	SE	6	2.7	.....	.....	10s	.....	.....	Inap.	Inap.	Cloudy	
St. Paul, Minnesota	29.34	745.2	30.26	768.6	7	—13.9	77	E	1	0.4	.....	.....	10s	.....	Calm	0.12	3.0	Cloudy	
Salt Lake City, Utah	25.36	644.1	29.69	754.1	46	7.8	33	SE	21	9.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
San Antonio, Texas	29.49	749.0	30.08	764.0	52	11.1	86	Calm	0	0	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
San Diego, California	30.00	762.0	30.07	763.8	52	11.1	66	E	3	1.3	.....	.....	8ks	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.61	752.1	30.33	770.4	28	— 2.2	77	N	9	4.0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandy Hook, New Jersey	30.30	769.6	30.33	770.4	32	0.0	100	NE	6	2.7	.....	.....	10n	.....	Calm	0.07	1.8	Heavy snow	
San Francisco, California	29.60	751.8	29.66	753.4	53	11.7	93	SE	24	10.7	.....	.....	10n	.....	SE	0.13	3.3	Light rain	
Santa Fé, New Mexico	23.27	591.0	29.81	757.2	22	— 5.6	72	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.26	768.6	30.36	771.1	47	8.3	92	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Clear	
Shreveport, Louisiana	29.95	760.7	30.18	766.6	55	12.8	87	S	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.30	769.6	30.34	770.6	42	5.6	100	NW	7	3.1	.....	.....	Fog	.....	.....	0	0	Foggy	
Socorro, New Mexico	25.43	645.9	29.50	749.3	27	— 2.8	42	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois	29.52	749.8	30.24	768.1	28	— 2.2	77	SE	4	1.8	.....	.....	10s	.....	SE	0	0	Cloudy	
Springfield, Massachusetts	30.25	768.3	30.39	771.9	26	— 3.3	88	Calm	0	0	.....	.....	10n	.....	Calm	0.02	0.5	Light snow.	
Stockton, Texas	27.00	685.8	30.00	762.0	35	1.7	45	NE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	30.34	770.6	30.40	772.1	27	— 2.8	100	W	10	4.5	.....	.....	10n	.....	W	0.02	0.5	Light snow.	
Toledo, Ohio	29.59	751.6	30.33	770.4	20	— 6.7	85	W	4	1.8	.....	.....	10s	.....	.....	0	0	Threatening	
Tucson, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon	29.55	750.6	30.06	763.5	23.5	— 4.7	93	NE	40	17.9	.....	.....	10s	.....	NE	0.02	0.5	Cloudy	
Uvalde, Texas	29.17	740.9	30.00	762.0	54	12.2	80	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Vicksburg, Mississippi	29.99	761.7	30.25	768.3	59	15.0	76	S	7	3.1	.....	.....	10s	.....	S	0	0	Cloudy	
Virginia City, Montana	24.06	611.1	29.54	750.3	— 9	—22.8	100	E	13	5.8	.....	.....	10n	.....	Calm	0.41	10.4	Light snow.	
Visalia, California	29.51	749.5	29.88	758.9	48	8.9	63	E	6	2.7	.....	0	8s	.....	Calm	0	0	Fair	
Washington, D. C.	30.15	765.8	30.27	768.8	34	1.1	100	NE	4	1.8	.....	.....	9n;fg	.....	SW;Calm	0.11	2.8	Light rain	
Wickenburg, Arizona	.....	.....	.....	.....	31	— 0.6	79	NW	.....	.....	1	2c	0	Calm	.....	0	0	Fair	
Wilmington, North Carolina	30.25	768.3	30.34	770.6	41	5.0	91	N	3	1.3	.....	.....	Fog	.....	Calm	0	0	Foggy	
Winnemucca, Nevada	25.25	641.3	29.61	752.1	34	1.1	79	SE	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Wood's Holl, Massachusetts	30.32	770.1	30.36	771.1	34	1.1	79	S	10	4.5	.....	.....	10n	.....	Calm	Inap.	Inap.	Light snow.	
Yankton, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Yuma, Arizona	29.82	757.4	29.97	761.2	46	7.8	92	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
SUB-SERIES.																			
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	30.12	765.0	30.17	766.3	72	22.2	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.14	765.5	30.15	765.8	73	22.8	76	Calm	0	0	.....	5ck	5cs	Calm	.....	.....	.....	Fair	James Gall.
Navassa, W. I.	30.00	762.0	30.08	764.0	79	26.1	62	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.04	763.0	30.04	763.0	76	24.4	91	E	.....	.....	2	5k	6ks	E	.....	0.010	0.25	⅛ cloudy	C. J. Hering.
Santiago de Cuba, W. I.	30.11	764.8	30.14	765.5	74	23.3	81	N	1.2	0.5	.....	0	8s	.....	NE	0	0	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	29.45	748.0	29.50	749.3	—17.0	—27.2	69	S	17	7.6	.....	.....	10n	.....	S	0.20	5.1	Snowing	J. Fortescue & W. Wood

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa F6, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa F6, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 m., or 53.1 mm.; Winnemucca, 4.3[illegible] in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.29‡	769.4‡	.....	.....	50	10.0	86	NE	5	2.2	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Navy Yard, Portsmouth, N.H.	30.29‡	767.1‡	.....	.....	22	— 5.6	100	W	1	0.4	.....	.....	10	.....	.....	.....	.....	.....	.....	Snowing.....	
Adams, Mare I'd., Navy Yard, Cal.	29.81‡	757.2‡	.....	.....	56	13.3	94	SE	.....	.....	5	.....	10	.....	SE	.....	.....	.....	.....	Cloudy.....	
Alaska, Arica, Peru.....	*	29.95‡	760.7‡	.....	.....	66	18.9	79	S	.....	.....	1	.....	5	.....	N	.....	.....	.....	.....	Hazy.....
Colorado, New York, . Y.....	30.28‡	769.1‡	.....	.....	31	— 0.6	100	SW	2	0.9	.....	.....	10	.....	.....	.....	.....	.....	.....	Snowing.....	
Constitution, N. 28° 28′, W. 56° 51′.....	30.24‡	768.1‡	.....	.....	72	22.2	76	NE	.....	.....	5	.....	4	.....	NE	.....	.....	Light	NE	Pleasant.....	
Enterprise. Smyrna, Turkey.....	29.74‡	755.4‡	.....	.....	46	7.8	77	NE	.....	.....	6	.....	10	.....	NE	.....	.....	Rough	.....	Cloudy.....	
Franklin, Off Navy Yard, Norfolk, Va.	30.32‡	770.1‡	.....	.....	43	6.1	92	NW	4.8	2.1	.....	.....	10	.....	SW	0.10	2.5	.....	.....	Hazy.....	
Independence, Mare I'd, Navy Yard, Cal.	29.70‡	754.4‡	.....	.....	59	15.0	82	SSE	4.8	2.1	.....	.....	10	.....	SE	0.04	1.0	.....	.....	Overcast.....	
Kearsarge, Kingston, Jamaica, W. I.	30.10‡	764.5‡	.....	.....	79	26.1	74	NNE	.....	.....	3	.....	2	.....	NNE	0	0	Smooth	.....	Fair.....	
Lackawana, Honolulu, Sandwich Id's†	30.05‡	763.3‡	.....	.....	72	22.2	80	Calm	.....	.....	0	.....	2	.....	NE	.....	.....	Smooth	.....	Fair.....	
Marion, N. 38° 24′, W. 62° 15′.....	30.38‡	771.6‡	.....	.....	48	8.9	92	NNE	.....	.....	2	.....	5	.....	Calm		0	Moderate	N	Fair.....	
Michigan, Erie, Pa.....	30.29‡	769.4‡	.....	.....	26	— 3.3	100	SW	.....	.....	2	.....	10	.....	SW	.....	.....	.....	.....	Overcast.....	
Monocacy, Shanghai, China..	30.39‡	771.9‡	.....	.....	38	3.3	74	NNW	.....	.....	2	.....	2	.....	NNW	.....	.....	.....	.....	Clear	
New Hampshire, Port Royal, S. C.....	30.34‡	770.6‡	.....	.....	49	9.4	100	NE	6	2.7	.....	.....	.....	.....	.....	0	0	.....	.....	Foggy.....	
Nipsic, Norfolk, Va.....	30.27‡	768.8‡	.....	.....	45	7.2	84	NNW	.....	.....	0–1	.....	10	.....	.....	.....	.....	.....	.....	Overcast.....	
Onward, Callao, Peru	†.	29.97‡	761.2‡	.....	.....	65	18.3	94	Calm	.....	.....	0	.....	10	.....	.....	.....	Mod'ate smooth	W	Foggy.....	
Palos, Tientsin, China.	30.59‡	777.0‡	.....	.....	29	— 1.7	78	N	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Passaic, Washington, D. C.....	30.27‡	768.8‡	.....	.....	35	1.7	90	E	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Cloudy.....	
Pensacola, Callao, Peru	29.95‡	760.7‡	.....	.....	64	17.8	94	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Smooth	.....	Foggy.....	
Powhatan, Navy Yard, Brooklyn, N.Y.	30.32‡	770.1‡	.....	.....	34	1.1	90	NE	.....	.....	2	.....	10	.....	Calm	.....	.....	.....	.....	Snowy	
Quinnebang, Villafranca, France....	30.25‡	768.3‡	.....	.....	60	15.6	55	Calm	.....	.....	0	.....	0?	.....	.....	.....	.....	.....	.....	Cloudy?.....	
Ranger, N. 21° 30′, W. 158° 25′.....	30.05‡	763.3‡	.....	.....	71	21.7	90	Calm	.....	.....	0	.....	5?	.....	.....	.....	.....	Smooth	.....	Cloudy?.....	
Richmond, N. 21° 15′, E. 118° 09′.....	30.00‡	762.0‡	.....	.....	70	21.1	75	NNE	.....	.....	3	.....	0	.....	.....	.....	.....	Moderate	NE	Clear.....	
Rio Bravo, Brownsville, Texas...	†	30.21‡	767.3‡	.....	.....	68	20.0	100	SE	1	0.4	.....	.....	2	.....	Calm	0.21	5.3	.....	.....	Fair... .....
Santee. Annapolis, Md	30.26‡	768.6‡	.....	.....	35	1.7	100	Var.	.....	.....	1	.....	10	.....	SW	0.01	0.3	.....	.....	Overcast.....	
Shenandoah, Montivideo, Uruguay.	29.95‡	760.7‡	.....	.....	70	21.1	44	E	.....	.....	2	.....	0	.....	.....	.....	.....	Smooth	.....	Clear	
St. Louis, League Island, Pa....	30.34‡	770.6‡	.....	.....	32	0.0	81	E	7	3.1	.....	.....	10	.....	.....	.....	.....	.....	.....	Snowing.....	
Tennessee, Navy Yard, Brooklyn, N.Y.	30.34‡	770.6‡	.....	.....	34	1.1	79	NNE	.....	.....	1–2	.....	10	.....	.....	.....	.....	.....	.....	Cloudy.....	
Tuscarora, Salmas Cruz. Mexico.....	29.96‡	761.0‡	.....	.....	76	24.4	68	N	.....	.....	5–6	.....	2	.....	N	0	0	Smooth	.....	Clear	
Vandalia. Navy Yard, Brooklyn, N.Y	30.35‡	770.9‡	.....	.....	36	2.2	71	NE	.....	.....	2	.....	10	.....	NE	.....	.....	.....	.....	Cloudy.....	
Wabash. Boston, Mass.....	30.37‡	771.4‡	.....	.....	27	— 2.8	76	WSW	9	4.0	.....	.....	10	.....	.....	0	0	.....	.....	Foggy.....	
Wachusett. Rio de Janeiro, Brazil.†	30.46‡	773.7‡	.....	.....	75	23.9	90	N	.....	.....	1	.....	8	.....	Calm	.....	.....	Long	S	Cloudy.....	
Wyoming. Alicante, Spain.....	30.31‡	769.9‡	.....	.....	57	13.9	58	NE	.....	.....	1	.....	2	.....	NE	.....	.....	Smooth	NE	Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
S. S. Samaria																			Capt. T. Roberts.

NOTE—†Aneroid. *The error of the barometer is not known.

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S. S. Granada, Capt. Austin																			Capt. A. Fuller.
S. S. Wilmington																			R. C. Ghest, 1st Officer.
S. S. Zealandia, Sydney, New South Wales		29.61‡	752.1‡				SW			2				W				Cloudy	

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The orginals give the barometer as read off; wind-force by the scale 0 to to 12; for the Brittanic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer. N. 40° 20′, E. 168° 30′..†		30.08‡	764.0‡	46	7.8	69	NNE			6		10		NNE		Heavy	NE	Squally	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson N. 39° 37′, E. 175° 20′...†		30.03‡	762.7‡	48	8.9		NNW			5		k		NW	Con-sid'ble	Rough	NW	D. clouds	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undutsch.
S. S. Leipzig, Capt. F. Pfeiffer																			S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 36° 55′, W. 75° 46′		30.33‡	770.4‡				WNW			2		8		W		Mod'ate	W	Cloudy	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10	0—10.	From—	From—		Character.	Direction from—		
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa.		30.38‡	771 6‡	31	— 0.6		NE		5		9		NE			Mod'te		Cloudy	Capt. R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents.																			
S. S. Belgenland																			
S. S. Nederland, N. 44° 08,′ W. 44° 27′†		30.02‡	762.5‡	40	4.4		N	5	2.2			5		N		Heavy	NW	Snow-squalls	Capt. Sam'l Jackson.
S. S. Switzerland																			Capt. Randle.
S. S. Vaderland																			Capt. Jackson.
																			Capt. Nichols.

Note.—The originals give the barometer as read off; do not distinguish between upper and lower clouds; sea-swell in general terms, as published. ‡Corrections for temperature, instrumental error and elevation applied at this office.

ALLAN LINE MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12. *The error of the barometer is not known. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES—Miscellaneous.																			
Furnished by the co-operation of the Observers named.																			
Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Barkentine "Carrie Heckle" N. 20° 0′, W. 35° 50′... *		29.88‡	758.9‡	73	22.8		N		2		2		N	0	Long	N	Fair		B. F. Woodbury.
Brigantine "George" of Halifax																			N. B. Foss.
Schooner Harry and Fred																			Capt. George Gardner.
Haytian																			
§ Iron Cross																			Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Howe, Capt. Beckwith																			L. Dunbar.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time. *Instrumental error not known.

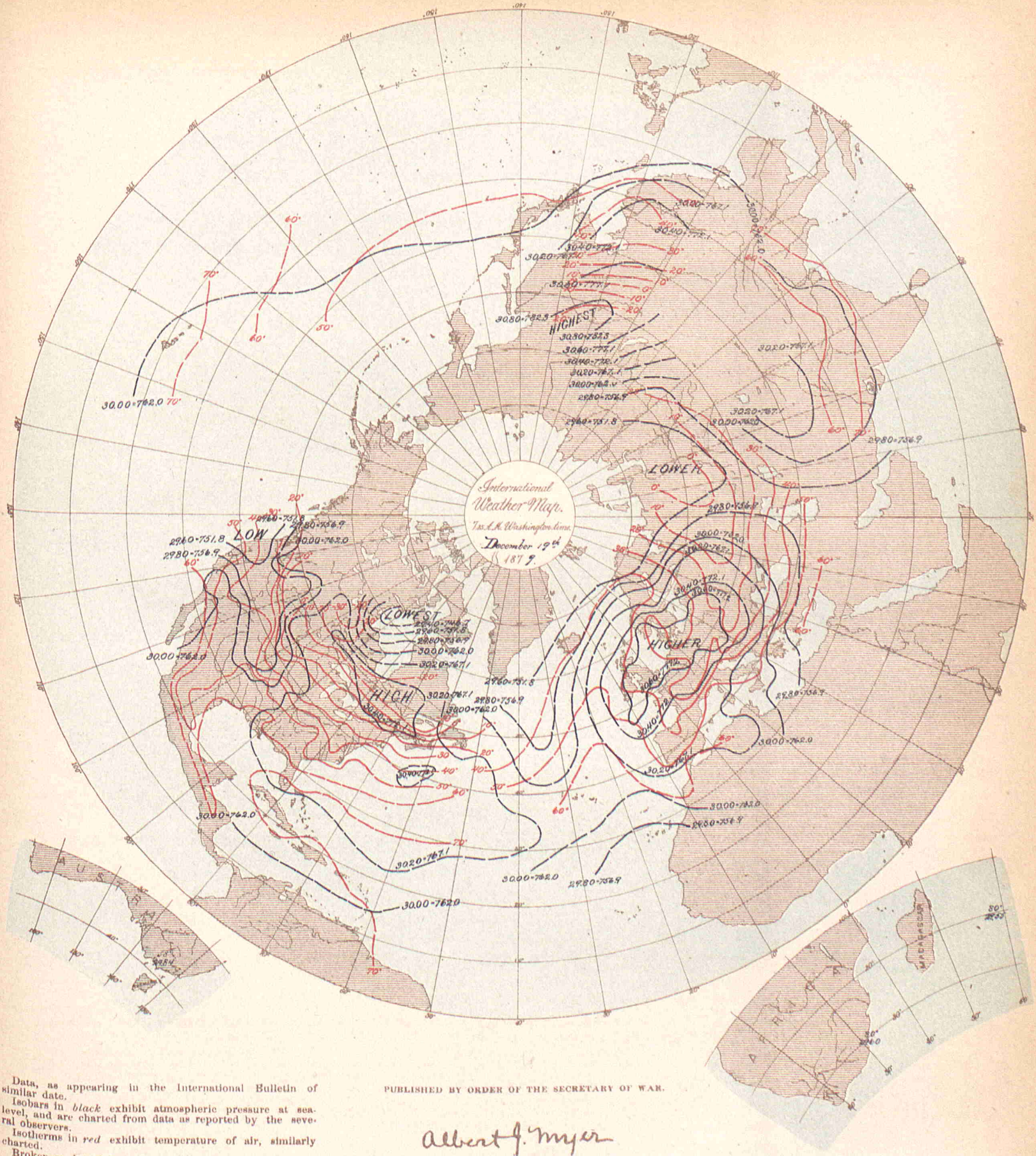
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASS'G'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 20, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE TOWN, C. G. H. mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.09	764.2	60.8	16.0	75	SE	.....	.....	1	.....	6	.....	.....	0.059	1.5	Cloudy	
Nemours	.....	.....	30.24	768.0	63.3	17.4	59	E	.....	.....	3	.....	2	.....	.....	0	0	Fair	Kesxuche.
Algiers	.....	.....	30.36	771.1	56.3	13.5	66	ESE	.....	.....	2	.....	0	.....	.....	0	0	Clear.	Touriliere.
La Calle	.....	.....	30.31	769.8	58.3	14.6	74	N	.....	.....	3	.....	8	.....	.....	0	0	Very cloudy	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.30	769.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Herbin.
Tebessa	.....	.....	30.36	771.2	44.4	6.9	74	N	.....	.....	3	.....	10	.....	.....	0	0	Covered	Watrin.
Geriville	.....	.....	.....	.....	47.3	8.5	20	Calm	.....	.....	0	.....	0	.....	.....	0	0	Clear	Brugniuax.
Laghouat	.....	.....	30.37	771.3	50.5	10.3	33	SW	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	Bertrand.
Biskra	.....	.....	30.34	770.6	58.3	14.6	58	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount of cloudiness by the scale 0-4; no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	30.02	762.5	30.62	777.7	26.6	— 3.0	96	NW	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.78	756.3	30.63	777.9	13.6	—10.2	90	W	4.7	2.1	.....	.....	0	.....	.....	0	0	.....	Dr. Wierzbicki.
Eperies	29.58	751.2	30.52	775.3	25.9	— 3.4	74	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	Julius Mikolik.
Gratz	29.26	743.3	30.61	777.6	25.9	— 3.4	78	SW	.....	.....	2	.....	0	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.95	735.3	30.50	774.7	22.3	— 5.4	78	N	.....	.....	1	.....	10	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	29.15	740.4	30.63	778.0	16.7	— 8.5	94	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	29.35	745.4	30.41	772.4	25.0	— 3.9	96	NW	.....	.....	2	.....	10	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	30.32	770.0	30.43	773.0	45.1	7.3	46	NW	.....	.....	1	.....	8	.....	.....	0	0	.....	I.R.Hydrographic Office
Szathmar	30.04	763.0	30.55	776.0	15.8	— 9.0	94	N	.....	.....	2	.....	2	.....	.....	0	0	.....	Pet. Pancsics, S. J.
Szegedin	30.24	768.1	30.55	775.9	22.3	— 5.4	.....	N	.....	.....	2	.....	0	.....	.....	0	0	.....	Karl Stancel.
Trieste	30.36	771.2	30.47	773.8	44.6	7.0	27	E	.....	.....	1	.....	0	.....	.....	0	0	.....	P. Busin.
Vienna	29.86	758.4	30.61	777.6	25.2	— 3.8	98	NW	.....	.....	1	.....	0	.....	.....	0	0	.....	I.R.Central Met. Ob'sy.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.41	772.4	30.51	774.9	38.1	3.4	.....	SSE	17	7.6	.....	.....	6	.....	.....	0.010	0.25	Squally	W. Boswell.
Ardrossan	30.43	772.9	30.45	773.4	34	1.1	.....	E	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds	Wm.McNeil &G.Carrick
Armagh, (Observatory)	30.15	765.8	30.39	771.9	37.9	3.3	.....	ESE	6	2.7	.....	.....	10	.....	.....	.....	.....	Gloomy	S. Call.
Bidston (Liverpool Obs)	.....	.....	30.47	773.9	33.3	0.7	.....	SE	22	9.8	.....	.....	10	.....	.....	.....	.....	Overcast	John Hartnup.
Bolton (Sharples)	29.91	759.7	30.44	773.2	33.3	0.7	.....	SE	0	0	.....	.....	10	.....	.....	.....	.....	Gloomy	Thomas Mackereth.
Bradford, Yorkshire	30.10	764.5	30.49	774.4	34.8	1.6	.....	NE	.....	.....	1	.....	10	.....	.....	0	0	Overcast	J McLandsborough.
Bridgetown, Barbadoes	29.98	761.5	30.01	762.2	78.5	25.8	.....	NE	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	30.43	772.9	30.53	775.4	34.0	1.1	.....	E	.....	.....	1	.....	10	.....	.....	Blank	Blank	Overcast	H. Todd.
Cardington	.....	.....	30.49	774.4	33.6	0.9	.....	SE	.....	.....	0–1	.....	10	.....	.....	.....	.....	Overcast	John McLaren.
Donaghadee	30.38	771.6	30.52	775.2	32.2	0.1	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	J. Carmelt, Sapper, R.E.
Dover	30.38	771.6	30.42	772.7	41	5.0	.....	S	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	J. Mac Gowan.
Falmouth (Observatory)	30.46	773.7	30.49	774.4	31	— 0.6	.....	E	.....	.....	3	.....	9	.....	.....	.....	.....	Misty	J. Costello.
Fort Napier, Natal	30.14	765.5	30.38	771.6	42.6	5.9	.....	SE	.....	.....	4	.....	7	.....	.....	.....	.....	Overcast	The Staff.
Free Town, Sierra Leone	27.47	697.7	29.68	753.9	81.8	27.7	.....	NE	.....	.....	1	.....	6	.....	.....	.....	.....	Blue sky	Pvt. G. Salmon, A.H.C.
Galway (Queen's College)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Gibraltar, Mediterranean	.....	.....	30.26	768.6	37	2.8	.....	E	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Prof. A. H. Curtis.
Glasgow, (Observatory)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Sergt.Wm. Allen, A. H.
Great Yarmouth	30.26	768.6	30.46	773.7	33.7	0.9	.....	NE	.....	.....	2	.....	2	.....	.....	.....	.....	Misty	D. G. Maclean. [C.
Greenwich (Royal Obs'y)	30.52	775.2	30.53	775.4	34	1.1	.....	ESE	.....	.....	3	.....	8	.....	.....	.....	.....	Gloomy	G. T. Watson.
Guernsey	30.52	770.1	30.50	774.7	34.1	1.2	.....	E	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	The Staff, for G.B.Airy.
Helston	30.18	766.6	30.41	772.4	37.5	3.1	.....	ENE	.....	.....	3	.....	0	.....	.....	.....	.....	Blue sky	Dr.S.E Hoskins, F.R.S.
Holyhead	30.48	774.2	30.61	777.5	47	8 3	.....	SE	.....	.....	3	2ck	.....	.....	.....	0	0	Fine	M. P. Moyle.
Jersey	30.34	770.6	30.42	772.7	39	3.9	.....	SW	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	John Tilston.
Kew (Observatory)	30.14	765.5	30.45	773.4	37.1	2.8	.....	SE	.....	.....	2	.....	0	.....	.....	.....	.....	Misty	J. Fisher.
Leicester (Museum)	30.46	773.7	30.50	774.7	34.7	1.5	.....	E	12	5.4	.....	.....	10	.....	.....	.....	.....	Misty	The Met'g'l Office.
Malta, Mediterranean	30.24	768.1	30.52	775.2	32.0	0.0	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Wm.J.Harrison, F.G.S.
Nairn	30.01	762.2	30.09	764.3	54	12.2	.....	NE	.....	.....	4	.....	8k	.....	.....	.....	.....	Overcast	A. King.
Nassau, Bahamas	30.27	768.8	30.37	771.4	37	2.8	.....	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	Clear	W. D. Penny.
Nottingham (Observatory)	.....	.....	30.21	767.3	73.0	22.8	.....	NE	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Oscott (St. Mary's College)	30.32	770.1	30.52	775 2	32.8	0.4	.....	SSE	.....	.....	2	.....	10	.....	.....	0.004	0.10	Overcast	E. J. Lowe, F. R. S.
Oxford (Radcliffe Obs'y)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev.Stephen J.Whitty.
Plymouth	.....	.....	30.49	774.4	33	0.6	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	H. E. Bellamy.
Prince Town	30.32	770.1	30.40	772.1	41.8	5.4	.....	E	.....	.....	4	.....	8	.....	.....	.....	.....	D. clouds	John Merrifield.
*Roche's Point	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
St. Ann's Head	30.24	768.1	30.32	770.1	45	7.2	.....	SE	.....	.....	5	.....	10	.....	.....	.....	.....	Overcast	Wm. Kennedy.
Sandwick Manse, Orkneys	30.23	767.8	30.41	772.4	38	3.3	.....	ESE	.....	.....	6	.....	10	.....	.....	.....	.....	Misty	John C. Walker.
Scutari Cemetery, Turkey	.....	.....	30.39	771.9	39.5	4.2	.....	SE	29	13.0	.....	.....	3	.....	.....	.....	.....	D. clouds	Rev. C.Clouston, L.L.D.
Sheffield	29.93	760.2	30.00	762.0	36.4	2.4	.....	NE	.....	.....	3	.....	10	.....	.....	Blank	Blank	Gloomy	Serg't W. H. Lane.
Silloth Rectory	30.22	767.6	30.51	774.9	35.5	1.9	.....	E	.....	.....	1	.....	10s	.....	.....	0	0	.....	W. F. Cooper.
Stonyhurst (Observatory)	30.39	771.9	30.42	772.7	36.7	2.6	82	Calm	.....	.....	0	.....	3	.....	.....	0	0	D. clouds	Francis Redford, A. M.
Stratfield, Turgiss	.....	.....	30.46	773.7	34.7	1.5	.....	E	10	4.5	.....	.....	5	.....	.....	.....	.....	Misty	Rev. S. J. Perry.
Truro (Royal Institution)	30.28	769.1	30.51	774.9	32.8	0.4	.....	E	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy	Rev.C.H.Griffith, F.M.S.
Valencia Observatory)	30.29	769.4	30.38	771.6	43	6.1	.....	SE	.....	.....	3	.....	6	.....	.....	.....	.....	D. clouds	W. Newcombe.
	30.15	765.8	30.18	766.6	44.3	6.8	.....	SE	32	14.3	.....	.....	10	.....	.....	.....	.....	Misty	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
Constable, Cape Colony	26.66	677.2	.....	.....	79	26.1	.....	W	.....	.....	.....	.....	4	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Hobart Town, Tasmania	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Leith(RestalrigPark)Sc'tl'd	.....	.....	30.47	773.9	35.0	1.7	.....	SE	.....	.....	1	.....	0	.....	.....	0	0	Fine	C. Meldrum.
Mauritius (Observatory)	29.54	750.3	29.72	754.9	79.6	26.4	80	N	20.5	9.2	.....	.....	8	.....	NE	0.27	6.8	Squally	R. L. J. Ellery.
Melbourne (Observatory)	29.65	753.1	29.74	755.4	60.8	16.0	72	S	5	2.2	.....	.....	9	.....	.....	0	0	Dull	J. Youngclause.
Monach Lt-house, Hebrides	.....	.....	30.31	769.9	43	6.1	.....	S	.....	.....	6	.....	10	.....	.....	0	0	.....	.....
North Unst, Shetland Is	.....	.....	30.40	772.1	.....	.....	.....	S	.....	.....	6	10	10	SW	.....	0	0	.....	.....

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters; Prince Town, 1,400 feet, or 427 meters; Colesberg Bridge and Constable, unknown.

BRITISH MARINE SERIES. VESSELS.																Sea or swell Height scale 0—9	Sea or swell Direction from—		
H. M. S. Alert, Off Cape Childers, Patagonia	.....	.....	29.27‡	743.4‡	52.5	11.4	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Misty	Capt.J.P. Maclear, R.N.
H. M. Sloop Gannet, S. 17° 10′, W. 71° 45′	.....	.....	29.98‡	761.5‡	71	21.7	.....	Calm	.....	.....	0	.....	2	.....	.....	.....	.....	Blue sky	Commander E. Bourke, R. N.
H. M. S. Magpie, Kin-toan, Lt.-VL, near Shanghai, China	.....	.....	30.45‡	773.4‡	40.0	4.4	.....	NNW	.....	.....	6–7	.....	10	.....	.....	.....	.....	Misty	Capt. R. H. Napier, R.N.
Barque Belle-Isle, N. 34° 35′, W. 56° 05′	.....	.....	30.37	771.4	61	17.8	.....	Calm	.....	.....	0	.....	0	.....	.....	3	NNE	Blue sky	Capt. A. J. Brown
City of Cashmere, S. 11° 18′, W. 130° 50′	.....	.....	29.95‡	760.7‡	77.8	25.4	.....	E	.....	.....	5	.....	3	.....	.....	.....	.....	D. clouds	Capt. W. M. Grieve.
S. S. Ethiopia, N. 49° 05′, W. 41° 30′	.....	.....	29.87	758.7	26	— 3.3	.....	W	.....	.....	6	.....	7	.....	.....	7	wsw	Squally	Capt. Campbell.
Barque Fedalma, N. 26° 15′, W. 65° 25′	.....	.....	30.23	767.8	73	22.8	.....	NNE	.....	.....	2	.....	10	.....	.....	4	NE	Raining	Capt. H. L. Fox.
S. S. German, N. 46° 45′, W. 8° 24′	.....	.....	30.11‡	764.8‡	53	11.7	.....	S	.....	.....	6	.....	8	.....	.....	.....	.....	Squally	Capt. O. D. Coxwell.
Iron Cross, N. 39° 00′, W. 59° 30′	.....	.....	30.12	765.0	.....	.....	.....	W	.....	.....	5	.....	4	.....	.....	4	SW	D. clouds	Capt. W. Randall.
Barque Mertole, N. 42° 25′, W. 12° 45′	.....	.....	30.17‡	766.3‡	53.5	11.9	.....	WSW	.....	.....	3	.....	2	.....	.....	.....	.....	Blue sky	Capt. Turner.
S. S. Strathleven, S. 22° 15′, E. 97° 15′	.....	.....	29.91‡	759.7‡	72.5	22.5	.....	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	D. clouds	Capt. C. W. Pearson.
Light House Tender Richmond	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. H. Stewart.
S. S. Gordon Castle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Wm. Waring.
Brig Alliance	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Scott.
S. S. Peruvian	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. H. Smith.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.26	667.0	29.98	761.5	64.8	18.2	30	SW			2		9s		NE	0	0		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.60	777.2	30.65	778.4	30.2	— 1.0	100	NW			2		10					Foggy	
Fanöe	30.63	778.0	30.65	778.5	27.9	— 2.3	100	S			2		10						
Godthaab (Greenland)																			
Stykkisholm (Iceland)	29.56	750.8	29.60	751.9	39.2	4.0	84	S			4		8						
Thorshavn (Faröe)	30.19	766.8	30.23	767.7	46.0	7.8	79	SW			5		5						
Vestervig	30.52	775.1	30.63	777.9	34.0	1.1	100	SSW			2		10					Foggy	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.92	760.0	30.47	774.0	25.7	— 3.5	87	NE			1		10			0	0	Foggy	Collignon, Director.
Amiens, Normal School	30.26	768.6	30.38	771.7	19.4	— 7	89	NE			1		0			0	0	Clear	Vaillant, Director.
Arras, Engin'r School	30.25	768.3	30.52	775.1	18.5	— 7.5	97	NNE			1					0	0		Klein, Commandant.
Avignon, Normal School	30.33	770.3	30.41	772.3	42.4	5.8	39	NNE			1		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.88	759.0	30.49	774.5	23.4	— 4.8	90	SSE			1		0			0	0	Clear	C. Saillard, Director.
Beauvais, Normal School	30.23	767.8	30.52	775.2	20.5	— 6.4	92	E			1		0			0	0	Clear	Frère Eugene Marie.
Besançon, Normal School	29.61	752.1	30.50	774.7	21.0	— 6.1		E			1		0			0	0	Clear	A. Carré, Director.
Bourg-en-Bresse, N. School	29.59	751.5	30.59	774.6	20.1	— 6.6	100	SE			1		0			0	0	Clear	Marlot, Diretor.
Bourges, Normal School	29.85	758.1	30.45	773.4	23.0	— 5	85	NNE			3		1		NNE	0	0	Clear	M. Gence, Director.
Brest, Naval Observatory	30.13	765.4	30.38	771.6	38.1	3.4	63	E			1		10			0	0	Misty	Ch. de Rermaree, Dir.
Caen, Normal School	30.35	770.8	30.43	772.8	36.3	2.4	87	S			0–1					0	0		M. Bietrin, Director.
Carcassonne, N. School	29.95	760.7	30.38	771.6	46.0	7.8	59	NNE			1		0			0	0	Clear	September, Director.
Châlons-sur-Marne, N. Sch'l	30.19	766.9	30.54	775.6	27.3	— 2.6		ESE			1		0					Clear	Jadot, Director.
Chartres, Normal School	29.81	757.1	30.42	772.7	21.6	— 5.8	85	NE			1		0			0	0	Clear	Vergier, Director.
Clermont-Fd, Puy de D. Obs	28.98	736.0	30.39	772.0	28.8	— 1.8	61	N			1		0			0	0		Alluard, Director.
Commercy, Normal School	29.60	751.7	30.53	775.4	23.9	— 4.5		E			3		10			0	0	Covered	Dr. Coullet, Director.
Commune de Gréasque*	29.26	743.1	30.40	772.1	54.5	12.5	29	N			2		0			0	0		L. Kina, Director.
Grenoble, Normal School	29.69	754.2	30.53	775.4	24.8	— 4		E			1		0			0	0	Clear	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.27	768.8	30.49	774.5	41.7	5.4	63	SE			1		0			0	0	Clear	Mouillot, Director.
Le Mans, Normal School	30.15	765.9	30.49	774.4	21.6	— 5.8	90	NE			1		0			0	0	Clear	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.52	749.9	30.50	774.6	20.7	— 6.3	74	NW			1		0			0	0	Clear	A. Baudry, Director
Lorient, Naval Observatory	30.31	769.9	30.42	772.7	34.2	1.2	96	NE			1		0			0	0	Clear	Lt. T. Carré, Director
Lyons Obs'y (Park Station)	29.82	757.4	30.49	774.5	25.2	— 3.8	87	NNE			1		0			0	0	Misty	Ch. André, Director
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	30.05	763.2	30.32	770.2	57.2	14.0	60	SSW			1–2		0			0	0	Clear	E. Stephan, Director.
Mirecourt, Normal School	29.39	746.6	30.53	775.5	20.5	— 6.4	79	NW			1		k		NW	0	0		Barbier, Director.
Mont-Louis	25.08	637.0	30.39	772.0	43.7	6.5	39	S	11.2	5.0			0			0	0		M. Cave.
Nice	30.34	770.5	30.37	771.3	55.0	12.8	57	SE			3		1	SE	SE	0	0	Clear	M. Boissière, Director.
Nismes, Normal School	30.15	765.7	30.32	770.0	53.1	11.7	66	NE			1		2		E	0	0	Slightly cld'y	M. Boyer, Director.
Paris, Montsouris Obs'y	30.19	766.9			24.6	— 4.1	86	E			1		0			0	0		Marié Davy, Director.
Perpignan	30.26	768.6	30.37	771.4	46.8	8.2	60	SE	5.6	2.5			0			0	0		Dr. Fines.
Pic du Midi (Plantade) H. P.	22.69	576.3			38.1	3.4									W	0	0		Gen'l de Nansouty.
Pic du Midi (Summit) H. P.																			M. Baylac.
Privas, Normal School	29.28	743.7	30.43	773.0	24.8	— 4		N			1		1	N	N	0	0	Clear	M. Tallieu
Puy de Dome (Summit) Obs	25.42	645.6			40.3	4.6	29	N			1		0			0	0	Clear	Alluard, Director.
Rochefort, Naval Obs'y	30.32	770.2	30.35	771.0	40.6	4.8	84	NE			3		0			0	0	Clear	Lt E. Decante, Director
Rouen, Normal School	30.40	772.1	30.48	774.3	28.4	— 2.0	70	SE			1		0			0	0	Clear	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.38	771.7	30.41	772.5	33.1	0.6	61	SE			1		0			0	0	Clear	Lt. Hercouet, Director
Saint Maur (near Paris)	30.32	770.1	30.48	774.3	23.4	— 4.8	89	NNE			2		0			0	0		E. Renou, Director.
Tarbes, Normal School	29.25	743.0	30.34	770.6	56.3	13.5	53	SSW			1		0			0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.67	753.6	30.40	772.2	38.5	3.6	76	E			1		0			0	0	Clear	M. Juher Mercadier.
Tours	30.16	766.0	30.37	771.4	21.6	— 5.8		E			1		0			0	0	Clear	Cousin-Marquet.
Versailles, Observatory	29.95	760.7	30.44	773.2	25.9	— 3.4	78	E			1		0			0	0	Clear	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.77	756.2	30.55	775.9	26.6	— 3	96	NW			1		0			0	0	Clear	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	30.02	762.5	30.05	763.2	75.2	24										0.31	8.		L'Abbé Marchési
Zi-Ka-Wei (near Shanghai	30.44	773.2	30.47	773.8	36.0	2.2	61	N	4.5	2.0			10k		N	0	0	Covered	Marc Dechevrens.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,278 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 208.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.71	754.6	30.57	776.4	15.1	— 9.4	72	NW			2		2s			0	0	Foggy	Prof. Dr. Hoh.
Berlin	30.47	774.0	30.66	778.8	23.2	— 4.9	91	N			1		10			0	0	Foggy	Prof. Dr. Arndt.
Breslau	30.11	764.8	30.65	778.6	10.8	—11.8	95	ESE			2		0			0	0	Foggy	Royal University Obs'y.
Carlsruhe	30.09	764.2	30.56	776.1	24.4	— 4.2	87	NE			2		0			0	0	Light fog	Albert Senz.
Cassel	29.97	761.3	30.59	777.0	19.4	— 7.0	94	E			1		0			0	0		Dr. H. Möhl.
Emden			30.62	777.7	24.4	— 4.2	100	E			2		10			0	0		Prof. Dr. Prestel
Frankfort on the Main	30.30	769.6	30.69	779.6	22.3	— 5.4	76	NNE			3		4			0	0		Physical Society.
Friedrichshafen	29.04	737.6	30.60	777.2	21.6	— 5.8	77	E			2		10			0	0	Hazy	Chief Telegrapher Wilhelm.
Hamburg	30.61	777.5	30.68	779.3	20.8	— 6.2	100	SE			2		10			0	0	Dense fog	Capt. P. F. A. Hegerman.
Kiel	30.65	778.6	30.67	779.0	27.0	— 2.8	95	Calm			0		10			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.43	772.8	30.51	775.0	38.3	3.5	83	NW			5		0			0	0		Prof. E. Luther.
Köslin			30.64	778.2	30.9	— 0.6		Calm			0		8			0	0		H. Müller.
Leipsic Observatory	30.26	768.6	30.72	780.4	16.9	— 8.4	100	SE			0		10			0	0	Foggy	Prof. Dr. Bruhns, Privy Counselor
Magdeburg	30.46	773.6	30.69	779.5	24.4	— 4.2	84	Calm			0		Fog			0	0	Foggy	Dr. Assmann.
Memel	30.38	771.6	30.43	772.8	30.9	4.4	76	NNW			5		0			0	0		Reinbrecht & Issermann.
Munich (München)	28.64	727.5	30.54	775.6	19.6	— 6.9	90	E			2		10			0	0		Dr. C. Lang.
Neufahrwasser	30.55	775.9	30.56	776.3	35.4	1.9	88	WNW			3		2			0	0		A. Lothes.
Neustadt (Palatinate)	30.02	762.6	30.56	776.2	25.5	— 3.6		Calm			0		3			0	0		Reallehrer Dicknether.
Posen	30.25	768.4	30.57	776.4	23.0	— 5.0	94	W			2		10			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	30.00	762.1	30.61	777.5	17.8	— 7.9	100	Calm			0		10			0	0	Foggy	Imp. University Observatory.
Stuttgart	29.54	750.4	30.57	776.4	18.9	— 7.3	95	E			0		0			0	0		Prof. Dr. Schoder.
Weissenburg (Bavaria)	29.00	736.5	30.59	776.9	16.3	— 8.7	80	Calm			0		0			0	0	Foggy	Reallehrer J. Hopfner.
Wustrow	30.65	778.5	30.67	779.1	27.0	— 2.8	100	N			1		Fog			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.58	751.2	29.99	761.7	33.4	0.8		NE			2.0		10					Snowing	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	30.08	763.9	30.13	765.2	70.0	21.1	17	ENE	20	8.9			5			0	0	D. clouds	
Deesa	29.60	751.7	30.08	764.1	69.9	21.1	26	NNE	15.5	6.9			1	W		0	0	D. clouds	
Bombay	29.88	759.1	29.92	760.0	76.5	24.7	78	NNW	16	7.2			0			0	0	Blue sky	
Poona (Yarrowda)	28.06	712.8	29.92	760.0	79.8	26.6	29	ENE	9	4.0			1			0	0	D. clouds	
Belgaum	27.37	695.2	29.91	759.7	75.6	24.2	50	ENE	5	2.8			4	SW	E	0	0	D. clouds	
Lahore	29.30	744.3	30.08	764.2	59.8	15.4	44	Calm	3	1.3			0			0	0	Blue sky	
Roorkee	29.10	739.1	30.04	763.0	60.8	16.0	35	W	2.3	1.0			0			0	0	D. clouds	
Agra	29.46	748.4	30.05	763.3	64.8	18.2	46	W	2	0.9			0			0	0		
Nagpur	28.93	734.8	29.99	761.8	73.7	23.2	36	E	2.5	1.1			0			0	0	Blue sky	
Jubbulpore	28.64	727.4	30.06	763.6	60.7	15.9	57	Calm	2.1	0.9			0			0	0	Blue sky	
Lucknow	29.65	753.1	30.05	763.2	60.6	15.9	60	NNW	1.3	0.6			0			0	0	Blue sky	
Allahabad	29.73	755.1	30.06	763.5	58.3	14.6	66	Calm	1	0.4			0			0	0	Blue sky	
Patna	29.82	757.4	30.01	762.2	66.8	19.3	43	W	0.9	0.4			0			0	0	Blue sky	
Hazaribagh	27.89	708.3	30.00	762.0	54.8	12.7	57	WNW	5.3	2.5			0			0	0	Blue sky	
Cuttack	29.91	759.6	29.99	761.8	70.0	21.1	73	Calm	0.9	0.4			1			0	0	Blue sky	
Calcutta (Alipore)	29.97	761.3	30.00	761.9	59.8	15.4	65	Calm					0			0	0	Blue sky	
Goalpara	29.56	750.9	29.97	761.1	68.4	20.2	58	Calm	1.3	0.6			0			0	0	Blue sky	
Chittagong	29.86	758.5	29.96	760.8	68.7	19.9	70	NW	1.3	0.6			4			0	0		
Sibsagar	29.64	752.8	29.99	761.8	62.0	16.7	88	Calm	1.5	0.7			0			0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	30.07	763.6	30.50	774.8	38.7	3.7	47	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.98	761.6	30.53	775.5	34.2	1.2	70	N	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	30.37	771.5	30.40	774.5	36.0	2.2	63	NNW	1.8	0.8	.....	.....	0	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.59	751.5	30.56	776.3	30.6	— 0.8	82	E	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	30.20	767.0	30.40	772.1	44.2	6.8	49	N	12.5	5.6	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.53	724.6	30.56	776.2	32.4	0.2	69	W	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.43	772.9	30.48	774.2	36.7	2.6	68	NW	13.7	6.1	.....	.....	0	.....	.....	0.028	0.7	.....	Prof. Luigi Guidi.
Florence	30.13	765.3	30.40	772.2	46.5	7.5	40	NE	.....	.....	6	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	30.27	768.8	30.35	771.0	49.3	9.6	24	ENE	12.5	5.6	.....	.....	0	.....	.....	0	0	.....	Prof. P. Monte.
Rome	30.10	764.5	30.28	769.2	53.4	11.9	21	N	3.8	1.7	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari
Lecce	29.97	761.2	30.24	768.0	42.3	5.7	27	N	31.1	13.9	.....	.....	1	N	.....	0	0	.....	Prof. C. De Giorgi
Cosenza	29.28	743.7	30.21	767.4	42.8	6.0	70	NW	1.3	0.6	.....	.....	10	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	30.04	763.0	30.24	768.1	53.2	11.8	48	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.92	760.0	30.18	766.6	51.4	10.8	53	NE	12.5	5.6	.....	.....	10	.....	.....	0	0	.....	Prof. G. Ciacciatore.
Syracuse	30.03	762.7	30.10	764.6	51.3	10.7	61	NE	18.6	8.3	.....	.....	10	NE	.....	0	0	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.74	755.3	30.28	769.2	45.9	7.7	43	NE	15.0	6.7	.....	.....	1	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.08	764.0	30.09	764.3	41.0	5.0	79	NNE	6.8	3.0	.....	2cejok	.....	.....	.....	0	0	Clear.	K. Sasaki.
Nagasaki, I. M. Obs'y	29.96	761.0	30.17	766.3	42.3	5.7	80	NE	3.5	1.6	.....	.....	0	.....	.....	0.005	0.13	Clear.	S. Takeha yashi.
Tokei, (Yeddo) Observatory	29.66	753.3	29.73	755.1	44.7	7.1	95	NNW	6.3	2.8	.....	0	0	.....	.....	0	0	Clear.	The Staff.
Wakayama	29.91	759.7	29.96	761.0	48.8	9.3	68	NW	7.9	3.5	.....	.....	9s;ks	.....	.....	0	0	Cloudy	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima																			R. Banda, C. E.
Guadalajara	25.19	639.7	30.40	772.1	42.8	6.0	60	Calm	.....	.....	0	.....	0	.....	.....	0	0	Very clear.	Prof. L. Perez.
Leon	24.68	624.4	30.41	772.4	51.1	10.6	83	N	.....	.....	1	0	0	.....	.....	0	0	Hazy	Prof. M. Leal.
Mazatlan	29.83	757.6	30.09	764.3	67.3	19.6	72	E	.....	.....	1	1s	0	.....	.....	0	0	Clear	I. Guerrero, C. E.
Mexico, Central Observatory	23.19	589.0	30.38	771.6	45.5	7.5	73	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff.
Pabellon (Aguascalientes)					46.2	7.9	67	Calm	.....	.....	0	0	0	.....	.....	0	0	Pleasant	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.56	598.4	30.56	776.1	43.7	6.5	54	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.17	613.9	30.17	766.3	54.7	12.6	70	E	.....	.....	1	6	0	W	.....	0	0	Almost cloudy	G. Barroeta, M. D.
Tlacotalpam																			Prof. M. M. Cházaro.
Vera-Cruz																			Prof. J. Rossell
Zacatecas	22.66	575.4	30.37	771.5	50.4	10.2	60	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	J. C. Castrillon.

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column; the instrumental correction —0.88 mm., or —0.035 inch, has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.56	776.2	30.56	776.2	23.7	— 4.6	.....	ENE	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Groningen	30.56	776.2	30.61	777.6	25.3	— 3.7	.....	ESE	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Helder	30.59	777.0	30.59	777.0	25.7	— 3.5	.....	E	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.55	775.9	30.55	775.9	24.4	— 4.2	94	ENE	.....	.....	3	.....	.....	.....	.....				
Utrecht	30.54	775.7	30.59	776.9	23.9	— 4.5	93	E	.....	.....	2	.....	.....	.....	.....	0	0	Misty	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania

STATIONS.	Barometer, corrected for instrum'tal error and temperature. Inches.	Barometer, corrected for instrum'tal error and temperature. Millimeters.	Barometer, reduced to sea-level. Inches.	Barometer, reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.65	778.6	30.71	780.0	38.5	3.6	90	SSE	2.5	1.1	.....	.....	8	.....	.....	0.039	1.0	.....	
Brönö	30.14	765.6	30.18	766.6	43.2	6.2	94	SW	36	16	.....	.....	10	.....	.....	0.118	3.0	Raining	
Christiana	30.41	772.3	30.57	776.4	17.8	— 7.9	100	N	0	0	.....	.....	10	.....	.....	0	0	Foggy	
Tromsö	29.41	746.9	29.45	748.0	37.9	2.8	86	SW	9	4	.....	.....	10	.....	.....	0.500	12.7	Raining	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	29.87	758.8	30.07	763.7	59.0	15.0	85	E	0.7	0.3	.....	.....	4	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.22	742.2	30.25	768.3	50.4	10.2	58	E	6.3	2.8	.....	.....	0	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	29.66	753.4	29.75	755.6	66.7	19.3	88	SE	21.0	9.4	.....	.....	10	.....	.....	1.614	41.0	Raining	Capt. D. A. de Cunha.
Lisbon Observatory	29.86	758.5	30.23	767.9	49.1	9.5	74	NE	18.6	8.3	.....	.....	1	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	29.97	761.1	30.04	762.9	61.9	16.6	64	Calm	0	0	.....	.....	4	.....	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.															Sea or swell. Height scale 0-9	Sea or swell. Direction form—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd't
Duque da Terceira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. M. Cabrate, 1st Lt
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. B. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J.T.d'Oliveria, Com'd't.
Rio Lima. Capt. S. C. da Silva Costa, Santiago, Cape Verd Ids	.....	.....	.....	.....	78.4	25.8	.....	ESE	.....	.....	1	.....	8	.....	ESE	0	.....	D. clouds	
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. de Fonseca Saruento
Sado, Capt. J. A de Brito Capello, St. Paul de Loando	.....	.....	29.95	760.7	76.5	24.7	.....	E	.....	.....	3	.....	9	.....	SSE	.....	.....	Raining, 4 hr's rain-fall.	F. Teixeira da Silva, Com'd't.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	.....	.....	30.30	769.5	67.8	19.9	.....	NNE	.....	.....	2	.....	0	.....	.....	1	.....	Blue sky	F. de Assis Camillo, jun., Q. M.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sá da Bandeirá gives the barometer reduced tofreezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	29.42	747.3	29.44	747.8	27.0	— 2.8	96	WNW	18	8	.....	.....	9ks	.....	.....	.....	.....	Capt. Sselliwerstow.
Astrakhan	30.15	765.7	30.07	763.6	15.6	— 9.1	75	NE	2	1	.....	.....	2s	.....	.....	.....	.....	Capt. Wisganow.
Barnaul	29.35	745.5	29.88	758.9	21.9	— 5.6	90	SW	13	6	.....	.....	10	.....	.....	.....	.....	Meteorological Obs.
Dorpat	29.92	760.0	30.17	766.4	37.6	3.1	69	NW	11	5	.....	.....	2k	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	28.55	725.2	29.62	752.3	— 5.3	—20.7	79	W.	13	6	.....	.....	0	.....	.....	.....	.....	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	29.31	744.5	29.60	751.9	9.1	—12.7	85	SW	2	1	.....	.....	10	.....	.....	.....	.....	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.37	746.1	30.05	763.3	23.2	— 4.9	88	NW	13	6	.....	.....	10n	.....	.....	.....	.....	Physical Cabinet.
Krotkowo*	29.22	742.1	29.73	755.1	9.3	—12.6	75	W	0	0	.....	.....	10	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	29.79	756.7	30.02	762.4	13.3	—10.4	70	SW	9	4	.....	.....	9	.....	.....	.....	.....	Meteorological Obs.
Moscow	29.13	739.8	29.69	754.2	32.4	0.2	94	NW	4	2	.....	.....	10s	.....	.....	Snowing	.....	Meteorological Obs.
Nertchinsk	28.08	713.1	30.78	781.8	—22.0	—30.0	82	Calm	0	0	.....	.....	0	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	30.11	764.9	30.19	766.7	22.6	— 5.2	76	N	4	2	.....	.....	10n	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.61	752.1	29.85	758.3	33.3	0.7	87	WNW	11	5	.....	.....	10n	.....	.....	.....	.....	Kurdakof.
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	30.28	769.2	30.43	772.8	24.1	— 4.4	68	Calm	0	0	.....	1c	.....	.....	.....	.....	.....	.....
St. Petersburg	29.91	759.7	29.93	760.1	38.1	3.4	73	N	18	8	.....	.....	0	.....	.....	.....	.....	Physical Observatory.
Tashkend	28.37	720.6	29.99	761.8	39.2	4	59	.....	.....	.....	.....	.....	0	.....	.....	.....	.....	Central Physical Obs.
Tiflis	28.47	723.0	29.94	760.5	34.2	1.2	96	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Teich, A. M.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Snowing	.....	Physical Observatory.
Warsaw	30.06	763.4	30.52	775.1	19.4	— 7.2	100	W	13	6	.....	.....	10	.....	.....	.....	.....	.....
Wilna	29.77	756.2	30.21	767.3	30.6	2.5	77	NW	7	3	.....	.....	1	.....	.....	Heavy clouds	.....	Astronomical Obs.
Yenisiesk	29.61	752.2	29.92	760.0	11.8	—11.2	79	SW	4	2	.....	.....	3	.....	.....	Light clouds	.....	Astronomical Obs.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	30.25	768.3	30.36	771.1	47.8	8.8	51	SE	0.9	0.39	.....	.....	0	.....	.....	0	0	Clear.	Antonio Rave, Director
Bilbao, Met. Obs'y	30.26	768.6	30.32	770.1	55.9	13.3	54	SE	4.6	2.08	.....	0	0	.....	.....	0	0	Clear.	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.33	694.1	.....	.....	47.7	8.7	49	SE	3.7	1.67	.....	0	2	.....	.....	0	0	Light clouds	Domingo Martin y Perez.
Madrid, Royal Observatory	28.07	712.9	30.37	771.5	45.9	7.7	68	NE	9.7	4.34	.....	0	0	.....	.....	0	0	Almost cov'd	The Staff.
Murcia, Met. Obs'y	30.19	766.7	30.34	770.6	67.7	14.3	75	SW	1.2	0.53	.....	2	5	NE	.....	0	0	Cloudy	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.30	744.1	30.21	767.2	52.9	11.6	58	SE	7.4	3.3	.....	.....	5	.....	.....	0	0	Cloudy	R. Gil Villanueva, Dir.
SUB-SERIES.																		
Havana, Cuba, W. I.	30.16	766.0	30.22	767.7	67.2	19.6	88	ENE	1.3	0.6	.....	1ck	1s;k	E	E	0	0	Fair.	Benito Vines S. J.
Manilla, Phillippine Islands	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.08	763.9	30.18	766.5	59.7	15.4	64	ESE	21.8	9.8	.....	6	2	SW	E	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I	30.02	762.4	30.11	764.7	74.1	23.4	87	SE	0	0	.....	4kn	3kn	SE	SE	0.030	0.75	Cloudy	Enrique Gadea, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer, corrected for instrum'tal error and temperature.		Barometer, reduced to sea-level.		Thermometer, temperature of the air.		Relative Humidity.	Wind.			Clouds.				Rain-fall or melted snow in the past 24 hours.		Weather.	Observer.
								Direction.	Velocity		Force.	Amount.		Direction.					
												Up'er	Lo'er	Upper.	Lower.				
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0–10.	0–10.	0–10.	From—	From—	Inches.	Millimeters.		
Haparanda	29.77	756.2	29.81	757.2	34.2	1.2	.....	SW	.....	.....	4	.....	10	.....	.....	0	0	.....	
Umea	30.03	762.8	30.08	764.1	37.0	2.8	86	SW	.....	.....	4	.....	6	.....	.....	0	0	.....	
Hernosand	30.21	767.4	30.26	768.7	41.4	5.2	72	S	.....	.....	4	.....	5	.....	.....	0	0	.....	
Stockholm	30.29	769.3	30.47	773.8	33.8	1.0	81	WSW	.....	.....	2	.....	8	.....	.....	0	0	.....	
Wisby	30.40	772.1	30.46	773.6	36.7	2.6	89	NNW	.....	.....	6	.....	0	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	30.33	770.4	30.42	772.6	36.5	2.5	76	SW	4.9	2.2	.....	.....	10	.....	NNW	0.006	0.16	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	29.04	737.6	30.57	776.4	21.0 — 5.6		94	E	.....	.....	2	.....	10	.....	.....	0	0	Misty	The Observatory.
Zurich	28.82	732.1	30.59	776.9	19.4 — 7.0		98	E	.....	.....	1	.....	10	.....	.....	0	0	Foggy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +10.0 mm.; Thermometer, —7.6 Cent.; Relative Humidity, +14 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.95	760.7	36.1	2.3	97	N	34	15.0	.....	.....	10	.....	N	.....	.....	Snowing	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.97	761.2	41.4	5.2	.....	N	.....	.....	2	.....	0	.....	.....	0	0	Clear.	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.60	751.8	29.72	754.8	52.3	11.3	98	SE	.....	.....	2	.....	10n	.....	SW	4.28	108.7	Raining	Prof. C. V. A. van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	30.13	765.3	30.20	767.1	— 3.6	—19.8	90	Calm	0	0	.....	.....	10n	.....	.....	0.01	0.3	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	30.17	766.3	30.21	767.3	8.3	—13.2	100	SE	9	4.0	.....	e	6s	.....	.....	0	0	Fair	H. J. Cundall, C. E.
Cornwall, Ontario	29.78	756.4	30.00	762.0	3.2	—16.0	100	SW	.....	.....	1	.....	10n	.....	.....	0.40	10.2	Overcast	James Smith, M. A.
Dalhousie, N. B	29.95	760.7	30.14	765.5	— 8.5	—22.5	.....	W	.....	.....	1	.....	10n	.....	.....	.....	.....	Snowing	H. A. Johnson.
Father Point, Quebec	29.85	758.2	29.87	758.7	1.5	—16.9	86	SW	18	8.0	.....	.....	10n	.....	.....	.....	.....	Light snow.	J. McWilliams.
Fredericton, N. B	30.07	763.8	30.14	765.5	— 0.8	—18.2	94	W	1	0.4	.....	.....	10n	.....	.....	0.26	6.6	Snowing	Prof. Harrison.
Fort Garry, Manitoba	29.67	753.6	30.70	779.8	—39.0	—39.4	100	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	James Stewart.
Granton, Ontario	28.90	734.0	30.06	763.5	26	— 3.9	.....	Calm	.....	.....	0	.....	.....	.....	.....	0	0	Cloudy	James Grant.
Halifax, N. S	30.07	763.8	30.22	767.6	12.5	—10.8	92	NE	4	1.8	.....	.....	10n	.....	.....	Inap.	Inap.	Cloudy	A. Allison.
Hamilton, Ontario	29.73	755.1	30.13	765.3	27.1	— 2.7	90	NW	1	0.4	.....	cs	0	NW	.....	0	0	Clear	Geo. Dickson, B. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.67	753.6	30.06	763.5	9.5	—12.5	89	NE	8	3.6	.....	.....	10n	.....	.....	0.08	2.0	Light snow.	S. Woods, M. A.
Little Glace Bay, N. S	30.20	767.1	30.24	768.1	13.6	—10.2	87	SW	4	1.8	.....	8k	0	SW	.....	0	0	Cloudy	C. H. Rigby.
Montreal, Quebec	29.77	756.1	30.00	762.0	3.6	—15.8	89	W	2	0.9	.....	.....	10n	.....	.....	0.40	10.2	Snowing	C. H. McLeod, C. E.
Moose Factory, Ontario	30.29	769.4	30.34	770.0	—35.5	—37.5	100	W	.....	.....	2	0	0	.....	.....	0	0	Clear	J. R. Nesson.
Norwood	29.27	743.4	30.02	762.5	13.3	—10.4	.....	NW	.....	.....	1	.....	10s	.....	.....	0	0	Gloomy	Rev. T. F. Fotheringham, M. A.
Parry Sound, Ontario	29.32	744.7	30.07	763.8	17.6	— 8.0	92	NW	11	4.9	.....	.....	10n	.....	NW	0.61	15.5	Light snow.	Rev. R. Mosley.
Peterboro, Ontario	29.24	742.7	30.04	763.0	16.6	— 8.6	75	E	.....	.....	1	.....	10n	.....	.....	.....	.....	Snowing	J. F. Jeffers, M. A.
Port Dover, Ontario	29.35	745.5	30.08	764.0	27.0	— 2.8	88	W	5	2.2	.....	.....	Haze	.....	.....	0	0	Cloudy	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.43	747.0	30.10	764.5	25.3	— 3.7	87	W	12	5.4	.....	.....	10n	.....	W	0	0	Cloudy	M. Payne.
Quebec, Quebec	29.66	753.4	30.02	762.5	5	—15.0	75	Calm	.....	.....	0	.....	10n	.....	.....	0.05	1.3	Heavy snow	Capt. Ashe, R. N.
Rockliffe, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. McIntyre.
St. Andrews, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Gove.
St. John, N. B	29.90	759.4	30.09	764.3	8	—13.3	100	NE	4	1.8	.....	.....	10n	.....	.....	0.25	6.3	Light snow.	G. Murdock, C. E.
Saugeen, Ontario	29.30	744.2	30.04	763.0	29.0	— 1.7	91	W	20	8.9	.....	.....	10n	.....	.....	0.14	3.6	Overcast	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.75	730.2	30.10	764.5	23.0	— 5.0	95	NW	8	3.6	.....	.....	10s	.....	.....	.....	.....	.....	
Sydney, C. B	30.26	768.6	30.31	769.9	11.8	—11.4	86	S	4	1.8	.....	.....	10s	.....	.....	0	0	Cloudy	C. J. MacGregor, M. A.
Toronto, Ontario	29.67	753.6	30.08	764.0	22.5	— 5.3	80	NW	3	1.3	.....	0	10n	.....	.....	0	0	Overcast	T. C. Hill, C. E.
Windsor, N. S	30.05	763.3	30.16	766.1	5.0	—15.0	87	E	1	0.4	.....	.....	10n	.....	.....	0.02	0.5	Cloudy	Magnetic Observatory
Woodstock, Ontario	28.96	735.6	30.09	764.3	24.3	— 4.3	97	SW	11	4.9	.....	.....	10s	.....	.....	.....	.....	Snowing	Prof. John E. Oram, M.A.
Yarmouth, N. S	30.01	762.2	30.08	764.0	21.0	— 6.1	87	E	12	5.4	.....	10k	3n	W	.....	0	0	Overcast	Prof. J. Montgomery.
Sub-Series.																0.05	1.3	Overcast	Lt. F. E. Wilmot, R. N.
St. Johns, Newfoundland	30.04	763.0	30.32	770.1	10	—12.2	58	NW	.....	.....	.....	0	5s	.....	.....	Inap.	Inap.	Fair	John Delany.
St. Pierre, N. F., l'Hopital Maritime.	.....	.....	30.00	762.0	17.6	— 8	.....	NW	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	The Commandant.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.** UNITED STATES SERIES.

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0–10.	CLOUDS. Amount. Up'er 0–10.	CLOUDS. Amount. Lo'er 0–10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.82	757.4	30.06	763.5	23	— 5.0	47	N	1	0.4			10s		Calm	0.06	1.5	Cloudy	
Alpena, Michigan	29.47	748.5	30.16	766.1	17	— 8.3	83	N	16	7.2			10s		Calm	0.15	3.8	Cloudy	
Atcha, Aleutian Is., Alaska																			
Atlanta, Georgia	29.08	738.6	30.25	768.3	49	9.4	63	S	8	3 6		0	2s;sm'		Calm	Inap.	Inap.	Smoky	
Atlantic City, New Jersey	30.10	764.5	30.12	765.0	37	2.8	90	NW	1	0.4			10s;fg		Calm	0.21	5.3	Cloudy	
Augusta, Georgia	30.12	765.0	30.33	770.4	43	6.1	92	Calm	0	0		2ck	Haze	NW	Calm	0	0	Fair	
Baltimore, Maryland	30.07	763.8	30.12	765 0	38	3.3	91	N	3	1.3			10s;fg		Calm	0.07	1.8	Threatening	
Barnegat, New Jersey	30.08	764.0	30.10	764 5	36	2.2	100	W	4	1.8			10s		Calm	0.20	5.1	Cloudy	
Bismarck, Dakota	28.56	725.4	30.42	772.7	—12	—24.4	100	Calm	0	0			10s		Calm	0	0	Cloudy	
Boerne, Texas	28.68	728.5	29.98	761.5	59	15.0	100	S	3	1.3		0	0			0	0	Clear	
Boise City, Idaho	26.61	675.9	29.57	751.1	47	8.3	77	SE	12	5.4		0	2s		SW	0.16	4.1	Fair	
Boston, Massachusetts	29.88	758.9	30.04	763.0	27	— 2.8	76	Calm	0	0			10n		Calm	0.10	2.5	Light snow	
Brackettville, Texas	28.96	735.6	30.04	763.0	51	10.6	93	NE	3	1.3			10s		Calm	0	0	Cloudy	
Breckenridge, Minnesota	29.47	748.5	30.67	779.0	—18	—27.8	100	N	8	3.6			10s		Calm	Inap.	Inap.	Cloudy	
Brownsville, Texas	30.10	764.5	30.14	765.5	72	22.2	80	S	4	1.8		0	Fog		Calm	0	0	Foggy	
Buffalo, New York	29.30	744.2	30.03	762.7	29	— 1.7	78	W	15	6.7			10s		Calm	Inap.	Inap.	Cloudy	
Burkes, Arizona					49	9.4	44	SW			1		10s		SW	0	0	Cloudy	
Burlington, Vermont	29.08	753.9	29.98	761.5	23	— 5.0	86	SW	10	4.5			10n		SW	0.04	1.0	Light snow	
Cairo, Illinois	29.82	757.4	30.23	767.8	38	3.3	91	NE	10	4.5			Fog			0.01	0.3	Foggy	
Campo, California	27.42	696.5	29.99	761.7	42	5.6	91	SW	2	0.9		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	30.25	768.3	30.26	768.6	54	12.2	87	SW	7	3.1		5c	1ks	NW	Calm	0	0	Fair	
Cape Henry, Virginia	30.15	765.8	30.17	766.3	57	13.9	63	SW	18	8.0		5ck	2ks	SW	Calm	0	0	Cloudy	
Cape Lookout, N. Carolina	30.24	768.1	30.26	768.6	57	13.9	87	W	8	3.6		5c	0	W		0	0	Fair	
Cape May, New Jersey	30.10	764.5	30.13	765.3	40	4.4	100	N	6	2.7			Fog		Calm	0.09	2.3	Foggy	
Castroville, Texas	29.36	745.7	30.08	764.0	56	13.3	94	NW	4	1.8		0	5s		W	0	0	Fair	
Cedar Keys, Florida	30.25	768.3	30.27	768.8	64	17.8	94	NE	1	0.4			Fog		Calm	0	0	Dense fog	
Charleston, South Carolina	30.22	767.6	30.28	769.1	53	11.7	80	NW	4	1.8		0	0			0	0	Clear	
Charlotte, North Carolina	29.35	745.5	30.19	766.8	46	7.8	92	SW	3	1.3		5cs	Sm'e	Calm	Calm	0	0	Fair	
Chattanooga, Tennessee	29.41	747.0	30.22	767.6	50	10.0	72	S	3	1.3		5cs;k	Sm'e	N;W	Calm	0	0	Fair	
Cheyenne, Wyoming	23.78	606.5	29.72	754.9	14	—10.0	46	SW	10	4.5		0	2s		Calm	0	0	Clear	
Chicago, Illinois	29.49	749.0	30.24	768.1	20	— 6.7	85	NW	5	2.2			10n		Calm	Inap.	Inap.	Light snow	
Cincinnati, Ohio	29.51	749.5	30.18	766.6	39	3.9	82	E	2	0.9			10n		Calm	0.07	1.8	Light rain	
Cleveland, Ohio	29.38	746.2	30.14	765.5	30	— 1.1	89	SW	8	3.6			10s		SW	0	0	Cloudy	
Coleman City, Texas	28.37	720.6	30.12	765.0	34	1.1	61	N	9	4.0		0	0			0	0	Clear	
Columbus, Ohio	29.28	743.7	30.15	765.8	35	1.7	80	W	4	1.8			10s		Calm	0	0	Cloudy	
Concho, Texas	28.19	716.0	29.92	760.0	41	5.0	82	SW			1	0	0			0	0	Clear	
Corsicana, Texas	29.63	752.6	30.09	764.3	61	16.1	94	Calm	0	0		0	0			0.13	3.3	Clear	
Davenport, Iowa	29.65	753.1	30.37	771.4	6	—14.4	76	W	6	2.7		0	2s		Calm	0	0	Fair	
Dayton, Washington T'y					13	—10.6	81	SW			2		10n		Calm	0.52	13.2	Heavy snow	
Deadwood, Dakota	25.21	640.3			—11	—23.9	52	Calm	0	0		0	0			0	0	Clear	
Decatur, Texas	29.05	737.9	30.28	769.1	36	2.2	53	NW	12	5.4			Fog			0	0	Foggy	
Denison, Texas	29.32	744.7	30.14	765.5	43	6.1	92	NW	10	4.5			10s		Calm	0	0	Cloudy	
Denver, Colorado	24.58	624.3	29.80	756.9	12	—11.1	80	N	4	1.8		2c	0	Calm		0	0	Fair	
Des Moines, Iowa	29 48	748.8	30.48	774.2	1	—17.2	71	N	4	1.8		0	2s		N	0.01	0.3	Fair	
Detroit, Michigan	29.40	746.7	30.10	764.5	26	— 3.3	88	SW	5	2.2			10s		Calm	0.01	0.3	Threatening	
Dodge City, Kansas	27.59	700.8	30.12	765.0	8	—13.3	55	NE	6	2.7			10n		Calm	Inap.	Inap.	Light snow	
Dubuque, Iowa	29.60	751.8	30.38	771.6	7	—13.9	77	NW	3	1.3			10s		Calm	Inap.	Inap.	Cloudy	
Duluth, Minnesota	29.79	756.7	30.60	777.2	—13	—25.0	74	NW	3	1.3			10s		NW	0.04	1.0	Cloudy	
Eagle Pass, Texas	29.45	748.0	30.20	767.1	52	11.1	86	Calm	0	0			10s		Calm	0	0	Cloudy	
Eastport, Maine	29.96	761.0	30.03	762.7	27	— 2.8	100	SE	14	6.3			10n			0.11	2.8	Heavy snow	
Edinburg, Texas					70	21.1	85	Calm			0		Fog			0	0	Foggy	
El Paso, Texas																			
Erie, Pennsylvania	29.34	745.2	30.08	764.0	34	1.1	79	SW	10	4.5			10s		W	Inap.	Inap.	Cloudy	
Escanaba, Michigan	29.61	752.1	30.34	770.6	6	—14.4	76	NW	20	8.9			10s		NW	0.06	1.5	Cloudy	
Florence, Arizona	28.51	724.1	30.11	764.8	50	10.0	72	NE	1	0.4			10ks		W	0	0	Cloudy	
Fort Assiniboine, Montana																			
Fort Buford, Dakota	28.26	717.8	30.38	771.6	—10	—23.3	77	SE	3	1.3			10s		Calm	0	0	Cloudy	
Fort Custer, Montana	26.81	681.0			— 9	—22.8	100	NE	4	1.8		0	0			0.16	4.1	Clear	
Fort Davis, Texas	25.31	642.9	30.27	768.8	41	5.0	57	SW	2	0.9		0	0			0	0	Clear	
Fort Gibson, Indian Ter	29.62	752.3	30.19	766.8	32	0.0	89	NW	10	4.5			10s		Calm	Inap.	Inap.	Cloudy	
Fort Grant, Arizona	25.28	642.1	30.08	764.0	48	8.9	23	W	9	4.0		0	0			0	0	Clear	
Fort Griffin, Texas	28.91	734.3	30.25	768.3	32	0.0	69	N	3	1.3			10s		Calm	0	0	Cloudy	
Fort Keogh, Montana	27.41	696.2			— 8	—22.2	55	NE	4	1.8			10s		Calm	Inap.	Inap.	Cloudy	
Fort McKavett, Texas	27.86	707.6	29.83	757.7	43	6.1	92	SW	5	2.2		0	Fog		Calm	0	0	Foggy	
Fort St. Michael, Alaska																			
Fort Shaw, Montana																			
Fort Sill, Indian Territory	28.98	736.1	30.16	766.1	28	— 2.2	66	N	16	7.2			10s		Calm	0	0	Cloudy	
Fort Stevenson, Dakota	28.52	724.4			—12	—24.4	75	SW	1	0.4		8ck	0	SW		0.01	0.3	Cloudy	
Fort Verde, Arizona					43	6.1	92	SE			1		10s		SE	0	0	Cloudy	
Fort Yates, Dakota																			
Fredericksburg, Texas	28.26	717.8	29.81	757.2	57	13.9	58	SW	2	0.9			10s		Calm	0	0	Cloudy	
Galveston, Texas	30.13	765.3	30.17	766.3	66	18.9	95	S	6	2.7			10ks		SW	Inap.	Inap.	Cloudy	
Graham, Texas	29.11	739.4	30.22	767.6	33	0.6	70	N	10	4.5			10s		Calm	0	0	Cloudy	
Grand Haven, Michigan	29.47	748.5	30.16	766.1	25	— 3.9	87	NE	8	3.6			10n		Calm	Inap.	Inap.	Light snow	
Helena, Montana																			
Henrietta, Texas	29.23	742.4	30.22	767.6	33	0.6	89	N	10	4.5			10s		NW	0	0	Cloudy	
Indianapolis, Indiana	29.35	745.5	30.17	766.3	33	0.6	89	NW	4	1.8			10s		NW	Inap	Inap.	Cloudy	
Indianola, Texas	30.13	765.3	30.16	766.1	67	19.4	100	S	13	5.8			Fog		Calm	0.18	4.6	Foggy	
Jacksboro, Texas	28.91	734.3	30.09	764.3	35	1.7	53	N	12	5.4		0	5s		N	0	0	Fair	
Jacksonville, Florida	30.25	768.3	30.28	769.1	63	17.2	89	NE	3	1.3			10s		Calm	0.03	0.8	Cloudy	
Keokuk, Iowa	29.65	753.1	30.35	770.9	8	—13.3	66	NW	9	4.0			1s		Calm	0	0	Clear	
Key West, Florida	30.19	766.8	30.23	767.8	73	22.8	76	E	5	2.2		0	0			0	0	Clear	
Kittyhawk, North Carolina	30.21	767.3	30.24	768.1	50	10.0	86	SW	12	5.4		5cs	0	W		0	0	Fair	
Knoxville, Tennessee	29.20	741.7	30.22	767.6	51	10.6	63	W	8	3.6		Haze	5ks		SW	0	0	Fair	
La Crosse, Wisconsin	29.58	751.3	30.41	772.4	4	—15.6	74	N	5	2.2		0	0			0.01	0.3	Clear	
La Mesilla, New Mexico	26.21	665.7	30.36	771.1	28	— 2.2	54	Calm	0	0		0	0			0	0	Clear	
Laredo, Texas	29.71	754.6	30.06	763.5	48	8.9	85	Calm	0	0		0	0			0	0	Clear	
Leavenworth, Kansas	29.48	748.8	30.42	772.7	10	—12.2	58	N	11	4.9		2cs	0	NW		0	0	Fair	
Lewiston, Idaho																			
Little Rock, Arkansas	29.75	755.6	30.10	764.5	62	16.7	94	S	1	0.4			Fog		Calm	Inap.	Inap.	Foggy	
Los Angeles, California	29.55	750.6	29.89	759.2	54.5	12.5	97	SE	21	9.4			10n		Calm	1.76	44.7	Heavy rain	
Louisville, Kentucky	29.58	751.3	30.16	766.1	40	4.4	82	N	5	2.2			10s;fg		Calm	0.04	1.0	Cloudy	
Lynchburg, Virginia	29.45	748.0	30.15	765.8	44	6.7	92	Calm	0	0		2cs	0	W		0.07	1.8	Clear	
Madison, Wisconsin	29.23	742.4	30.32	770.1	9	—12.8	78	NW	11	4.9			10s		Calm	Inap.	Inap.	Cloudy	
Marquette, Michigan	29.60	751.8	30.39	771.9	5	—15.0	100	NW	16	7.2			10n		Calm	0.27	6.9	Light snow	
Mason, Texas	28.48	723.4	30.26	768.7	52	11.1	93	W	4	1.8		2cs	1s	Calm	W	0	0	Fair	
Memphis, Tennessee	29.77	756.1	30.11	764.8	56	13.3	93	SE	5	2.2			10s;fg		Calm	0.27	6.9	Cloudy	
Milwaukee, Wisconsin	29.48	748.8	30.28	769.1	14	—10.0	82	NW	10	4.5			10s		Calm	0.02	0.5	Cloudy	

UNITED STATES SERIES—CONTINUED.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Mobile, Alabama	30.21	767.3	30.26	768.6	52.5	11.4	96	SW	3	1.3	.....	2c	1s;sme	W	Calm	0	0	Fair	
Montgomery, Alabama	30.04	763.0	30.28	769.1	44	6.7	92	Calm	0	0	.....	5cs	Fog	W	Calm	0	0	Fair	
Morgantown, West Virginia	29.09	738.9	30.10	764.5	44	6.7	84	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Mt. Washington, N. H.	23.42	594.9	29.78	756.4	15	— 9.4	100	W	60	26.8	.....	.....	Fog	.....	W	0.11	2.8	Foggy	
Nashville, Tennessee	29.61	752.1	30.15	765.8	58	14.4	64	SE	2	0.9	.....	.....	10s	.....	Calm	0.18	4.6	Cloudy	
New Haven, Connecticut	29.93	760.2	30.06	763.5	32	0.0	89	N	4	1.8	.....	.....	10n	.....	Calm	0.04	1.0	Light rain	
New London, Connecticut	29.99	761.7	30.04	763.0	37	2.8	90	NE	3	1.3	.....	.....	10s;fg	.....	Calm	0.06	1.5	Cloudy	
New Orleans, Louisiana	30.18	766.6	30.24	768.1	58	14.4	87	SE	4	1.8	.....	.....	Fog	.....	Calm	0	0	Foggy	
Newport, Rhode Island	29.97	761.2	30.02	762.5	41	5.0	91	S	7	3.1	.....	.....	10s	.....	Calm	0.07	1.8	Cloudy	
New River, North Carolina	.....	.....	.....	.....	50	10.0	93	W	.....	.....	1	5c	0	W	.....	.....	.....	Fair	
New York, New York	29.93	760.2	30.12	765.0	32	0.0	89	NW	2	0.9	.....	.....	Fog	.....	Calm	0.51	13.0	Foggy	
Norfolk, Virginia	30.09	764.3	30.15	765.8	55	12.8	68	S	14	6.3	.....	8k	0	W	.....	0	0	Fair	
North Platte, Nebraska	27.24	691.9	30.15	765.8	— 4	—20.0	83	NE	12	5.4	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Olympia, Washington Ter.	29.64	752.8	29.68	753.9	25.0	— 3.9	94	E	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Omaha, Nebraska	29.20	741.7	30.47	773.9	— 4	—20.0	65	N	11	4.9	.....	0	5s	.....	Calm	0.05	1.3	Fair	
Oswego, New York	29.70	754.4	30.04	763.0	35	1.7	80	SW	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Pembina, Dakota	29.64	752.8	30.67	779.0	—42	—41.1	100	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Pensacola, Florida	30.26	768.6	30.29	769.4	54	12.2	93	NE	4	1.8	.....	Haze	7ks	Calm	SW	0	0	Fair	
Philadelphia, Pennsylvania	30.04	763.0	30.09	764.3	37	2.8	90	SW	4	1.8	.....	.....	10s;fg	.....	Calm	0.12	3.0	Cloudy	
Phœnix, Arizona	28.86	733.0	30.69	779.5	50	10.0	58	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.50	444.5	29.71	754.6	9	—12.8	57	SW	60	26.8	.....	2cs	0	Calm	.....	0	0	Clear	
Pilot Point, Texas	29.43	747.5	30.30	769.6	39	3.9	91	N	.....	.....	.....	.....	Fog	.....	.....	0	0	Foggy	
Pioche, Nevada	.....	.....	.....	.....	38	3.3	54	S	16	7.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Pittsburg, Pennsylvania	29.29	744.0	30.12	765.0	27	2.8	90	SW	8	3.6	.....	.....	10s;Fog	.....	Calm	0	0	Cloudy	
Port Huron, Michigan	29.40	746.7	30.10	764.5	26	— 3.3	82	W	6	2.7	.....	.....	10n	.....	Calm	0.02	0.5	Light snow	
Portland, Maine	30.00	762.0	30.05	763.3	18	— 7.8	81	N	4	1.8	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
Portland, Oregon	29.61	752.1	29.69	754.1	25	— 3.9	68	E	5	2.2	.....	.....	10n	.....	.....	0.01	0.3	Light snow	
Portsmouth, North Carolina	.....	.....	.....	.....	51	10.6	93	SW	8	3.6	.....	8cs	0	Calm	.....	0	0	Cloudy	
Prescott, Arizona	24.71	627.6	30.07	763.8	48	8.9	70	S	.....	.....	4	8k	0	W	.....	0	0	Cloudy	
Punta Rassa, Florida	30.23	767.8	30.25	768.3	69	20.6	90	NE	3	1.3	.....	3c;ck	0	W;SE	.....	0	0	Fair	
Red Bluff, California	29.27	743.4	29.63	752.6	43	6.1	83	SE	10	4.5	.....	0	2s	.....	S	3.46	87.9	Fair	
Rio Grande City, Texas	29.95	760.7	30.17	766.3	59	15.0	88	Calm	0	0	.....	0	Fog	.....	.....	0	0	Clear	
Rochester, New York	29.37	746.0	30.01	762.2	30	— 1.1	89	W	8	3.6	.....	.....	10n	.....	Calm	Inap.	Inap.	Light rain	
Roseburg, Oregon	29.07	738.4	29.65	753.1	26	— 3.3	94	Calm	0	0	.....	.....	10s	.....	Calm	0.21	5.3	Cloudy	
Sacramento, California	29.63	752.6	29.71	754.6	43	6.1	92	SW	4	1.8	.....	0	5s	.....	Calm	1.46	37.1	Fair	
St. Louis, Missouri	29.65	753.1	30.27	768.8	25	— 3.9	87	N	15	6.7	.....	.....	10s	.....	.....	0.01	0.3	Cloudy	
St. Paul, Minnesota	29.54	750.3	30.47	773.9	3	—16.1	46	NW	9	4.0	.....	.....	10s	.....	NW	0.16	4.1	Cloudy	
Salt Lake City, Utah	25.35	643.9	29.68	753.9	48	8.9	29	SE	20	8.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
San Antonio, Texas	29.48	748.8	30.07	763.8	60	15.6	88	NW	1	0.4	.....	0	0	.....	.....	0.05	1.3	Clear	
San Diego, California	29.95	760.7	30.02	762.5	58	14.4	70	SE	16	7.2	.....	.....	8s	.....	S	0	0	Threatening	
Sandusky, Ohio	29.45	748.0	30.16	766.1	31	— 0.6	79	W	12	5.4	.....	.....	10s	.....	W	0	0	Cloudy	
Sandy Hook, New Jersey	30.06	763.5	30.09	764.3	35	1.7	90	SW	6	2.7	.....	.....	10s	.....	W	0.17	4.3	Cloudy	
San Francisco, California	29.66	753.4	29.73	755.1	49	9.4	78	SW	6	2.7	.....	.....	10s	.....	Calm	1.49	37.8	Cloudy	
Santa Fé, New Mexico	23.28	591.3	29.82	757.4	21	— 6.1	57	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.19	766.8	30.29	769.4	53	11.7	86	Calm	0	0	.....	2c	8s	S	S	0	0	Cloudy	
Shreveport, Louisiana	29.89	759.2	30.10	764.5	64	17.8	94	S	4	1.8	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.24	768.1	30.28	769.1	51	10.6	93	W	4	1.8	.....	8ck	1s	W	Calm	0	0	Cloudy	
Socorro, New Mexico	25.49	647.4	29.56	750.8	24	— 4.4	48	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois	29.60	751.8	30.33	770.4	20	— 6.7	78	NW	8	3.6	.....	.....	10s	.....	NW	0.01	0.3	Cloudy	
Springfield, Massachusetts	29.93	760.2	30.06	763.5	29	— 1.7	89	Calm	0	0	.....	.....	10s	.....	Calm	0.04	1.0	Threatening	
Stockton, Texas	27.09	688.1	30.09	764.3	46	7.8	13	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	29.95	760.7	30.01	762.2	32	0.0	100	W	5	2.2	.....	.....	10n	.....	W	0.21	5.3	Heavy snow	
Toledo, Ohio	29.47	748.5	30.14	765.5	32	0.0	79	W	8	3.6	.....	.....	10s	.....	.....	Inap.	Inap.	Threatening	
Tucson, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon	29.50	749.3	30.02	762.5	17.5	— 8.1	83	SW	4	1.8	.....	.....	10s	.....	.....	Inap.	Inap.	Cloudy	
Uvalde, Texas	29.26	743.2	30.09	764.3	48	8.9	85	Calm	0	0	.....	2c	8s	N	NW	0	0	Cloudy	
Vicksburg, Mississippi	29.95	760.7	30.21	767.3	61	16.1	88	S	8	3.6	.....	.....	10s	.....	S	0	0	Cloudy	
Virginia City, Montana	23.81	604.8	29.29	744.0	—10	—23.3	54	Calm	0	0	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy	
Visalia, California	29.31	744.5	29.67	753.6	57	13.9	70	S	12	5.4	.....	.....	10n	.....	Calm	0.55	14.0	Light rain	
Washington, D. C.	30.01	762.2	30.12	765.0	38	3.3	100	Calm	0	0	.....	.....	Fog	.....	Calm	0.02	0.5	Dense fog	
Wickenburg, Arizona	.....	.....	.....	.....	42	5.6	66	W	.....	.....	1	.....	10ks	.....	W	0	0	Cloudy	
Wilmington, North Carolina	30.19	766.8	30.27	768.8	49	9.4	85	SW	.....	.....	3	5c	0	Calm	.....	0	0	Fair	
Winnemucca, Nevada	25.14	638.5	29.50	749.3	42	5.6	66	S	20	8.9	.....	.....	10n	.....	Calm	0.01	0.3	Light rain	
Wood's Holl, Massachusetts	30.00	762.0	30.04	763.0	40	4.4	82	SE	12	5.4	.....	.....	10s	.....	Calm	0.06	1.5	Cloudy	
Yankton, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Yuma, Arizona	29.84	757.9	29.99	761.7	48	8.9	93	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	30.13	765.3	30.18	766.6	72	22.2	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.20	767.1	30.21	767.3	73	22.8	78	Calm	0	0	.....	5c	2k	Calm	.....	.....	.....	Hazy	James Gall.
Navassa, W. I.	30.01	762.2	30.09	764.3	78	25.6	69	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.05	763.3	30.05	763.3	79	26.1	87	E	.....	.....	2	.....	8ks	.....	.....	0.160	4.06	Cloudy	C. J. Hering.
Santiago de Cuba, W. I.	30.15	765.8	30.18	766.6	74	23.3	81	N	3.6	1.6	.....	8cs	8s	NE	.....	0	0	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	29.62	752.3	29.67	753.6	—34.0	—36.7	.....	SW	10	4.5	.....	0	5s	.....	SW	0.05	1.3	Fair	J. Fortescue & W. Wood
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.33 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.24‡	768.1‡	.....	.....	58	14.4	88	NE	6	2.7	.....	.....	5	.....	SW	0	0	.....	.....	Fair	
Navy Yard, Portsmouth, N.H.	29.84‡	757.9‡	.....	.....	20	— 6.7	85	NE	2	0.9	.....	.....	10	.....	.....	.....	.....	.....	.....	Snowing	
Adams,*																					
Mare I'd., Navy Yard, Cal.	29.84‡	757.9‡	.....	.....	50	10.0	93	W	.....	.....	1	.....	10	.....	W	.....	.....	.....	.....	Cloudy	
Alaska,																					
S. 19° 39′. W. 70° 16′..... *	29.98‡	761.5‡	.....	.....	67	19.4	79	S	.....	.....	2	.....	0	.....	.....	.....	.....	Smooth	.....	Blue sky	
Colorado,																					
New York, . Y.	30.05‡	763.3‡	.....	.....	33	0.6	89	SW	1	0.4	.....	.....	10	.....	.....	0.11	2.8	.....	.....	Rainy	
Constitu ion,																					
N. 24° 56′, W. 56° 01′.....	30.22‡	767.6‡	.....	.....	72	22.2	80	E	.....	.....	3	.....	4	.....	NE	.....	.....	Smooth	.....	Pleasant	
Enterprise.																					
Smyrna, Turkey	29.75‡	755.6‡	.....	.....	44	6.7	76	NE	.....	.....	7	.....	10	.....	NE	.....	.....	Rough	.....	Cloudy	
Franklin,																					
Off Navy Yard, Norfolk, Va.	30.19‡	766.8‡	.....	.....	54	12.2	80	WSW	7.2	3.2	.....	.....	8	.....	W	0	0	.....	.....	Cloudy	
Independence,																					
Mare I'd, Navy Yard, Cal.	29.60‡	751.8‡	.....	.....	56	13.3	81	SW	3.6	1.6	.....	.....	4?	.....	SW	1.750	44.45	.....	.....	Cloudy	
Kearsarge,																					
Kingston, Jamaica, W. I.	30.10‡	764.5‡	.....	.....	75	23.9	77	Var.	.....	.....	1	.....	2	.....	SW	0	0	.....	.....	Fair	
Lackawana.																					
Honolulu, Sandwich Id's†	30.02‡	762.5‡	.....	.....	72	22.2	85	Calm	.....	.....	0	.....	2	.....	NE	.....	.....	Smooth	.....	Fair	
Marion,																					
N. 38° 03′, W. 57° 35′.....	30.26‡	768.6‡	.....	.....	63	17.2	72	S	.....	.....	6	.....	10	.....	SW	.....	.....	Mod'ate Rough	SW	Drizzling	
Michigan,																					
Erie, Pa.	30.03‡	762.7‡	.....	.....	33	0.6	89	W	.....	.....	2	.....	10	.....	WNW	.....	.....	.....	.....	Cloudy	
Monocacy,																					
Shanghai, China.	30.44‡	773.2‡	.....	.....	37	2.8	67	NW	.....	.....	1	.....	2	.....	NW	.....	.....	.....	.....	Clear	
New Hampshire,																					
Port Royal, S. C.	30.32‡	770.1‡	.....	.....	56	13.3	94	Calm	0	0	.	.....	1	.....	Calm	0	0	.....	.....	Clear	
Nipsic,																					
Norfolk, Va.	30.16‡	766.1‡	.....	.....	55	12.8	74	SW	.....	.....	3	.....	10	.....	.....	.....	.....	.....	.....	Overcast	
Onward,																					
Callao, Peru	†.	29.97‡	761.2‡	.....	.....	67	19.4	89	SSE	.....	.....	2	.....	5	.....	.....	.....	Mod'ate smooth	W	Hazy	
Palos.																					
Tientsin, China.	30.43‡	772.9‡	.....	.....	32	0.0	89	NNW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Passaic,																					
Washington, D. C.	30.15‡	765.8‡	.....	.....	38	3.3	91	NE	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Cloudy	
Pensacola,																					
Callao, Peru	29.96‡	761 0‡	.....	.....	66	18.9	94	SE	.....	.....	0–1	.....	10	.....	.....	.....	.....	Smooth	.....	Foggy	
Powhatan,																					
Navy Yard, Brooklyn, N.Y.	30.12‡	765.0‡	.....	.....	37	2.8	81	WSW	.....	.....	1	.....	8	.....	SE	Light	Light	.....	.....	Drizzling	
Quinnebaug,																					
Villafranca, France.....	30.35‡	770.9‡	.....	.....	58	14.4	58	SW	.....	.....	1	.....	0?	.....	.....	.....	.....	.....	.....	Cloudy?	
Ranger.																					
Honolulu, Sandwich Ilds.	30.05‡	763.3‡	.....	.....	74	23.3	95	Calm	.....	.....	0	.....	2	.....	.....	.....	.....	.....	.....	Cloudy?	
Richmond,																					
N. 18° 29′, E. 120° 15′.....	29.97‡	761 2‡	.....	.....	74	23.3	90	NE	.....	.....	7	.....	8	.....	NE	.....	.....	Rough	NE	Light rain	
Rio Bravo,																					
Brownsville, Texas...	†.	30.24‡	768.1‡	.....	.....	68	20.0	100	SSW	2	0.9	.....	.....	10	.....	SSW	0	0	.....	.....	Foggy
Santee.																					
Annapolis, Md		30.13‡	765.3‡	.....	.....	39	3.9	100	Calm	.....	.....	0	.....	10	.....	.....	0.15	3.8	.....	.....	Light fog
Shenandoah,																					
Montivideo, Uruguay.		29.98‡	761.5‡	.....	.....	73	22.8	63	NNW	.....	.....	1	.....	0	.....	.....	.....	.....	Smooth	.....	Clear
St. Louis,																					
League Island, Pa.		30.12‡	765.0‡	.....	.....	33	0.6	100	ESE	2	0.9	.....	.....	10	.....	.....	0.25	6.3	.....	.....	Misty
Tennessee,																					
Navy Yard, Brooklyn, N.Y.		30.09‡	764.3‡	.....	.....	35	1.7	100	WSW	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Cloudy
Tuscarora,																					
Salmas Cruz, Mexico.....		29.96‡	761.0‡	.....	.....	74	23.3	95	N	.....	.....	4–5	.....	0	.....	.....	0	0	Smooth	.....	Clear
Vandalia.																					
Navy Yard, Brooklyn, N.Y.		30.11‡	764.8‡	.....	.....	34	1.1	100	WNW	.....	.....	1	.....	10	.....	WNW	.....	.....	.....	.....	Cloudy
Wabash,																					
Boston, Mass.		30.04‡	763.0‡	.....	.....	26	— 3.3	75	Calm	0	0	.....	.....	8	.....	.....	0.03	0.8	.....	.....	Cloudy
Wachusett,																					
S. 24°, W. 43°†		30.44‡	773.2‡	.....	.....	74	23.3	95	ESE	.....	.....	2	.....	10	.....	Calm	.....	.....	Long	E	Cloudy
Wyoming,																					
Valencia, Spain		30.36‡	771.1‡	.....	.....	59	15.0	65	SSE	.....	.....	0–1	.....	2	.....	S	.....	.....	Smooth	S	Clear

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S. S. Samaria																			Capt. T. Roberts.

NOTE—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitebury.
S. S. Costa Rica																			W. House & R. Lawless.
S. S. Dakota, Capt. H. G. Morse																			Capt. Connolly.
S. S. Georgia																			F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin																			Capt. A. Fuller.
S. S. Wilmington																			R. C. Ghest, 1st Officer.
S. S. Zealandia, Sydney, New South Wales		29.84‡	757.9‡				SW			1				W				Cloudy	

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The orginals give the barometer as read off; wind-force by the scale 0 to to 12; for the Brittanic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer N. 40° 27′, E. 147° 01′..†		30.10‡	764.5‡	49	9.4	71	N			6		8		N		Heavy	N	Squally	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson N. 38° 37′, E. 170° 24′..†		30.24‡	768.1‡	54	12.2		S			3		ks		SE	Mod'ate	Rough	SE	D. clouds	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undutsch.
S. S. Leipzig, Capt. F. Pfeiffer																			S. Risius, 3rd Officer.
S. S. Nurnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 38° 30′, W. 71° 18′		30.18‡	766.6‡				WNW			4		10		SW		Long	E	Raining	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa		30.16‡	766 1‡	40	4.4		SE			2		9		SE		Light		Cloudy	Capt. R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents.																			
S. S. Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland, N. 45° 25,′ W. 38° 49′†		30 60‡	762.0‡	42	5.6		W	10	4.5			5		WNW		High	NW	Squally	Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

NOTE.—The originals give the barometer as read off; do not distinguish between upper and lower clouds; sea-swell in general terms, as published. ‡Corrections for temperature, instrumental error and elevation applied at this office.

ALLAN LINE MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian, N. 55° 09′, W. 12° 06′		30.28‡	769.1‡	45.5	7.5		S			5		10		S		Cross	WSW; SW	Cloudy	J. Powell, 4th Officer.
S. S. Peruvian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. *The error of the barometer is not known. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES—Miscellaneous.																			
Furnished by the co-operation of the Observers named.																			
Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Barkentine "Carrie Heckle" N. 18° 20′, W. 34° 45′	*	29.94‡	760.5‡	74	23.3		NNE			2		2		NNE	0	Long	NNE	Fair	B. F. Woodbury.
Brigantine "George" of Halifax																			N. B. Foss.
Schooner Harry and Fred																			Capt. George Gardner.
Haytian																			
§ Iron Cross																			Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden.																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time. *Instrumental error not known.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D.) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 21, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time
1:57 P. M. CAPE TOWN, C. G. H. mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.16	766.0	63.7	17.6	71	SE			1		5			0	0	Cloudy	
Nemours			30.29	769.3	62.2	16.8	72	Calm			0		0			0	0	Clear	Kesxuche.
Algiers			30 40	772.2	56.8	13.8	58	ENE			1		0			0	0	Clear	Tourillere.
La Calle			30.36	771.1	58.5	14.7	72	WSW			3		5			0	0	Cloudy	Foufrede.
Tunis																			Jacques
Sfax			30.34	770.5															Gau.
Saida																			Herbin.
Tebessa			30.38	771.6	42.6	5.9	67	NNE			2		8			0.016	0.4	Very cloudy	Watrin.
Geriville					51.3	10.7	46	Calm			0		0			0	0	Clear	Brugniuax.
Laghouat			30.42	772.6	47.1	8.4	34	SSE			1		0			0	0	Clear.	Bertrand.
Biskra			30.37	771.5	60.4	15.8	53	NE			1		0			0	0	Clear.	Chanvaux.

NOTE.—The originals give the amount of cloudiness by the scale 0-4; no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.97	761.3	30.57	776.5	25.2	— 3.8	78	W			1		0			0	0		Prof. Ivan Stoxir.
Cracow, I. R. Observatory	29.85	758.3	30.70	779.8	16.4	— 9.2	84	W	4.9	2.2			0			0	0		Dr. Wierzbicki.
Eperies	29.58	751.4	30.53	775.5	25.9	— 3.4	74	Calm			0		0			0	0		Julius Mikolik.
Gratz	29.25	742.9	30.60	777.2	26.8	— 2.9	76	SW			1		0			0	0		Andreas Rospini.
Hermannstadt	28.90	734.1	30.44	773.2	26.2	— 3.2	91	N			1		9			0	0		Prof. A. Gottschling.
Kremsmünster	29.16	740.6	30.65	778.5	14.0	—10.0	90	Calm			0		0			0	0		Prof. C. Wagner.
Lemberg	29.39	746.5	30.44	773.1	26.4	— 3.1	98	NW			1		10			0	0		Dr. T. Stanecki.
Pola	30.29	769.4	30.41	772.4	40.6	9.8	27	NE			1		0			0	0		I.R. Hydrographic Office
Szathmar	30.00	762.1	30.51	775.0	18.3	— 7.6	95	SE			2		0			0	0		Pet. Pancsics, S. J.
Szegedin	30.21	767.2	30.51	775.0	22.3	— 5.4		NW			2		0			0	0		Karl Stancel.
Trieste	30.36	771.1	30.46	773 7	46.0	7.8	31	ENE			3		0			0	0		P. Busin.
Vienna	29.85	758.1	30.61	777.5	35.2	— 1.8	46	NNW			2		0			0	0		I.R. Central Met. Ob'sy

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

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BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.01	762.2	30.12	765.0	33.5	0.8	.....	SSW	11	4.9	.....	.....	2	.....	.....	0	0	Blue sky.....	W. Boswell.
Ardrossan	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Wm.McNeil &G.Carrick
Armagh, (Observatory)	29.81	757.2	30.04	763.0	43.6	6.1	.....	SSE	21	9.4	.....	.....	.....	.....	.....	.....	.....	.....	S. Call.
Bidston (Liverpool Obs)	.....	.....	30.22	767.6	31.3	— 0.4	.....	ESE	27	12.1	.....	.....	4	.....	.....	.....	.....	D. clouds	John Hartnup.
Bolton (Sharples)	29.72	754.9	30.25	768.3	27.0	— 2.8	.....	SE	6	2.7	.....	.....	10	.....	.....	.....	.....	Gloomy... ...	Thomas Mackereth.
Bradford, Yorkshire	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	J McLandsborough.
Bridgetown, Barbadoes	29.99	761.7	30.02	762.5	79	26.7	.....	NE	.....	.....	1	.....	2	.....	.....	.....	.....	D. clouds.....	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	30.26	768.6	30.36	771.1	29.0	— 1.7	.....	S	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	H. Todd.
Cardington	.....	.....	30.35	770.9	30.0	— 1.1	.....	SW	.....	.....	0–1	.....	10	.....	.....	.....	.....	Foggy	John McLaren.
Chatham (School M. E.)	30.27	768.8	30.41	772.4	29.2	— 1.6	.....	NE	.....	.....	1	.....	9	.....	.....	.....	.....	Overcast.....	J. Carmell, Sapper, R.E.
Donaghadee	30.05	763.3	30.09	764.3	43	6.1	.....	S	.....	.....	5	.....	10	.....	.....	.....	.....	Raining	J. Mac Gowan.
Dover	30.34	770.6	30. 7	771.4	35	1.7	.....	SW	.....	.....	2	.....	7	.....	.....	.....	.....	¾ clouded...	J. Costello.
Falmouth (Observatory)	30.03	762.7	30.26	768.6	49.9	9.9	.....	S	.....	.....	4	.....	6	.....	.....	.....	.....	D. clouds.....	The Staff.
Fort Napier, Natal	27.69	703.3	29.91	759.7	67.0	19.4	.....	E	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Galway (Queen's College)	.....	.....	29.87	758.7	46	7.8	.....	S	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast.....	Prof. A. H. Curtis.
Gibraltar, Mediterranean	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Sergt.Wm. Allen, A. H.
Glasgow, (Observatory)	29.91	759.7	30.11	764.8	35.2	1.8	.....	SE	.....	.....	3	.....	10k	.....	.....	.....	.....	Threatening	D. G. Maclean. [C.
Great Yarmouth	30.35	770.9	30.36	771.1	31	— 0.6	.....	SW	.....	.....	3	.....	6	.....	.....	.....	.....	Misty.....	G. T. Watson.
Greenwich (Royal Obs'y)	30.20	767.1	30.39	771.9	27.5	— 2.5	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Foggy	The Staff, for G.B.Airy.
Guernsey	30.11	764.8	30.34	770.6	41.5	5.3	.....	SSE	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds.....	Dr.S.E Hoskins, F.R.S.
Helston	30.40	772.1	30.52	775.2	50	10.0	.....	S	.....	.....	2	2ck	.....	.....	.....	0	0	Fine.....	M. P. Moyle.
Holyhead	30.08	764.0	30.15	765.8	43	6.1	.....	S	.....	.....	5	.....	10	.....	.....	.....	.....	Drizzling.....	John Tilston.
Jersey	30.12	765.0	30.42	772.7	35.8	2.1	.....	S	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy	J. Fisher.
Kew (Observatory)	30.35	770.9	30.39	771.9	33.7	0.9	.....	S	2	0.9	.....	.....	10	.....	.....	.....	.....	Foggy	The Met'g'l Office.
Leicester (Museum)	30.06	763.5	30.33	770.4	30.0	— 1.1	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	30.03	762.7	30.11	764.8	55.8	13.2	.....	NW	.....	.....	2	.....	2k	.....	.....	Blank	Blank	Blue sky	A. King.
Nairn	29.81	757.2	29.90	759.4	39	3.9	.....	SW	.....	.....	2	.....	2	.....	.....	.....	.....	¾ clouded...	W. D. Penny.
Nassau, Bahamas	.....	.....	30.18	766.6	73.5	23.1	.....	E	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds.....	C. S. Duncombe.
Nottingham (Observatory)	30.12	765.0	30.33	770.4	31.0	— 0.6	.....	S	.....	.....	3	.....	10	.....	.....	0	0	Overcast.....	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)	.....	.....	30.37	771.4	30	— 1.1	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	H. E. Bellamy.
Plymouth	30.21	767.3	30.28	769.1	47.4	8.6	.....	ESE	.....	.....	2	.....	10	.....	.....	.....	.....	Misty.....	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	29.99	761.7	30.08	764.0	49	9.4	.....	SSW	.....	.....	5	.....	8	.....	.....	.....	.....	¾ clouded...	Wm. Kennedy.
St. Ann's Head	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John C. Walker.
Sandwick Manse, Orkneys	.....	.....	29.98	761.5	36.8	2.7	.....	S	10	4.5	.....	.....	0	.....	.....	.....	.....	Blue sky.....	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	29.96	761.0	30.03	762.7	40.4	4.7	.....	NE	.....	.....	2	.....	3	.....	.....	Blank	Blank	D. clouds.....	Serg't W. H. Lane.
Sheffield	30.02	762.5	30.32	770.1	30.7	— 0.7	.....	SW	.....	.....	1	.....	8	.....	.....	0	0	Overcast.....	W. F. Cooper.
Silloth Rectory	30.14	765.5	30.17	766.3	33.5	0.8	88	SW	.....	.....	4	.....	5	.....	.....	0.100	2.54	D. clouds.....	Francis Redford, A. M.
Stonyhurst (Observatory)	.....	.....	30.22	767.6	30.4	— 0.9	.....	SE	6	2.7	.....	.....	10	.....	.....	.....	.....	Misty.....	Rev. S. J. Perry.
Stratfield, Turgiss	30.16	766.1	30.39	771.9	29.1	— 1.6	.....	SE	.....	.....	0–1	.....	10	.....	.....	.....	.....	Foggy	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	30.22	767.6	30.30	769.6	52	11.1	.....	S	.....	.....	4	.....	7	.....	.....	.....	.....	D. clouds.....	W. Newcombe.
Valencia Observatory)	29.92	760.0	29.94	760.5	49.2	9.6	.....	S	44	19.7	.....	.....	10	.....	.....	.....	.....	Drizzling.....	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
Constable, Cape Colony	26.78	680.2	.....	.....	72	22.2	.....	W	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Hobart Town, Tasmania	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Leith(RestalrigPark)Sc'tl'd	.....	.....	30.14	765.5	34.3	1.3	.....	SE.	.....	.....	1	.....	8k	W	.....	0	0	Cloudy.....	C. Meldrum.
Mauritius (Observatory)	29.62	752.3	29.81	757.2	80.2	26.8	78	NE	29.5	13.2	.....	1	9	W	NE	0.90	22.9	Squally ...	R. L. J. Ellery.
Melbourne (Observatory)	29.72	754.9	29.82	757.4	57.9	14.4	62	SW	17	7.6	.....	.....	7	.....	.....	0	0	Dull	J. Youngclause.
Monach Lt-house, Hebrides	.....	.....	29.79	756.7	46	7.8	.....	S	.....	.....	8	.....	10	.....	.....	0	0	.....	
North Unst, Shetland Is	.....	.....	30.01	762.2	.....	.....	.....	S	.....	.....	4	10	10	.....	.....	0	0	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters; Prince Town, 1,400 feet, or 427 meters; Colesberg Bridge and Constable, unknown.

BRITISH MARINE SERIES. VESSELS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. Alert, Latitude Cove, Patagonia	.....	.....	29.36‡	745.7‡	43.8	6.6	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Raining	Capt.J.P. Maclear, R.N.
H. M. Sloop Gannet, S. 17° 40′, W. 71° 20′	.....	.....	30.06‡	763.5‡	69.5	20.8	.....	E	.....	.....	1	.....	7	.....	.....	.....	.....	Misty.....	Commander E. Bourke, R. N.
H. M. S. Magpie, Kin-toan, Lt.-Vl., near Shanghai, China	.....	.....	30.28‡	769.1‡	38.5	3.6	.....	NNW	.....	.....	5	.....	2	.....	.....	.....	.....	Blue sky.....	Capt. R. H. Napier, R.N.
Barque Belle-Isle, N. 35° 25′, W. 52° 15′	.....	.....	30.20	767.1	67	19.4	.....	SSW	.....	.....	6	.....	8	.....	.....	4	NNE; SSW	D. clouds.....	Capt. A. J. Brown
City of Cashmere, S. 14° 56′, W. 131° 03′	.....	.....	30.00‡	762.0‡	77	25.0	.....	E	.....	.....	5	.....	2	.....	.....	.....	.....	Blue sky.....	Capt. W. M. Grieve.
S. S. Ethiopia, N. 48° 10′, W. 46° 55′	.....	.....	29.36	745.7	39	3.9	.....	SW	.....	.....	6	.....	10	.....	.....	6	SW	Threatening	Capt. Campbell.
Barque Fedalma, N. 27° 10′, W. 65° 25′	.....	.....	30.18	766.6	70	21.1	.....	E	.....	.....	2	.....	9	.....	.....	2	NE	Drizzling.....	Capt. H. L. Fox.
S. S. German, N. 42° 37′, W. 11° 25′	.....	.....	30.36‡	771.1‡	59	15.0	.....	S	.....	.....	3	.....	2	.....	.....	.....	.....	D. clouds.....	Capt. O. D. Coxwell.
Iron Cross, N. 40° 10′, W. 55° 30′	.....	.....	29.87	758.7	62	16.7	.....	WSW	.....	.....	6	.....	9	.....	.....	7	WNW	Raining	Capt. W. Randall.
Barque Mertole, N. 43° 15′, W. 12° 30′	.....	.....	30.37‡	771.4‡	57.5	14.2	.....	SSW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	Capt. Turner.
S. S. Strathleven, S. 20° 10′, E. 94° 10′	.....	.....	29.94‡	760.5‡	75.5	24.2	.....	ESE	.....	.....	3	.....	8	.....	.....	.....	.....	D. clouds.....	Capt. C. W. Pearson.
S. S. Sunbeam, N. 39° 45′, W. 71° 20′	.....	.....	30.28	769.1	35	1.7	.....	NE	.....	.....	6	.....	10	.....	.....	5	NE	Squally.....	Capt. C. M. Dobson.
Light House Tender Richmond.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. H. Stewart.
S. S. Gordon Castle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Wm. Waring.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. L'w'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
San José	26.23	666.2	29.95	760.7	66.6	19.2	93	Calm			0		10n		E	0.3	8.		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.48	774.3	30.53	775.5	26.1	— 3.3	96	SW			2		10					Foggy	
Faröe	30.43	772.8	30.45	773.3	24.4	— 4.2	100	SSE			4		1						
Godthaab (Greenland)																			
Stykkisholm (Iceland)	29.11	739.3	29.15	740.4	33.1	0.6	85	E			6		8						
Thorshavn (Faröe)	29.69	754.1	29.72	755.0	46.0	7.8	82	S			4		10						
Vestervig	30.30	769.5	30.41	772.3	28.6	— 1.9	88	SSE			2		0						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.91	759.8	30.47	773.8	17.6	— 8	83	NE			1		10			0	0	Foggy	Collignon, Director.
Amiens, Normal School	30.20	767.1	30.32	770.2	18.7	— 7.4	73	NE			1		0			0	0	Clear	Vaillant, Director.
Arras, Engin'r School	30.15	765.9	30.42	772.6	18.0	— 7.8		SW			2					0	0		Klein, Commandant.
Avignon, Normal School	30.37	771.4	30.45	773.4	42.8	6	53	NNE			1		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.94	759.6	30.51	775.0	22.5	— 5.3		S			1		0			0	0	Clear.	C. Saillard, Director.
Beauvais, Normal School	30.19	766.8	30.49	774.4	14.9	— 9.5	97	E			1		0			0	0	Clear.	Frère Eugene Marie.
Besançon, Normal School	29.73	755.2	30.60	777.1	21.6	— 5.8		E			1		0			0	0	Clear.	A. Carré, Director.
Bourg-en-Bresse, N. School	29.62	752.3	30.53	775.5	28.8	— 1.8	96	SE			1		0			0	0	Clear.	Marlot, Diretor.
Bourges, Normal School	29.87	758.8	30.48	774.1	21.0	— 6.1	90	N			3		1		N	0	0	Clear.	M. Gence, Director.
Brest, Naval Observatory	30.12	765.1	30.37	771.3	42.1	5.6	91	SSW			1		10		SSW	0	0	Foggy	Ch. de Kermaree, Dir.
Caen, Normal School	30.31	769.8	30.39	771.8	32.7	0.4	77	SE			0–1					0	0		M. Bietrin, Director.
Carcassonne, N. School	30.03	762.8	30.46	773.6	45.7	7.6	66	ESE			1		0			0	0	Clear	September, Director.
Châlons-sur-Marne, N. Sch'l	30.18	766.6	30.53	775.5	17.8	— 7.9		Calm			0		2					Slightly cld'y	Jadot, Director.
Chartres, Normal School	29.80	757.0	30.42	772.6	21.2	— 6	74	ENE			1		0			0	0	Foggy	Vergier, Director.
Clermont-Fd, Puy de D. Obs	28.98	736.0	30.48	774.1	36.3	2.4	68	NW			1		0			0	0	Misty	Alluard, Director.
Commercy, Normal School	29.58	751.4	30.54	775.7	14.0	—10		E			1		0			0	0	Clear	Dr. Coullet, Director.
Commune de Gréasque*	29.29	743.9	30.43	772.9	54.9	12.7	38	NW			1		0			0	0		L. Kina, Director.
Grenoble, Normal School	29.72	754.8	30.57	776.4	17.6	— 8		ENE			1		0			0	0	Clear.	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.24	768.0	30.47	773.8	39.2	4.0	70	SE			1		0			0	0	Clear	Mouillot, Director.
Le Mans, Normal School	30.15	765.7	30.49	774.4	15.1	— 9.4	81	N			1		0			0	0	Clear	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.55	750.6	30.52	775.3	24.3	— 4.3	77	NNW			1		0			0	0	Clear	A. Baudry, Director
Lorient, Naval Observatory	30.30	769.7	30.41	772.5	36.0	2.2	72	SE			1		0			0	0	Clear	Lt. T. Carré, Director
Lyons Obs'y (Park Station)	29.87	758.7	30.51	775.0	29.5	— 1.4	79	N			1		0			0	0	Misty	Ch. André, Director
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	30.10	764.6	30.38	771.6	56.5	13.6	49	W			0–1		0			0	0	Clear	E. Stephan, Director.
Mirecourt, Normal School	29.40	746.7	30.57	776.4	11.8	-11.2	86	SW			1				SW	0	0	Foggy	Barbier, Director.
Mont-Louis	25.11	637.9	30.43	772.9	41.0	5.0	36	E	11.2	5.0			0			0	0		M. Cave.
Nice	30.35	770.8	30.38	771.7	54.3	12.4	59	S			2		1	S	S	0	0	Clear	M. Boissière, Director.
Nismes, Normal School	30.24	768.0	30.46	773.6	50.4	10.2	72	NE			1		0			0	0	Clear	M. Boyer, Director.
Paris, Montsouris Obs'y	30.18	766.6			14.0	—10.0	84	E			1		0			0	0		Marié Davy, Director.
Perpignan	30.33	770.3	30.44	773.1	45.0	7.2	76	W	1.8	0.8			7	ESE	S	0	0		Dr. Fines.
Pic du Midi (Plantade) H. P.	22.73	577.3			30.0	3.9									W	0	0		Gen'l de Nansouty.
Pic du Midi (Summit) H. P.																			M. Baylac.
Privas, Normal School	29.30	744.1	30.41	772.3	41.0	5	75	N			1		1	N	N	0	0	Clear.	M. Tallieu
Puy de Dome (Summit) Obs	25.46	646.6			40.3	4.6	37	Calm			0		0			0	0	Clear.	Alluard, Director.
Rochefort, Naval Obs'y	30.43	772.8	30.46	773.6	39.2	4.0	80	E			3		0			0	0	Clear	Lt. E. Decante, Director
Rouen, Normal School	30.36	771.1	30.45	773.3	19.2	— 7.1	77	SSE			1		0			0	0	Clear.	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.36	771.2	30.39	771.9	30.6	— 0.8	92	SE			2		10	SE	SE	0	0	Misty	Lt. Hercouet, Director
Saint Maur (near Paris)	30.31	769.8	30.47	774.0	16.2	— 8.8	90	S			1		0			0	0	Foggy	E. Renou, Director.
Tarbes, Normal School	29.30	744.2	30.39	771.9	57.2	14	47	SE			1		0			0	0	Clear.	T. Huguet, Director.
Toulouse, Observatory	29.73	755.1	30.46	773.7	40.3	4.6	83	SE			1		0			0	0	Clear.	M. Julier Mercadier.
Tours	30.26	768.7	30.46	773.7	19.4	— 7.0		E			1		0			0	0	Clear.	Cousin-Marquet.
Versailles, Observatory	29.93	760.2	30.42	772.7	24.8	— 4.0	77	E			1		0			0	0	Clear.	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.77	756.2	30.57	776.4	12.2	—11	93	NW			1		0			0	0	Clear	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.96	761.0	29.99	761.7	75.2	24										1.57	40.		L'Abbé Marchési
Zi-Ka-Wei (near Shanghai	30.31	769.8	30.33	770.4	31.1	— 0.5	73	NW	6.9	3.1		ck	4k	W		0	0	Cloudy	Marc Dechevrens.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 208.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.67	753.7	30.53	775.5	9.3	—12.6	100	E			4		1s			0	0	Foggy	Prof. Dr. Hoh.
Berlin	30.45	773.5	30.64	778.3	19.8	— 6.8	84	SE			1		0			0	0		Prof. Dr. Arndt.
Breslau	30.12	765.1	30.67	778.9	14.9	— 9.5	100	SE			1		10			0	0	Dense fog	Royal University Obs'y.
Carlsruhe	30.10	764.6	30.58	776.7	15.4	— 9.2	100	SW			1		10			0	0	Dense fog	Albert Senz.
Cassel	29.94	760.5	30.56	776.2	9.7	—12.4	76	W			1		0			0	0		Dr. H. Möhl.
Emden			30.37	771.5	25.5	— 3.6	92	E			1		0			0	0		Prof. Dr. Prestel
Frankfort on the Main	30.23	767.9	30.63	777.9	23.0	— 5.0	56	E			0		Y			0	0		Physical Society.
Friedrichshafen	29.08	738.7	30.65	778.5	18.7	— 7.4	86	NNW			2		10			0	0	Light fog	Chief Telegrapher Wilhelm.
Hamburg	30.46	773.7	30.53	775.5	22.3	— 5.4	96	ESE			4		0			0.012	0.3	Hazy	Capt. P. F. A. Hegerman.
Kiel	30.49	774.5	30.51	774.9	27.3	— 2.6	76	S			1		0			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.43	772.9	30.52	775.1	34.2	1.2	95	NW			3		10			Inap.	Inap.		Prof. E. Luther.
Köslin			30.61	777.5	23.2	— 4.9		Calm			0		8			0	0		H. Müller.
Leipsic Observatory	30.17	766.3	30.64	778.2	13.3	—10.4	100	ESE			1		0			0	0	Hazy	Prof. Dr. Bruhns, Privy Counselo
Magdeburg	30.35	771.0	30.59	776.9	19.8	6.8	73	SE			4		0			0	0		Dr. Assmann.
Memel	30.43	772.8	30.47	774.0	34.3	1.3	94	NW			4		10k						Reinbrecht & Issermann.
Munich (München)	28.65	727.8	30.55	775.9	10.4	—12.0	84	Calm			0		0			0	0	Foggy	Dr. C. Lang.
Neufahrwasser	30.58	776.0	30.57	776.4	31.5	— 0.3	92	W			1		9			0	0		A. Lothes.
Neustadt (Palatinate)	29.99	761.8	30.53	775.4	18.3	— 7.6		E			1					0	0		Reallehrer Dicknether.
Posen	30.32	770.2	30.64	778.2	24.3	— 4.3	100	W			1		10			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	30.00	762.1	30.61	777 6	16.9	— 8.4	100	Calm			0		10			0	0	Foggy	Imp. University Observatory.
Stuttgart	29.53	750.0	30.65	776.0	18.7	— 7.4	83	E			0		0			0	0		Prof. Dr. Schoder.
Weissenburg (Bavaria)	28.98	736.2	30.58	776.6	21.6	— 5.8	75	W			1		0			0	0		Reallehrer J. Hopfner
Wustrow	30.55	776.0	30.58	776.6	31.3	— 0.4	100	S			1		0			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.62	752.3	30.03	762.7	37.4	3.0		NE			4.0		10					Snowing	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	30.08	764.1	30.13	765.4	71.4	21.9	19	NNE	16	7.2			4	NNE		0	0	D. clouds	
Deesa	29.61	752.2	30.10	764.5	73.0	22.8	24	N	13	5.8			0			0	0	Blue sky	
Bombay	29.92	759.9	29.96	760.9	77.2	25.1	73	NNW	13	5.8			0			0	0	Blue sky	
Poona (Yarrowda)	28.10	713.6	29.96	760.8	79.8	26.6	24	NW	9	4.0			0			0	0	Blue sky	
Belgaum	27.40	695.8	29.94	760.6	74.7	23.7	44	E	8	3.6			3		E	0	0	D. clouds	
Lahore	29.31	744.5	30.09	764.4	58.6	14.8	40	Calm	0.8	0.4			2			0	0	Blue sky	
Roorkee	29.11	739.4	30.05	763.3	59.4	15.2	43	SW	2.2	1.0			0			0	0		
Agra	29.51	749.6	30.10	764.6	62.3	16.8	44	NW	4.2	1 9			0			0	0		
Nagpur	28.97	735.8	30.03	762.8	70.7	21.5	35	ENE	2.8	1.2			0			0	0	Blue sky	
Jubbulpore	28.66	727.9	30.08	764.1	60.5	15.8	61	Calm	0.8	0.4			0			0	0	Blue sky	
Lucknow	29.66	753.4	30.06	763.6	57.9	14.4	53	NW	2.2	1.0			0			0	0	Blue sky	
Allahabad	29.75	755.7	30.08	764.1	57.5	14.2	66	Calm	1.7	0.8			0			0	0	Blue sky	
Patna	29.80	758.4	30.05	763.2	66.8	19.3	43	W	1.3	0.6			4	W	W	0	0	D. clouds	
Hazaribagh	27.97	710.5	30.09	764.4	53.9	12.2	62	NW	6.1	2.7			4			0	0	D. clouds	
Cuttack	29.95	760.9	30.04	762.9	68.6	20.3	71	ENE	0.7	0.3			2			0	0	D clouds	
Calcutta (Alipore)	30.00	762.1	30.03	762.6	60.9	16.1	75	NNW	1	0.4			0			0	0	Blue sky	
Goalpara	29.59	751.6	29.99	761.8	68.8	20.4	65	Calm	0.8	0.4			0			0	0	Blue sky	
Chittagong	29.90	759.6	30.00	761 9	68.8	20.4	79	WNW	0.7	0.3			8			0	0	Misty	
Sibsagar	29.69	754.0	30.04	762.9	64.5	18.1	78	ENE	1.2	0.5			0			0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	30.02	762.5	30.46	773.7	41.9	5.5	81	N	0.7	0.3	.....	.....	0	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.80	759.2	30.45	773.3	32.0	0.0	89	SW	.....	.....	2	.....	1	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	30.34	770.7	30.46	773.7	30.2	— 1.0	73	NNW	3.1	1.4	.....	.....	0	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.48	748.7	30.46	773.7	28.6	— 1.9	79	E	3.1	1.4	.....	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	30.19	766.9	30.39	771.9	53.6	12.0	49	SW	2.5	1.1	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.43	722.2	30.44	773 2	43.7	6.5	29	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.38	771.7	30.43	773.0	36.7	2.6	72	NW	14.3	6.4	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	30.11	764.9	30.39	771.9	51.8	11.0	9	NE	.....	.....	2	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	30.30	769.5	30.39	771.8	50.7	10.4	40	NE	2.5	1.1	.....	.....	0	.....	.....	0	0	.....	Prof. P. Monte.
Rome	30.04	763.0	30.29	767.7	54.0	12.2	15	N	11.2	5.0	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari
Lecce	29.81	757.1	30.07	763.8	46.8	8.2	44	NNE	22.4	10.0	.....	.....	4	N	.....	0	0	.....	Prof. C. De Giorgi
Cosenza	29.23	742.4	30.17	766.2	47.3	8.5	70	NW	0.7	0.3	.....	.....	0	.....	.....	0.020	0.5	.....	Prof. D. Conti.
Cagliari	30.08	763.9	30.28	769.0	52.9	11.6	.....	NW	0.7	0.3	.....	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.95	760.8	30.22	767.6	52.0	11.1	53	NNW	9.4	4.2	.....	.....	4	NNW	.....	0	0	.....	Prof. G. Ciacciatore.
Syracuse	30.07	763.6	30.14	765.5	54.9	12.7	50	WNW	7.4	3.3	.....	.....	4	N	.....	0	0	.....	Prof. V.G. Guiliano.
SUB-SERIES.																			
Naples, S. R.	29.65	753.0	30.18	766.6	49.8	9.9	49	N	0.7	0.3	.....	.....	3	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of J. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.99	761.7	30.00	762.0	39.8	4.2	81	NNE	5.0	2.2	.....	4cs;c	.....	.....	.....	0	0	Clear.	K. Sasaki.
Nagasaki, I. M. Obs'y	29.84	757.9	30.05	763.3	43.4	6.3	78	NNE	3.3	1.5	.....	.....	10cs;8	.....	.....	0.015	0.38	Cloudy	S. Takehayashi.
Tokei, (Yeddo) Observatory.	29.63	752.6	29.70	754.4	41.7	5.4	67	NW	6.8	3.0	.....	0	0	.....	.....	0	0	Clear.	The Staff.
Wakayama	29.88	758.9	29.94	760.5	42.1	5.6	77	N	1.6	0.7	.....	.....	8s	.....	NW	0	0	Fair.	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	25.15	638.9	30.34	770.5	45.0	7.2	62	SW	.....	.....	1	.....	1	.....	W	0	0	Clear.	Prof. L. Perez.
Leon	24.56	623.7	30.37	771.5	51.1	10.6	78	N	.....	.....	1	1c	0	.....	.....	0	0	Hazy	Prof. M. Leal.
Mazatlan	29.82	757.3	30.08	764.0	66.0	18.9	80	E	.....	.....	1	9cs	0	SW	.....	0	0	Cloudy.	I. Guerrero, C. E.
Mexico, Central Observatory	23.17	588.6	30.37	771.4	44.6	7.0	67	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	43.3	6.3	60	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.52	597.5	30.53	775.5	40.1	4.5	47	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.30	617.1	30.44	773.1	47.1	8.4	59	E	.....	.....	1	3	0	W	.....	0	0	Clear	G. Barroeta, M. D.
Tlacotalpam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. M. Chazaro.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell
Zacatecas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. Castrillon.

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column; the instrumental correction —0.88 mm., or —0.035 inch, has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.44	773.2	30.44	773.2	24.6	— 4.1	.....	SSW	.....	.....	3	.....	.....	.....	.....	0	0	.....	
Groningen	30.38	771.7	30.44	773.1	25.3	— 3.7	.....	SE	.....	.....	1	.....	.....	.....	.....	0	0	.....	
Helder	30.37	771.4	30.37	771.4	24.8	— 4.0	.....	SSE	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.41	772.4	30.41	772.4	23.5	— 4.7	94	S	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	
Utrecht	30.39	771.9	30.44	773.1	24.6	— 4.1	79	SE	.....	.....	2	.....	0	.....	.....	0	0	Clear	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.39	772.0	30.45	773.4	34.9	1.6	82	SSE	4.0	1.8	.....	.....	1	.....	.....	0	0	.....	
Brönö	30.03	762.7	30.07	763.7	41.5	5.3	80	SW	27	12	.....	.....	10	.....	.....	0.079	2.0	.....	
Christiana	30.23	767.8	30.39	771.8	25.0	— 3.9	100	NW	0	0	.....	.....	10	.....	.....	0	0	Foggy	
Tromsö	29.74	755.4	29.78	756.5	36.3	2.4	85	SW	11	5	.....	.....	10	.....	.....	0.079	2.0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	30.23	767.9	30.43	772.8	55.8	13.2	73	ENE	18.6	8.3	.....	.....	3	.....	.....	0.079	2.0	.....	Dr. J. A. Sampaio.
Campo Major	29.32	744.7	30.35	770.9	51.4	10.8	54	ENE	8.7	3.9	.....	.....	0	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	29.82	757.4	29.91	759.6	66.4	19.1	88	ESE	9.8	4.4	.....	.....	9	.....	.....	0.390	9.9	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.98	761.4	30.35	771.0	50.7	10.4	62	NE	19.9	8.9	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.31 ?	769.8?	30.34 ?	770.6?	60.1	15.6	59	NE	25.5	11.4	.....	.....	4	W	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.																Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd't
Duque da Terceira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Rio Lima. Capt. S. C. da Silva Costa. Santiago, Cape Verd Ids	.....	.....	.....	.....	80.6	27.0	.....	NE	.....	.....	3	.....	8	.....	NE	2	NE	D. clouds.....	A. D. de Fouseca Sarurento.....
Sà da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Comd't.
Sado, Capt. J. A de Brito Capello, St. Paul de Loando	.....	.....	29.89	759.3	79.0	26.1	.....	NNE	.....	.....	3	.....	2	.....	NE	.....	.....	D. clouds.....	F. de Assis Camillo, jun., Q. M.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	.....	.....	30.27	768.8	68.0	20.0	.....	NE	.....	.....	2	.....	10	.....	.....	1	.....	Overcast.....	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sà da Bandeirà gives the barometer reduced tofreezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	29.65	753.1	29.67	753.6	24.4	— 4.2	93	WNW	22	10	.....	.....	10	.....	.....	.....	.....	Snow-drift..	Capt. Sseliwerstow.
Astrakhan	30.15	765.7	30.07	763.6	23.4	— 4.8	62	Calm	0	0	.....	.....	7s	.....	.....	.....	.....	Light clouds	Capt. Wisganow.
Barnaul	29.22	742.3	29.78	756.3	0.1	—17.7	80	SW	13	6	.....	.....	3	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Dorpat	30.03	762.8	30.29	769.3	32.2	0.1	96	W	7	3	.....	.....	0	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	28.49	723.6	29.53	750.0	4.8	—15.1	74	WSW	9	4	.....	.....	10	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	29.35	745.4	29.63	752.5	25.3	— 3.7	87	NW	4	2	.....	.....	9	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.47	748.5	30.13	765.4	33.1	0.6	82	NW	16	7	.....	.....	0	.....	.....	.....	.....	.....	Physical Cabinet.
Krotkowo*	29.20	741.7	29.69	754.2	25.2	— 3.8	81	NW	4	2	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	29.73	755.1	29.95	760.6	24.1	— 4.4	89	WSW	13	6	.....	.....	10	.....	.....	Blank	Blank	.....	Meteorological Obs.
Moscow	29.32	744.7	29.89	759.2	33.1	0.6	85	NNW	10.1	4.5	.....	.....	8s	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	27.84	707.2	30.52	775.2	—20.9	—29.4	82	Calm	0	0	.....	.....	2	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	30.16	766.0	30.23	767.8	32.0	0.0	78	Calm	0	0	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	29.76	755.8	30.00	762.1	25.9	— 3.4	86	NNE	7	3	.....	.....	10kn	.....	.....	.....	.....	.....	.....
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	30.13	765.4	30.28	769.0	28.8	— 1.8	66	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	30.13	765.3	30.15	765.7	28.8	— 1.8	90	NW	9	4	.....	c	1cs	.....	.....	.....	.....	Light clouds	Central Physical Obs.
Tashkend	28.39	721.2	29.99	761.8	45.7	7.6	83	NE	9	4	.....	.....	10	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.63	727.1	30.10	764.4	38.8	3.8	77	NW	4	2	.....	.....	5cs	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	30.08	764.0	30.54	775.7	21.2	— 6.0	100	WSW	16	7	.....	.....	10	.....	.....	.....	.....	Heavy clouds...	Astronomical Obs.
Wilna	29.95	760.7	30.39	772.0	33.3	0.7	90	NW	4	2	.....	.....	10	.....	.....	.....	.....	.....	Astronomical Obs.
Yenisiesk	28.89	733.8	29.19	741.3	21.0	— 6.1	89	E	13	6	.....	.....	10	.....	.....	.....	.....	Snowing.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	30.30	769.6	30.41	772.3	50.0	10	55	E	1.0	0.44	.....	.....	0	.....	.....	0	0	Clear.	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.34	770.5	30.39	772.0	54.7	12.6	55	SW	2.6	1.15	.....	0	0	.....	.....	0	0	Clear.	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.39	695.7	.....	.....	45.7	7.6	51	SE	1.1	0.50	.....	0	0	.....	.....	0	0	Clear.	Domingo Martin y Perez.
Madrid, Royal Observatory	28.14	714.8	30.46	773.6	44.8	7.1	69	NE	13.4	6.00	.....	0	0	.....	.....	0	0	Clear.	The Staff.
Murcia, Met. Obs'y	30.25	768.3	30.40	772.2	58.3	14.6	75	WSW	6.9	3.1	.....	0	0	.....	.....	0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.45	748.1	30.37	771.4	51.6	10.9	63	NE	0	0	.....	.....	0	.....	.....	0	0	Clear.	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.11	764.8	30.18	766.6	67.7	19.8	84	ENE	0	0	.....	0	1k;sk	.....	.....	0	0	Fair.....	Benito Vines S. J.
Manilla, Phillippine Islands	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.16	766.1	30.26	768.6	60.6	15.9	59	ESE	20.4	9.1	.....	2	4	E	E	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	30.04	763.0	30.13	765.3	75.6	24.2	87	SE	0	0	.....	5kn	3kn	SE	SE	0.030	0.75	Cloudy.....	Enrique Gadea, Chief Engr.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 850 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer, corrected for instrum'tal error and temperature.		Barometer, reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind. Direction.	Wind. Velocity		Wind. Force.	Clouds. Amount.		Clouds. Direction.		Rain-fall or melted snow in the past 24 hours.		Weather.	Observer.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0–10.	Up'er 0–10.	Lo'er 0–10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
Haparanda	29.91	759.8	29.95	760.8	32.0	0.0	.....	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	
Umea	30.05	763.3	30.10	764.6	33.4	0.8	89	NW	.....	.....	2	.....	8	.....	.....	0	0	.....	
Hernosand	30.11	764.7	30.16	766.0	33.1	0.6	89	SW	.....	.....	2	.....	8	.....	.....	0	0	.....	
Stockholm	30.22	767.5	30.30	772.0	30.2	— 1.0	96	WNW	.....	.....	2	.....	10	.....	.....	0	0	Foggy	
Wisby	30.31	769.8	30.37	771.3	32.7	0.4	89	W	.....	.....	4	.....	10	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	30.23	767.8	30.32	770.0	26.2	— 3.2	100	WSW	7.4	3.3	.....	.....	10	.....	.....	0.004	0.10	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	29.10	739.1	30.63	777.9	21.6	— 5.8	97	SSW	.....	.....	2	.....	10	.....	.....	0	0	Misty.....	The Observatory.
Zurich	28.87	733.4	30.64	778.2	19.0	— 7.2	100	E	.....	.....	1	.....	10	.....	.....	0	0	Foggy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, +11.6 mm.; Thermometer, —7.8 Cent.; Relative Humidity, +17 per cent.
NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.07	763.7	40.1	4.5	76	N	15	6.5	.....	.....	4	.....	N	0.213	5.4	Raining.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.97	761.3	43.2	6.2	.....	N	.....	.....	2	.....	2	.....	.....	0	0	Slightly cl'dy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.74	755.4	29.86	758.5	59.5	15.3	55	S	.....	.....	4	.....	8n	.....	S	2.43	61.7	Squally.....	Prof. C. V. A. van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	30.21	767.3	30.29	769.4	—18.3	—27.9	93	W	1	0.4	.....	0	0	.....	.....	0.03	0.8	Clear.	G. A. Blair.
Charlottetown, P. E. Island	30.06	763.5	30.11	764.8	— 6.9	—21.6	100	W	13	5.8	.....	.....	10s	.....	.....	0	0	Cloudy.....	H. J. Cundall, C. E.
Cornwall, Ontario	30.47	773.9	30.71	780.0	—31.0	—35.0	100	N	.....	.....	1	0	0	.....	.....	0.20	5.1	Clear.	James Smith, M. A.
Dalhousie, N. B	30.15	765.8	30.35	770.9	—22	—30.0	.....	NW	.....	.....	2	0	0	.....	.....	0.16	4.1	Clear.	H. A. Johnson.
Father Point, Quebec	30.46	773.7	30.49	774.4	—22.7	—30.4	100	NW	35	15.6	.....	.....	10s	.....	.....	0.08	2.0	Cloudy.....	J. McWilliams.
Fredericton, N. B	30.31	769.9	30.38	771.6	—16.9	—27.2	100	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear.	Prof. Harrison.
Fort Garry, Manitoba	29.35	745.5	30.32	770.1	—16.0	—26.7	100	SE	10	4.5	.....	.....	10n	.....	.....	0.08	2.0	Light snow.	James Stewart.
Granton, Ontario	29.29	744.0	30.54	775.7	1	—17.2	.....	E	.....	.....	1	.....	10n	.....	.....	0	0	Cloudy.....	James Grant.
Halifax, N. S	29.99	761.7	30.14	765.5	2.0	—16.7	80	NW	13	5.8	.....	0	0	.....	.....	0.07	1.8	Clear.	A. Allison.
Hamilton, Ontario	30.23	767.8	30.66	778.7	— 1.2	—18.4	94	E	.....	.....	3	10cs	0	W	.....	0.04	1.0	Cloudy.....	Geo. Dickson, B. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	30.30	769.6	30.71	780.0	—20.5	—29.2	73	NE	15	6.7	.....	2c	0	.....	.....	0.06	1.5	Fair.....	S. Woods, M. A.
Little Glace Bay, N. S	29.93	760.2	29.97	761.2	10 2	— 8 8	86	NE	19	8.5	.....	8k	0	NE	.....	0.30	7.6	Cloudy.....	C. H. Rigby.
Montreal, Quebec	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. H. McLeod, C. E.
Moose Factory, Ontario	30.61	777.5	30.65	778.5	—43.4	—41.9	.....	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear.	J. R. Nr'son.
Norwood	29.86	758.4	30.68	779.3	—17.8	—27.7	100	NE	5	2.2	.....	6c	0	.....	.....	0	0	Fair.....	Rev. T. F. Fotheringham, M. A.
Parry Sound, Ontario	29.82	757.4	30.66	778.7	—21.3	—29.6	61	Calm	0	0	.....	2cs	2ks	E	E	0	0	Fair.....	Rev. R. Mosley.
Peterboro, Ontario	29.70	754.4	30.60	777.2	—18.9	—28.3	100	NW	.....	.....	3	0	0	.....	.....	0	0	Hazy.....	J. F. Jeffers, M. A.
Port Dover, Ontario	29.77	756.1	30.56	776.2	1.8	—18.8	100	NE	15	6.7	.....	10ck	0	NE	.....	Inap.	Inap.	Fair.....	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.79	756.7	30.52	775.2	0.7	—17.4	82	NE	12	5.4	.....	5ck	0	NW	.....	0	0	Fair.....	M. Payne.
Quebec, Quebec	30.20	767.1	30.59	777.0	—27	—32.8	.....	NW	.....	.....	3	0	Haze	.....	.....	0.05	1.3	Clear.	Capt. Ashe, R. N.
Rockliffe, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. McIntyre.
St. Andrews, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Gove.
St. John, N. B	30.10	764.5	30.29	769.4	—12	—24.4	54	NW	14	6.3	.....	0	0	.....	.....	0	0	Clear.	G. Murdock, C. E.
Saugeen, Ontario	29.80	756.9	30.62	777.7	— 3.2	—19.6	90	E	10	4.5	.....	.....	10s	.....	.....	0.03	0.8	Overcast.....	K. Stewart.
Strayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	29.13	739.9	30.60	777.2	— 5.1	—20.6	96	SE	10	4.5	.....	0	4s	.....	.....	.....	.....	.....	C. J. MacGregor, M. A
Sydney, C. B	29.84	757.9	29.89	759.2	9.3	—12.6	81	N	12	5.4	.....	0	8ks	.....	.....	0	0	Fair.....	T. C. Hill, C. E.
Toronto, Ontario	30.22	767.6	30.67	779.0	— 8.4	—22.4	87	N	6	2.7	.....	0	8ks	.....	.....	0.14	3.6	Fair.....	Magnetic Observatory
Windsor, N. S	30.15	765.8	30.20	768.6	— 2.0	—18.0	100	N	10	4.5	.....	.....	10kns	.....	.....	0	0	Cloudy.....	Prof. John E. Oram, M. A.
Woodstock, Ontario	29.39	745.7	30.57	776.5	— 4.6	—20.3	90	N	10	4.5	.....	.....	10ks	.....	.....	0	0	Fair.....	Prof. J. Montgomery.
Yarmouth, N. S	30.18	766.0	30.25	768.3	5.8	—14.6	88	N	29	13.0	.....	.....	10n	.....	.....	0.25	6.3	Overcast.....	Lt. F. E. Wilmot, R. N
Sub-Series.																0.05	1.3	Snowing.....	
St. Johns, Newfoundland	29.28	743.7	29.55	750.6	17.0	— 8.3	100	W	.....	.....	.....	5k	8s	.....	.....	0.03	0.8	Stormy.....	John Delany.
St. Pierre, N. F., l'Hopital Maritime	.....	.....	29.65	753.0	15.8	— 9	.....	NW	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	The Commandant.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0–10.	CLOUDS. Amount. Up'er 0–10.	CLOUDS. Amount. Lo'er 0–10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	30.33	770.4	30.60	772.7	— 4	—20.0	65	N	12	5.4	.....	0	0	.....	.....	0	0	Clear.	
Alpena, Michigan	29.83	757.7	30.56	776.2	5	—15.0	75	NW	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	28.99	736.3	30.14	765.5	56	13.3	100	NW	2	0.9	.....	.....	Fog	.....	Calm	0	0	Dense fog	
Atlantic City, New Jersey	30.34	770.6	30.37	771.4	32	0.0	79	N	13	5.8	.....	5k	0	N	.....	0.05	1.3	Fair	
Augusta, Georgia	30.03	762.7	30.24	768.1	55	12.8	87	Calm	0	0	.....	0	5s;hz'	W;Calm		0	0	Hazy	
Baltimore, Maryland	30.30	769.6	30.36	771.1	35	1.7	61	E	8	3.6	.....	.....	10s	.....	Calm	0.04	1.0	Cloudy	
Barnegat, New Jersey	30.32	770.1	30.34	770.6	30	— 1.1	78	N	25	11.2	.....	8ck	2ks	W	NE.	0.05	1.3	Cloudy	
Bismarck, Dakota	28.00	711.2	29.85	758.2	— 6	—21.1	100	SE	12	5.4	.....	.....	10s	.....	Calm	0.10	2.5	Cloudy	
Boerne, Texas	28.53	724.6	29.82	757.4	63	17.2	100	SW	12	5.4	.....	.....	10s	.....	SW	0	0	Cloudy	
Boise City, Idaho	26.96	684.8	29.92	760.0	29.5	— 1.4	89	NW	4	1.8	.....	0	5s	.....	W	0	0	Fair	
Boston, Massachusetts	30.25	768.3	30.43	772.9	8	—13.3	55	NW	22	9.8	.....	0	2s	.....	N	0.03	0.8	Fair	
Brackettville, Texas	28.82	732.0	29.85	758.2	63	17.2	100	E	10	4.5	.....	.....	10n	.....	Calm	0.01	0.3	Light rain	
Breckenridge, Minnesota	28.99	736.3	30.10	764.5	0	—17.8	100	SE	21	9.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Brownsville, Texas	29.98	761.5	30.03	762.7	71	21.7	95	S	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Buffalo, New York	29.77	756.1	30.56	776 2	7	—13.9	77	E	10	4.5	.....	0	8s	.....	Calm	0.02	0.5	Fair	
Burkes, Arizona	.....	.....	.....	.....	59	15.0	54	Calm	.....	.....	0	.....	10s	.....	W	0.08	2.0	Cloudy	
Burlington, Vermont	30.34	770.6	30.69	779.5	—17	—27.2	100	NE	12	5.4	.....	.....	10n	.....	NE	0.03	0.8	Sleeting	
Cairo, Illinois	29.78	756.4	30.19	766.8	30	— 1.1	89	NE	3	1.3	.....	.....	Fog	.....	.....	Inap.	Inap.	Foggy	
Campo, California	27.43	696.7	30.00	762.0	43	6.1	92	SW	3	1.3	.....	.....	10s	.....	Calm	1.10	27.9	Cloudy	
Cape Hatteras, N. Carolina	30.18	766.6	30.18	766.6	54	12.2	93	NE	10	4.5	.....	8k	0	W	.....	0	0	Fair	
Cape Henry, Virginia	30.24	768 1	30.26	768.6	45	7.2	61	NE	23	10.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Cape Lookout, N. Carolina	30.15	765.8	30.16	766.1	55	12.8	93	NW	6	2.7	.....	5cs	0	W	.....	0	0	Fair	
Cape May, New Jersey	30.33	770.4	30.36	771.1	34	1.1	61	N	17	7.6	.....	.....	10ks	.....	N	0.07	1.8	Cloudy	
Castroville, Texas	29.21	741.9	29.90	759.4	67	19.4	89	S	6	2.7	.....	.....	10s	.....	S	0	0	Cloudy	
Cedar Keys, Florida	30.22	767.6	30.25	768.3	60	15.6	100	NW	4	1.8	.....	.....	Fog	.....	Calm	0	0	Dense fog	
Charleston, South Carolina	30.15	765.8	30.20	767.1	56	13.3	94	W	4	1.8	.....	.....	Fog	.....	.....	0	0	Foggy	
Charlotte, North Carolina	29.30	744.2	30.13	765.3	47	8.3	92	SW	1	0.4	.....	0	2s;sm	.....	Calm	0	0	Fair	
Chattanooga, Tennessee	29.34	745.2	30.15	765.8	54	12.2	93	W	2	0.9	.....	.....	Fog;sm	.....	Calm	0.13	3.3	Dense fog	
Cheyenne, Wyoming	23.51	597.1	29.45	748.0	41	5.0	19	SW	17	7.6	.....	0	0	.....	.....	0	0	Clear.	
Chicago, Illinois	29.52	749.8	30.26	768.6	24	— 4.4	74	E	14	6.3	.....	.....	10s	.....	Calm	0.10	2.5	Cloudy	
Cincinnati, Ohio	29.54	750.3	30.22	767.6	33	0.6	79	E	7	3.1	.....	.....	10ks	.....	E	0.02	0.5	Threatening	
Cleveland, Ohio	29.66	753.4	30.45	773.4	17	— 8.3	67	NE	12	5.4	.....	.....	10s	.....	NE	0.04	1.0	Cloudy	
Coleman City, Texas	28.16	715.3	29.83	757.7	49	9.4	85	Calm	0	0	.....	.....	10s	.....	SW	0	0	Cloudy	
Columbus, Ohio	29.39	746.5	30.29	769.4	26	— 3.3	75	E	12	5.4	.....	.....	10s	.....	E	0	0	Cloudy	
Concho, Texas	28.02	711.7	29.66	753.4	62	16.7	77	SE	.....	.....	2	.....	10ks	.....	Calm	0	0	Cloudy	
Corsicana, Texas	29.54	750.3	30.02	762.5	43	6.1	92	Calm	0	0	.....	.....	Fog	.....	.....	0	0	Foggy	
Davenport, Iowa	29.48	748.8	30.17	766.3	19	— 7.2	69	E	8	3.6	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Dayton, Washington T'y	.....	.....	.....	.....	6	—14.4	76	NE	.....	.....	1	.....	10s	.....	Calm	0.09	2.3	Cloudy	
Deadwood, Dakota	24.84	630.9	.....	.....	— 4	—20.0	65	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Decatur, Texas	28.75	730.2	29.96	761.0	35	1.7	70	SE	8	3.6	.....	.....	Fog	.....	.....	0	0	Foggy	
Denison, Texas	29.20	741.7	30.03	762 7	34	1.1	79	E	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Denver, Colorado	24.30	617.2	29.52	749.8	42	5.6	58	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Des Moines, Iowa	29.13	739.9	30.08	764.0	14	—10.0	82	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Detroit, Michigan	29.70	754.4	30.44	773 2	14	—10.0	82	E	16	7.2	.....	.....	10s	.....	Calm	0.07	1.8	Cloudy	
Dodge City, Kansas	27.07	687.6	29.43	747.5	21	— 6.1	57	SE	6	2.7	.....	0	5s	.....	NW	0.12	3.0	Fair	
Dubuque, Iowa	29.46	748.2	30.23	767.8	13	—10.6	81	E	6	2.7	.....	.....	10s	.....	Calm	0	0	Threatening	
Duluth, Minnesota	29.60	751.8	30.36	771.1	5	—15.0	75	NE	16	7.2	.....	.....	10s	.....	NE	0	0	Cloudy	
Eagle Pass, Texas	29.23	742.4	29.95	760.7	63	17.2	100	E	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Eastport, Maine	30.28	769.1	30.35	770.9	— 8	—22.2	79	NW	24	10.7	.....	5k	2s	NW	NW	0.09	2.3	Fair	
Edinburg, Texas	.....	.....	.....	.....	69	20.6	90	S	.....	.....	4	.....	10s	.....	Calm	0	0	Cloudy	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.69	754.1	30.48	774.2	13	—10.6	81	E	11	4.9	.....	0	5ks	.....	.....	0.07	1.8	Fair	
Escanaba, Michigan	29.72	754.9	30.47	773.9	2	—16.7	79	NE	12	5.4	.....	.....	10s	.....	N	0	0	Cloudy	
Florence, Arizona	28.48	723.4	30.08	764.0	54	12.2	93	S	12	5.4	.....	0	5ks	.....	.....	0.38	9.7	Fair	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.79	705.8	29.84	757.9	— 8	—22.2	100	SE	1	0.4	.....	.....	10s	.....	Calm	0.18	4.6	Cloudy	
Fort Custer, Montana	26.61	675.9	.....	.....	— 5	—20.6	81	N	3	1.3	.....	.....	10n	.....	Calm	0.05	1.3	Light snow.	
Fort Davis, Texas	25.14	638.5	30.10	764.5	59	15.0	38	SW	8	3.6	.....	0	8s	.....	Calm	0	0	Fair	
Fort Gibson, Indian Ter	29.47	748.5	30.03	762.7	30	— 1.1	89	Calm	0	0	.....	.....	10s	.....	Calm	0.04	1.0	Cloudy	
Fort Grant, Arizona	25.17	639.3	29.97	761.2	44	6.7	92	SE	6	2.7	.....	.....	10n	.....	Calm	0.66	16.8	Light rain	
Fort Griffin, Texas	28.66	728.0	29.96	761.0	41	5.0	57	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Keogh, Montana	26.99	685.5	.....	.....	— 6	—21.1	61	NW	12	5.4	.....	0	2s	.....	Calm	0.01	0.3	Fair	
Fort McKavett, Texas	27.69	703.3	29.56	750.8	61	16.1	71	S	16	7.2	.....	.....	10s	.....	S	0	0	Cloudy	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.71	729.2	29.86	758.4	31	— 0.6	79	S	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Stevenson, Dakota	28.02	711.7	.....	.....	— 9	—22.8	100	NE	14	6.3	.....	.....	10n	.....	NE	0.14	3.6	Heavy snow	
Fort Verde, Arizona	.....	.....	.....	.....	52	11.1	86	SW	.....	.....	2	.....	10n	.....	SW	0.50	12.7	Light rain	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.11	714.0	29.63	752.6	62	16.7	88	S	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Galveston, Texas	30.06	763.5	30.10	764.5	65	18.3	94	S	5	2.2	.....	.....	Fog	.....	Calm	0.05	1.3	Foggy	
Graham, Texas	28.86	733.0	29.96	761.0	32	0.0	89	S	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Grand Haven, Michigan	29.04	752.8	30.37	771.4	9	—12.8	78	E	12	5.4	.....	0	5s	.....	Calm	0.02	0.5	Fair	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.02	737.1	29.99	761.7	34	1.1	79	SE	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Indianapolis, Indiana	29.84	745.2	30.16	766.1	30	— 1.1	68	NE	8	3.6	.....	.....	10s	.....	NE	0	0	Cloudy	
Indianola, Texas	30.04	763.0	30.07	763.8	65	18.3	95	S	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Jacksboro, Texas	28.75	730.2	29.92	760.0	36	2.2	80	N	10	4.5	.....	0	5s	.....	N	0	0	Fair	
Jacksonville, Florida	30.21	767.3	30.24	768.1	68	20.0	95	W	3	1.3	.....	.....	Fog	.....	Calm	0	0	Foggy	
Keokuk, Iowa	29.40	746.7	30.07	763.8	18	— 7.8	76	E	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy.	
Key West, Florida	30.15	765.8	30.19	766.8	72	22.2	80	NE	12	5.4	.....	2k	0	NE	.....	0	0	Fair	
Kittyhawk, North Carolina	30.23	767.8	30.25	768.3	50	10.0	86	NE	36	16.1	.....	.....	10s	.....	NE	0	0	Cloudy	
Knoxville, Tennessee	29.14	740.1	30.15	765.8	53	11.7	97	Calm	0	0	.....	.....	Fog	.....	Calm	0.04	1.0	Dense fog	
La Crosse, Wisconsin	29.40	746.7	30.20	767.1	10	—12.2	58	E	1	0.4	.....	.....	10n	.....	Calm	0	0	Cloudy	
La Mesilla, New Mexico	26.03	661.2	30.18	766.6	45	7.2	84	SE	1	0.4	.....	0	2s	.....	Calm	0.32	8.1	Fair	
Laredo, Texas	29.56	750.8	29.90	759.4	60	15.6	88	S	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Leavenworth, Kansas	29.12	739.6	30.02	762.5	18	— 7.8	68	SE	6	2.7	.....	.....	10s	.....	.....	0	0	Cloudy	
Lewiston, Idaho	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Little Rock, Arkansas	29.76	755.9	30.13	765.3	42	5.6	91	E	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Los Angeles, California	29.75	755.6	30.10	764.5	42.5	5.8	79	NW	3	1.3	.....	0	0	.....	.....	2.91	73.9	Clear	
Louisville, Kentucky	29.54	750.3	30.12	765.0	33	0.6	79	NE	7	3.1	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Lynchburg, Virginia	29.56	750.8	30.26	768.6	44	6.7	75	E	8	3.6	.....	.....	10s	.....	E	0	0	Threatening	
Madison, Wisconsin	29.18	741.1	30.27	768.8	10	—12.2	79	NE	11	4.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Marquette, Michigan	29.70	754.4	30.49	774.4	7	—13.9	77	S	8	3.6	.....	.....	10s	.....	SW	0.17	4.3	Cloudy	
Mason, Texas	28.30	718.8	30.01	762.2	66	18.9	84	SW	14	6.3	.....	.....	10s	.....	SW	0	0	Cloudy	
Memphis, Tennessee	29.79	756.7	30.14	765.5	37	2.8	100	N	2	0.9	.....	.....	10s;fog	.....	Calm	0.02	0.5	Foggy	
Milwaukee, Wisconsin	29.50	749.3	30.29	769.4	20	— 6.7	85	E	24	10.7	.....	.....	10n	.....	Calm	0.07	1.8	Light snow.	

UNITED STATES SERIES—CONTINUED.

STATIONS.	BAROMETER. Corrected for instrumental error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	Lo'er 0—10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER.
Mobile, Alabama	30.15	765.8	30.19	766.8	61	16.1	100	S	2	0.9	.....	.....	Fog	.....	.....	0	0	Foggy	
Montgomery, Alabama	29.96	761.0	30.19	766.8	58	14.4	100	SE	3	1.3	.....	.....	Fog	.....	Calm	0.02	0.5	Dense fog	
Morgantown, West Virginia	29.26	743.2	30.31	769.9	31	— 0.6	69	NE	8	3.6	.....	.....	10s	.....	Calm	0.42	10.7	Cloudy	
Mt. Washington, N. H.	23 32	592.3	29.68	753.9	—23	—30.6	58	NW	54	24.1	.....	0	2s	.....	Calm	0.07	1.8	Clear	
Nashville, Tennessee	29.56	750.8	30.11	764.8	47	8.3	85	NW	2	0.9	.....	.....	10s	.....	Calm	0.47	11.9	Cloudy	
New Haven, Connecticut	30.29	769.4	30.42	772.7	16	— 8.9	83	N	16	7.2	.....	2cs	0	W	.....	0	0	Clear	
New London, Connecticut	30.34	770.6	30.39	771.9	19	— 7.2	69	N	12	5.4	.....	1k	0	NW	.....	0.02	0.5	Clear	
New Orleans, Louisiana	30.12	765.0	30.18	766.6	65	18.3	94	SW	3	1.3	.....	.....	Fog	.....	Calm	0	0	Foggy	
Newport, Rhode Island	30.35	770.9	30.41	772.4	15	— 9.4	65	N	16	6.7	.....	5c	0	N	.....	0	0	Fair	
New River, North Carolina	.....	.....	.....	.....	54	12.2	93	NW	.....	.....	1	2c	2s	Calm	Calm	.....	.....	Fair	
New York, New York	30.21	767.3	30.40	772.1	22	— 5.6	72	N	12	5.4	.....	5c	0	Calm	.....	0.02	0.5	Fair	
Norfolk, Virginia	30.21	767.3	30.27	768.8	45	7.2	68	NE	12	5.4	.....	.....	10s	.....	NE	0.03	0.8	Cloudy	
North Platte, Nebraska	26.70	678.2	29.43	747.5	8	—13.3	78	SE	22	9.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Olympia, Washington Ter.	29.67	753.6	29.71	754.6	28.0	— 2.2	88	NE	6	2.7	.....	.....	10n	.....	Calm	0.01	0.3	Light snow	
Omaha, Nebraska	28.77	730.7	29.96	761.0	7	—13.9	77	E	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Oswego, New York	30.29	769.4	30.66	778.7	— 6	—21.1	61	NE	13	5.8	.....	.....	10n	.....	Calm	0.13	3.3	Light snow	
Pembina, Dakota	29.25	742.9	30.20	767.1	—14	—25.6	100	SE	10	4.5	.....	.....	10n	.....	Calm	0.04	1.0	Light snow	
Pensacola, Florida	30.20	767.1	30.23	767.8	63	17.2	100	W	3	1.3	.....	Haze	Fog	Calm	Calm	0	0	Foggy	
Philadelphia, Pennsylvania	30.34	770.6	30.39	771.9	26	— 3.3	88	N	14	6.3	.....	.....	10s	.....	N	0.05	1.3	Cloudy	
Phœnix, Arizona	28.79	731.3	30.58	776.7	56	13.3	94	Calm	0	0	.....	.....	10s	.....	Calm	0.15	3.8	Cloudy	
Pike's Peak, Colorado	17.31	439.7	29.52	749.5	6	—14.4	52	NW	10	4.5	.....	.....	10n	.....	Calm	0.34	8.6	Light snow	
Pilot Point, Texas	29.20	741.7	30.05	763.3	39	3.9	81	S	.....	.....	.....	.....	Fog	.....	.....	0	0	Foggy	
Pioche, Nevada	.....	.....	.....	.....	30	— 1.1	68	W	7	3.1	.....	0	0	.....	.....	0.37	9.4	Clear	
Pittsburg, Pennsylvania	29.52	749.8	30.38	771.6	27	— 2.8	76	NE	2	0.9	.....	.....	10s	.....	NE	0.01	0.3	Cloudy	
Port Huron, Michigan	29.76	755.9	30 51	774.9	6	—14.4	75	E	14	6.3	.....	.....	10s	.....	Calm	0.21	5.3	Cloudy	
Portland, Maine	30.37	771.4	30.43	772.9	2	—16.7	72	N	12	5.4	.....	0	0	.....	.....	0.03	0.8	Clear	
Portland, Oregon	29.64	752.8	29.71	754.6	28	— 2.2	77	E	9	4.0	.....	.....	10n	.....	.....	0.43	10.9	Heavy snow	
Portsmouth, North Carolina	.....	.....	.....	.....	54	12.2	87	NE	13	5.8	.....	2cs	0	Calm	.....	0	0	Fair	
Prescott, Arizona	24.63	625.6	29.09	761.7	42	5.6	66	S	.....	.....	4	.....	10ks	.....	S	0.84	21.3	Threatening	
Punta Rassa, Florida	30.19	766.8	30.21	767.3	62	16.7	88	N	5	2.2	.....	1k	0	N	.....	0	0	Clear	
Red Bluff, California	29.68	753 9	30.06	763.5	39	3.9	86	S	8	3.6	.....	2k	0	Calm	.....	0.01	0.3	Fair	
Rio Grande City, Texas	29.81	757.2	30.03	762.7	67	19.4	95	SE	10	4.5	.....	5c	0	Calm	.....	0	0	Fair	
Rochester, New York	29.89	759.2	30.59	777.0	5	—15.0	87	E	8	3.6	.....	.....	10n	.....	Calm	0.03	0.8	Light snow	
Roseburg, Oregon	29.23	742.4	29.81	757.2	35	1.7	80	SW	8	3.6	.....	.....	10n	.....	Calm	Inap.	Inap.	Light snow	
Sacramento, California	30.03	762.7	30.11	764.8	36.5	2.5	90	S	7	3.1	.....	0	0	.....	.....	0.11	2.8	Clear	
St. Louis, Missouri	29.53	750.0	30.14	765.5	24	— 4.4	87	E	6	2.7	.....	.....	10n	.....	.....	0.02	0.5	Light snow	
St. Paul, Minnesota	29.24	742.7	30.16	766.1	5	—15.0	75	E	12	5.4	.....	.....	10s	.....	E	0	0	Cloudy	
Salt Lake City, Utah	25.35	643.9	29.68	753.9	29	— 1.7	78	NW	7	3.1	.....	.....	10n	.....	Calm	0 18	4.6	Light snow	
San Antonio, Texas	29.33	745.0	29.90	759.4	68	20.0	96	S	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
San Diego, California	30.05	763.3	30.12	765.0	51	10.6	93	NW	1	0.4	.....	0	1ks	.....	SW	1.79	45.5	Clear	
Sandusky, Ohio	29.65	753.1	30.38	771.6	25	— 3.9	87	E	22	9.8	.....	.....	10s	.....	E	0.02	0.5	Cloudy	
Sandy Hook, New Jersey	30.36	771.1	30.40	772.1	25	— 3.9	75	N	34	15.2	.....	5ck	0	N	.....	0.01	0.3	Fair	
San Francisco, California	30.04	763.0	30.11	764.8	44	6.7	84	Calm	0	0	.....	0	0	.....	.....	0.07	1.8	Clear	
Santa Fé, New Mexico	23.20	589.3	29.74	755.4	22	— 5.6	72	Calm	0	0	.....	.....	10n	.....	SE	0.02	0.5	Light rain	
Savannah, Georgia	30.13	765.3	30.23	767.8	57	13.9	94	W	1	0.4	.....	.....	10s	.....	NW	0	0	Cloudy	
Shreveport, Louisiana	29.85	758.2	30.07	763.8	52	11.1	79	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.14	765.5	30.18	766.6	55	12.8	93	W	4	1.8	.....	1k	1s	SW	Calm	0	0	Clear	
Socorro, New Mexico	25.33	643.4	29.40	746.7	45	7.2	39	SW	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois	29.43	747.5	30.15	765.8	24	— 4.4	74	E	10	4.5	.....	.....	10s	.....	.....	0.01	0.3	Cloudy	
Springfield, Massachusetts	30.32	770.1	30.47	773.9	7	—13.9	54	NE	10	4.5	.....	.....	0	.....	.....	0	0	Clear	
Stockton, Texas	26.98	685.3	29.98	761.5	45	7.2	11	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	30.32	770.1	30.38	771.6	9	—12.8	78	NW	27	12.1	.....	8k	0	NW	.....	0.04	1.0	Cloudy	
Toledo, Ohio	29.65	753.1	30.40	772.1	18	— 7.8	68	N	24	10.7	.....	.....	10s	.....	.....	0.02	0.5	Cloudy	
Tucson, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon	29.44	747.8	29.97	761.2	13.0	—10.6	90	E	4	1.8	.....	.....	10n	.....	NE	0.06	1.5	Light snow	
Uvalde, Texas	29.08	738.9	29.89	759.2	65	18.3	80	E	3	1.3	.....	.....	10s	.....	E	0	0	Cloudy	
Vicksburg, Mississippi	29.88	758.9	30.14	765.5	64	17.8	89	SW	4	1.8	.....	.....	10s	.....	SW	Inap.	Inap.	Cloudy	
Virginia City, Montana	23.70	602.0	29.18	741.1	5	—15.0	50	Calm	0	0	.....	.....	10s	.....	Calm	0.06	1.5	Cloudy	
Visalia, California	29.70	754.4	30.08	764.0	36	2.2	95	NW	4	1.8	.....	0	0	.....	.....	0.35	8.9	Clear	
Washington, D. C.	30.23	767.8	30.35	770.9	37	2.8	63	NE	6	2.7	.....	.....	10s;fg	.....	N;calm	0.01	0.3	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	49	9.4	100	W	.....	.....	1	.....	10s	.....	W	0.48	12.2	Cloudy	
Wilmington, North Carolina	30.11	764.8	30.19	766.8	47	8.3	92	W	2	0.9	.....	.....	Fog	.....	Calm	0	0	Foggy	
Winnemucca, Nevada	25.39	644.9	29.75	755.6	27	— 2.8	88	W	16	7.2	.....	.....	10n	.....	.....	0.10	2.5	Light snow	
Wood's Holl, Massachusetts	30.33	770.4	30.37	771.4	14	—10.0	81	N	18	8.0	.....	8cs	0	SW	.....	0	0	Cloudy	
Yankton, Dakota	28.64	727.4	30.00	763.5	2	—16.7	72	E	12	5.4	.....	.....	10s	.....	E	Inap.	Inap.	Cloudy	
Yuma, Arizona	29.83	757.7	29.98	761.5	54	12.2	93	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	30.09	764.3	30.14	765.5	72	22.2	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.16	766.1	30.17	766.3	73	22.8	82	Calm	0	0	.....	.....	2cs	.....	.....	.....	.....	Fair	James Gall.
Navassa, W. I.	29.98	761.5	30.06	763.5	76	24.4	71	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.05	763.3	30.05	763.3	79	26.1	82	E	.....	.....	2	8ks	10n	E	.....	0.410	10.41	Raining	C. J. Hering.
Santiago de Cuba, W. I.	30.09	764.3	30.12	765.0	73	22.8	76	N	8.4	3.8	.....	0	0	.....	.....	0	0	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	29.93	760.2	29.99	761.7	—39.0	—39.4	.....	NW	15	6.7	.....	2k	4s	W	W	0	0	Cloudy	J. Fortescue & W. Wood
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,600 (?) ft., or 792 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m. Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,806 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.37 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.19‡	766.8‡	.....	.....	62	16.7	88	SW	1	0.4	.....	.....	Fog	.....	SW	0.07	1.8	.....	.....	Threatening	
Navy Yard, Portsmouth, N.H.	30.67‡	779.0‡	.....	.....	0	—17.8	100	NE	0	0	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Adams,																					
Mare I'd., Navy Yard, Cal.	30.14‡	765.5‡	.....	.....	49	9.4	93	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Alaska,																					
Iquique, Peru .....*	30.03‡	762.7‡	.....	.....	65	18.3	89	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	.....	.....	D. clouds	
Colorado,																					
New York, . Y.	30.35‡	770.9‡	.....	.....	22	-- 5.6	100	NW	4	1.8	.....	.....	10	.....	.....	0	0	.....	.....	Overcast	
Constitution,																					
N. 22° 13′, W. 55° 59′	30.18‡	766.6‡	.....	.....	75	23.9	68	E	.....	.....	4	.....	3	.....	E	.....	.....	Smooth	ESE	Clear	
Enterprise.																					
Smyrna, Turkey	29.86‡	758.4‡	.....	.....	44	6.7	68	NE	.....	.....	6	.....	8	.....	NE	.....	.....	Rough	.....	Cloudy	
Franklin,																					
Off Navy Yard, Norfolk, Va.	30.29‡	769.4‡	.....	.....	45	7.2	76	NE	12	5.4	.....	.....	10	.....	NE	0	0	.....	.....	Cloudy	
Independence,																					
Mare I'd, Navy Yard, Cal.	30.19‡	764.5‡	.....	.....	54	12.2	80	Calm	0	0	.....	.....	0	.....	.....	0.220	5.59	.....	.....	Clear.	
Kearsarge,																					
Kingston, Jamaica, W. I.	30.08‡	764.0‡	.....	.....	76	24.4	77	Calm	.....	.....	0	.....	1	.....	N	0	0	.....	.....	Clear	
Lackawana,																					
Honolulu, Sandwich Id's†	30.00‡	762.0‡	.....	.....	72	22.2	80	Calm	.....	.....	0	.....	2	.....	NE	.....	.....	Smooth	.....	Fair	
Marion,																					
N. 37° 23′, W. 55° 25′	30.02‡	762.5‡	.....	.....	66	18.9	84	S	.....	.....	6	.....	8	.....	SW	Heavy	Heavy	Mod'ate	SW	Cloudy	
Michigan,																					
Erie, Pa.	30.30‡	769.6‡	.....	.....	13	—10.6	81	ESE	.....	.....	1	.....	2	.....	S	.....	.....	.....	.....	Fair	
Monocacy,																					
Shanghai, China.	30.36‡	771.1‡	.....	.....	32	0.0	82	NNW	.....	.....	0–1	.....	2	.....	NW	.....	.....	.....	.....	Clear	
New Hampshire,																					
Port Royal, S. C.	30.21‡	767.3‡	.....	.....	57	13.9	100	NW	3	1.3	.....	.....	.....	.....	.....	0	0	.....	.....	Dense fog	
Nipsic,																					
Norfolk, Va.	30.26‡	768.6‡	.....	.....	45	7.2	84	NE	.....	.....	4	.....	10	.....	ENE	.....	.....	.....	.....	Overcast	
Onward,																					
Callao, Peru .....†	29.97‡	761.2‡	.....	.....	66	18.9	89	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Mod'ate smooth	W	Foggy	
Palos,																					
Tientsin, China.	30.29‡	769.4‡	.....	.....	33	0.6	79	WSW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Passaic,																					
Washington, D. C.	30.32‡	770.1‡	.....	.....	37	2.8	81	NE	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Cloudy	
Pensacola,																					
Callao, Peru	29.99‡	761.7‡	.....	.....	65	18.3	94	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Smooth	.....	Overcast	
Powhatan,																					
Navy Yard, Brooklyn, N.Y.	30.40‡	772.1‡	.....	.....	31	-- 0.6	58	NNW	.....	.....	4	.....	8	.....	N	0	0	.....	.....	Pleasant	
Quinnebaug,																					
Villafranca, France.	30.36‡	771.1‡	.....	.....	58	14.4	53	SSE	.....	.....	1	.....	0?	.....	.....	.....	.....	.....	.....	Cloudy?	
Ranger,																					
Honolulu, Sandwich Ilds.	29.98‡	761.5‡	.....	.....	73	22.8	100	Calm	.....	.....	0	.....	2	.....	.....	.....	.....	.....	.....	Fair	
Richmond,																					
N. 14° 59′, E. 120° 46′	29.94‡	760.5‡	.....	.....	80	26.7	78	N	.....	.....	2	.....	10	.....	S	.....	.....	Mod'ate	NE	Cloudy	
Rio Bravo,																					
Brownsville, Texas. †	30.16‡	766.1‡	.....	.....	70	21.1	100	SE	4	1.8	.....	.....	2	.....	SE	0.01	0.3	.....	.....	Fair	
Santee.																					
Annapolis, Md	30.35‡	770.9‡	.....	.....	35	1.7	70	NE	.....	.....	2	.....	10	.....	NW	0.01	0.3	.....	.....	Overcast	
Shenandoah,																					
Montivideo, Uruguay.	29.89‡	759.2‡	.....	.....	79	26.1	43	NNW	.....	.....	6	.....	0	.....	.....	.....	.....	Mod'ate	.....	Clear	
St. Louis,																					
League Island, Pa.	30.37‡	771.4‡	.....	.....	29	— 1.7	.....	NNE	17	7.6	.....	.....	10	.....	NW	0.06	1.5	.....	.....	Cloudy	
Tennessee,																					
Navy Yard, Brooklyn, N.Y.	30.41‡	772.4‡	.....	.....	42	5.6	83	NNW	.....	.....	3–5	.....	5	.....	.....	.....	.....	.....	.....	Fair	
Tuscarora,																					
N. 14° 55′, W. 93° 11′	29.93‡	760.2‡	.....	.....	81	27.2	83	NNE	.....	.....	2	.....	2	.....	Calm	0	0	Smooth	.....	Clear	
Vandalia.																					
Navy Yard, Brooklyn, N.Y.	30.43‡	772.9‡	.....	.....	29	— 1.7	89	NNW	.....	.....	4	.....	8	.....	W	.....	.....	.....	.....	Fair	
Wabash,																					
Boston, Mass.	30.37‡	771.4‡	.....	.....	7	—13.9	100	NW	20	8.9	.....	.....	2	.....	.....	0	0	.....	.....	Fair	
Wachusett,																					
S. 25°, W. 45°†	30.49‡	774.4‡	.....	.....	73	22.8	76	SSE	.....	.....	3	.....	0	.....	.....	.....	.....	Long	SE	Clear	
Wyoming,																					
Tarragona, Spain	30.44‡	773.2‡	.....	.....	54	12.2	67	Calm	.....	.....	0	.....	2	.....	.....	.....	.....	Smooth	.....	Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		CHARACTER.	DIRECTION FROM—		
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S. S. Samaria																			Capt. T. Roberts.

NOTE—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama																			Capt. Seabury.
S. S. City of Peking																			Capt. Berry.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio, Capt. Maury																			L. B. Walls.
S. S. Colima																			Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota, Capt. H. G. Morse																			W. House & R. Lawless.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin																			F. W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Sydney, N. S. W.		29.92‡	760 0‡				S			3				W				Cloudy	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to to 12; for the Brittanic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer N. 40° 33′, E. 179° 33′		30.13‡	765.3‡	45	7.2	84	NNW			6		8		N		Heavy	NNW	Squally	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson N. 38° 06′, E. 165° 45′		29.60‡	751.8‡	60	15.6		SSW			4		k		SW	Considerable	Rough	S	D. clouds	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undutsch.
S. S. Leipzig, Capt. F. Pfeiffer																			S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 40° 01′, W. 66° 32′		30.16‡	766.1‡				N			5		10		SW		Long	WNW	Raining	Capt. G. Meyer

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa.		30.181	766 6‡	29	— 1.7		SW			5	9		SW		Mod'te		Cloudy	Capt. R. W. Sargent.
S. S. Ohio																		Wm. Shackford, Chief Officer	
S. S. Pennsylvania																		Capt. Harris.	

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents.																			
S. S. Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland, N. 46° 40′, W. 32° 29′†		29 97‡	761.2‡	45	7.2		SW	10	4.5			10		SW		Rough	Con-fused	Raining	Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

NOTE.—The originals give the barometer as read off; do not distinguish between upper and lower clouds; sea-swell in general terms, as published. ‡Corrections for temperature, instrumental error and elevation applied at this office.

ALLAN LINE MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian, N. 54° 08′, W. 18° 23′		29.69‡	754.1‡	49	9.4		W			7		8		WNW		Rough	WSW	Cloudy	J. Powell, 4th Officer.
S. S. Peruvian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. *The error of the barometer is not known. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES—Miscellaneous.																			
Furnished by the co-operation of the Observers named.																			
Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Barkentine "Carrie Heckle" N. 16° 0′, W. 33° 26′	*	29.95‡	760.7‡	77	25.0		E			4		2		E	0	Long	NNE	Fair	B. F. Woodbury.
Brigantine "George" of Halifax																			N. B. Foss.
Schooner Harry and Fred																			Capt. George Gardner.
Haytian																			
§ Iron Cross																			Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time. *Instrumental error not known.

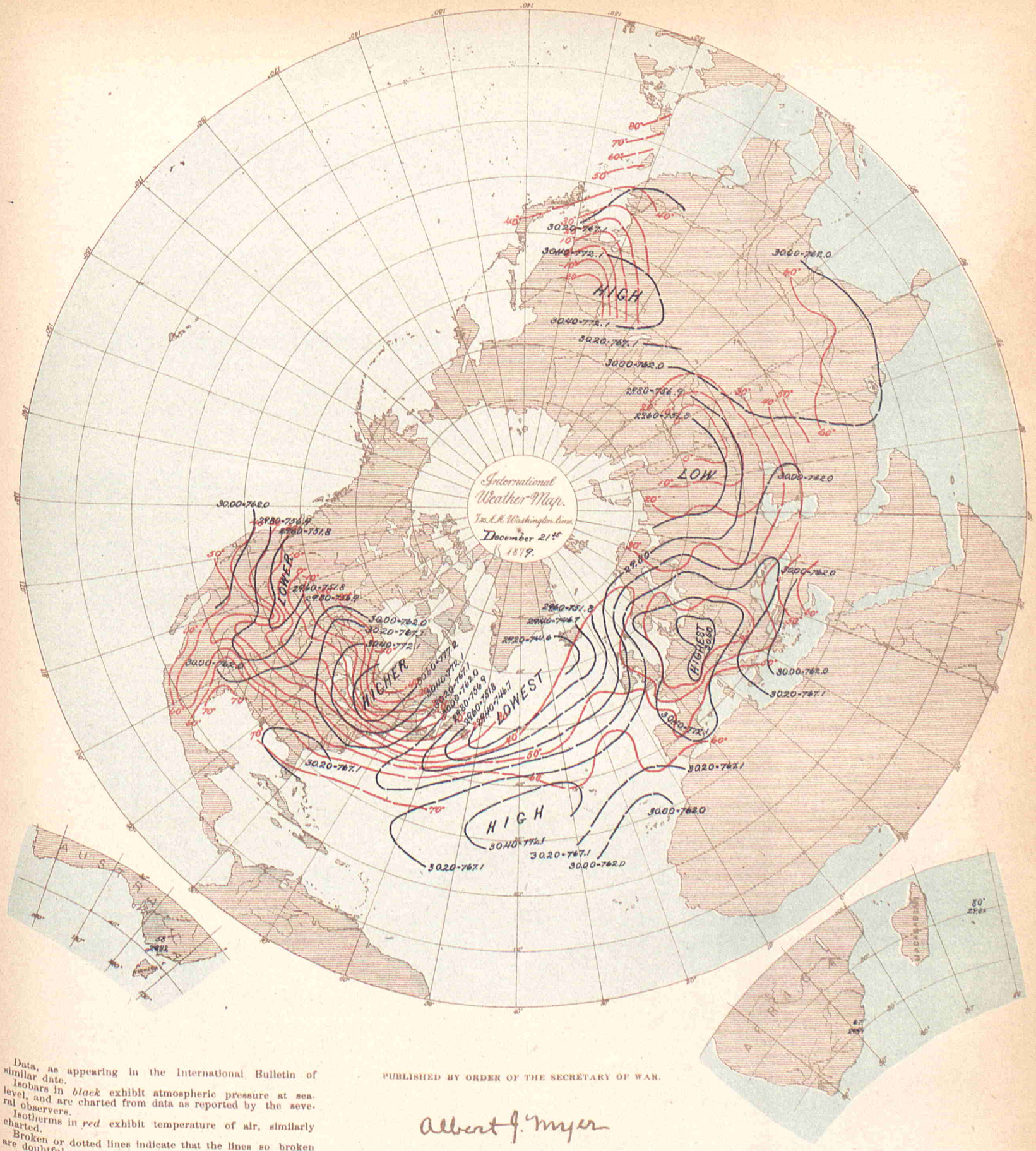
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 22, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE TOWN, C. G. H. mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Reduced to sea-level. Inches.	Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.28	769.1	62.1	16.7	73	SE			1		5			0	0	Cloudy	
Nemours			30.37	771.4	60.1	15.6	76	NNW			1		0			0	0	Clear.	Kesxuche.
Algiers			30.49	774.4	56.1	13.4	75	NE			1		0			0	0	Clear	Touriliere.
La Calle			30.49	773.7	56.7	13.7	60	ENE			5		5			0	0	Cloudy	Foufrede.
Tunis																			Jacques
Sfax			30.49	772.2															Gau.
Saida																			Herbin.
Tebessa			30.47	773.8	42.9	5.9	65	N			2		8			0.035	0.9	Very cloudy	Watrin.
Geriville					50.9	10.5	37	Calm			0		0			0	0	Clear	Brugniuax.
Laghouat			30.52	775.1	48.6	9.2	40	SE			2		0			0	0	Clear.	Bertrand.
Biskra			30.49	774.4	61.2	16.2	50	NW			3		0			0	0	Clear	Chanvaux.

NOTE.—The originals give the amount of cloudiness by the scale 0–4; no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	30.03	762.7	30.03	778.0	21.7	— 5.7	80	S			1		0			0	0		Prof. Ivan Stoxir.
Cracow, I. R. Observatory	29.79	755.9	30.00	777.3	17.6	— 8.0	85	W	0	0			0			0	0		Dr. Wierzbicki.
Eperies	29.63	752.7	30.59	776.9	24.4	— 4.2	77	Calm			0		0			0	0		Julius Mikolik.
Gratz	29.26	743.2	30.61	777.4	28.0	— 2.2	71	S			1		0			0	0		Andreas Rospini.
Hermannstadt	29.07	738.4	30.65	778.5	17.4	— 8.1	100	N			1		10			0	0	Foggy	Prof. A. Gottschling.
Kremsmünster	29.21	741.8	30.07	779.1	20.8	— 6.2	87	Calm			0		0			0	0		Prof. C. Wagner.
Lemberg	29.49	749.0	30.07	776.4	20.8	— 6.2	98	S			1		0			0	0		Dr. T. Stanecki.
Pola	30.39	771.9	30.51	774.9	48.0	8.9	54	WNW			1		0			0	0		I.R.Hydrographic Office
Szathmar	30.18	766.5	30.70	779.7	8.2	—13.2	76	S			2		2			0	0		Pet. Pancsics, S. J.
Szegedin	30.32	770.1	30.63	778.0	12.7	—10.7		S			2		0			0	0		Karl Stancel.
Trieste	30.43	773.0	30.54	775.6	47.7	8.7	54	Calm			0		0			0	0		P. Busin.
Vienna	29.85	758.2	30.61	777.5	17.2	— 8.2	91	Calm			0		0			0	0		I.R.Central Met. Ob'ay.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum't'al error and temperature. Inches.	Barometer. Corrected for instrum't'al error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er L.w'r 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.17	766.3	30.27	768.8	38.4	3.6	.....	SSW	16	7.2	.....	—	2	.....	.....	0	0	Blue sky.....	W. Boswell.
Ardrossan	30.35	770.9	30.37	771.4	44	6.7	.....	SW	.....	.....	5	.....	7	.....	.....	.....	.....	D. clouds.....	Wm.McNeil & G.Carrick
Armagh, (Observatory)	30.20	767.1	30.44	773.2	41.6	4.8	.....	SSW	22	9.8	.....	.....	10	.....	.....	.....	.....	Squally	S. Call.
Bidston (Liverpool Obs)	.....	.....	30.53	775.4	44	6.7	.....	WSW	12	5.4	.....	.....	0	.....	.....	.....	.....	Blue sky	John Hall up.
Bolton (Sharples)	29.97	761.2	30.51	774.9	41.9	4.9	.....	WSW	6	2.7	.....	.....	5	.....	.....	.....	.....	D. clouds.....	Thomas Mackereth.
Bradford, Yorkshire	30.11	764.8	30.50	774.7	42.4	5.8	.....	W	.....	.....	2	.....	4	.....	.....	0	0	D. clouds.....	J McLandsborough.
Bridgetown, Barbadoes	30.00	762.0	30.04	763.0	78	25.6	.....	NE	.....	.....	2	.....	7	.....	.....	.....	.....	Gloomy	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	30.46	773.7	30.55	776.0	43.0	6.1	.....	NW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	H. Todd.
Cardington	.....	.....	30.54	775.7	39.0	3.9	.....	NW	.....	.....	0–1	.....	1	.....	.....	.....	.....	Foggy	John McLaren.
Chatham (School M. E.)	30.45	773.4	30.59	777.0	40.1	4.5	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Overcast.....	J. Carmell, Sapper, R.E.
Donaghadee	30.42	772.7	30.46	773.7	43	6.1	.....	WSW	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds.....	J. Mac Gowan.
Dover	30.56	776.2	30.59	777.0	40	4.4	.....	WSW	.....	.....	2	.....	10	.....	.....	.....	.....	Misty.....	J. Costello.
Falmouth (Observatory)	30.42	772.7	30.66	778.7	46.8	8.2	.....	NW	.....	.....	2	.....	2	.....	.....	.....	.....	D. clouds.....	The Staff.
Fort Napier, Natal	27.68	703.1	29.89	759.2	72.8	22.7	.....	NE	.....	.....	1	.....	8	.....	.....	.....	.....	Overcast.....	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Galway (Queen's College)	.....	.....	30.38	771.6	45	7.2	.....	SSW	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast.....	Prof. A. H. Curtis.
Gibraltar, Mediterranean	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Sergt.Wm. Allen, A. H.
Glasgow, (Observatory)	30.15	765.8	30.35	770.9	43.0	6.1	.....	WSW	.....	.....	6	.....	6	.....	.....	.....	.....	D. clouds.....	D. G. Maclean. [C.
Great Yarmouth	30.52	775.2	30.53	775.4	39	3.9	.....	W	.....	.....	2	.....	6	.....	.....	.....	.....	Foggy	G. T. Watson.
Greenwich (Royal Obs'y)	30.40	772.1	30.56	776.7	41.9	5.5	.....	N	.....	.....	1	.....	10	.....	.....	.....	.....	Rain & fog...	The Staff, for G.B.Airy.
Guernsey	30.37	771.4	30.59	777.0	47.5	8 6	.....	NW	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	Dr.S.E Hoskins, F.R.S.
Helston	30.75	781.0	30.87	784.1	47	8.3	.....	N	.....	.....	1	2ck	.....	.....	.....	0	0	Fine.....	M. P. Moyle.
Holyhead	30.48	774.2	30.54	775.7	46	7.8	.....	SW	.....	.....	4	.....	0	.....	.....	.....	.....	Blue sky	John Tilston.
Jersey	30.33	770.4	30.63	778.0	48.1	8.9	.....	NW	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky....	J. Fisher.
Kew (Observatory)	30.54	775.7	30.58	776.7	42.0	5.6	.....	WNW	2	0.9	.....	.....	7	.....	.....	.....	.....	Misty.....	The Met'g'l Office.
Leicester (Museum)	30.29	769.4	30.56	778.7	43.5	6.4	.....	W	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	30.19	766.8	30.26	768.6	50	10.0	.....	NE	.....	.....	4	.....	9km	.....	.....	.....	.....	Overcast.....	A. King.
Nairn	30.07	763.8	30.17	766.3	42	5.6	.....	W	.....	.....	2	.....	2	.....	.....	.....	.....	¼ clouded...	W. D. Penny.
Nassau, Bahamas	.....	.....	30.22	767.6	73.0	22.8	.....	E	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds.....	C. S. Duncombe.
Nottingham (Observatory)	30.56	771.1	30.56	776.2	44.3	6.8	.....	NW	.....	.....	2	.....	0	.....	.....	0	0	Blue sky.....	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	30.02	762.5	30.57	776.5	44.3	6.8	.....	NW	.....	.....	2	.....	0	.....	.....	.....	.....	Misty.....	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)	.....	.....	30.60	777.2	45	7.2	.....	NNW	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	H. E. Bellamy.
Plymouth	30.53	775.4	30.61	777.5	43.7	6.5	.....	NW	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	30.49	774.4	30.57	776.5	47	8.3	.....	WSW	.....	.....	3	.....	5	.....	.....	.....	.....	½ clouded...	Wm. Kennedy.
St. Ann's Head	30.44	773.2	30.61	777.5	46	7.8	.....	WNW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	John C. Walker.
Sandwick Manse, Orkneys	.....	.....	30.06	763.5	43.9	6.6	.....	SW	31	13.9	.....	.....	5	.....	.....	.....	.....	Showery.....	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	30.20	767.1	30.27	768.8	41.0	5.0	.....	NE	.....	.....	2	.....	9	.....	.....	.....	.....	Showery.....	Serg't W. H. L ne.
Sheffield	30.13	765.3	30.45	773.4	43.0	6.1	.....	SW	.....	.....	1	.....	2	.....	.....	0	0	Blue sky.....	W. F. Cooper.
Silloth Rectory	30.43	772.9	30.46	773.7	43.7	6.5	74	W	.....	.....	5	.....	0	.....	.....	0.072	1.83	Blue sky.....	Francis Redford, A. M.
Stonyhurst (Observatory)	.....	.....	30.50	774.7	40.7	4.8	.....	SW	8	3.6	.....	.....	.....	.....	.....	.....	.....	Misty.....	Rev. S. J. Perry.
Strathfield, Turgiss	30.35	770.9	30.58	776.7	42.2	5.7	.....	N	.....	.....	1	.....	3	.....	.....	.....	.....	Foggy	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	30.60	777.2	30.68	779.3	50	10.0	.....	NW	.....	.....	4	.....	4	.....	.....	.....	.....	D. clouds.....	W. Newcombe.
Valencia (Observatory)	30.48	774.2	30.50	774.9	49.6	9.8	.....	SSW	39	17.4	.....	.....	10	.....	.....	Blank	Blank	Misty.....	The Met'g'l Office.
Sub-Series.																			
Cape Town (C. G. H. Obs'y)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet
Constable, Cape Colony	26.78	680.2	.....	.....	86.5	30.3	.....	NW	.....	.....	.....	.....	3	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Hobart Town, Tasmania	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Leith (Restalrig Park) Sc'tl'd	.....	.....	30.37	771.4	41.9	5.5	.....	W	.....	.....	3	.....	0	.....	.....	0	0	Fine.....	C. Meldrum.
Mauritius (Observatory)	29.67	753.6	29.86	758.3	78.0	25.6	85	NNE	15.0	6.7	.....	.....	10	.....	NNE	0.78	19.8	Misty.....	R. L. J. Ellery.
Melbourne (Observatory)	29.86	758.4	29.95	760.7	55.1	12.8	69	SSW	16	7.2	.....	.....	8	.....	.....	0	0	Dull	J. Youngclause.
Monach Lt-house, Hebrides	.....	.....	30.01	762.2	49	9.4	.....	SW	.....	.....	8	.....	10	.....	.....	0.3	8.	.....	.....
North Unst, Shetland Is	.....	.....	29.84	757.9	.....	.....	.....	SW	.....	.....	7	10	8	W	.....	0	0	.....	.....

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points: the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters; Prince Town, 1,400 feet, or 427 meters; Colesberg Bridge and Constable, unknown.

British Marine Series. Vessels.	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. Alert, Latitude Cove, Patagonia	29.55‡	750.6‡	46	7.8	.....	NNE	.....	.....	4	.....	10	.....	.....	.....	.....	Showery.....	Capt.J.P. Maclear, R.N.
H. M. Sloop Gannet, S. 18° 28′, W. 70° 21′	30.03‡	762.7‡	67	19.4	.....	SW	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds.....	Commander E. Bourke, R. N.
H. M. S. Magpie, [China. Shauwei Shau Id, near Shanghai	30.26‡	768.6‡	42.0	5.6	.....	NNW	.....	.....	3	.....	1	.....	.....	.....	.....	Blue sky.....	Capt. R. H. Napier, R.N.
Barque Belle-Isle, N. 35° 45′, W. 50° 05′	30.31	769.9	63	17.2	.....	N	.....	.....	6	.....	10	.....	.....	4	WNW; SSW	Overcast.....	Capt. A. J. Brown
City of Cashmere, S. 17° 55′, W. 131° 09′	30.06‡	763.5‡	76.3	24.6	.....	ESE	.....	.....	4	.....	7	.....	.....	.....	.....	D. clouds.....	Capt. W. M. Grieve
S. S. Ethiopia, N. 45° 25′, W. 50° 35′	30.05	763.3	22	— 5.6	.....	W	.....	.....	6	.....	8	.....	.....	6	W	D. clouds.....	Capt. Campbell.
Barque Fedalma, N. 29° 15′, W. 65° 58′	30.28	769.1	73	22.8	.....	ENE	.....	.....	4	.....	7	.....	.....	2	SE	D. clouds.....	Capt. H. L. Fox.
S. S. German, N. 38° 15′, W. 13° 55′	30.47‡	773.0‡	64	17.8	.....	ENE	.....	.....	6	.....	3	.....	.....	.....	.....	D. clouds.....	Capt. O. D. Coxwell.
Iron Cross, N. 40° 10′, W. 51° 30′	30.36	771.1	45	7.2	.....	NNW	.....	.....	8	.....	7	.....	.....	8	NW	Misty.....	Capt. W. Randall.
Barque Mertole, N. 44° 10′, W. 12° 00′	30.72	780.3‡	52.3	11.3	.....	NE	.....	.....	3	.....	0	.....	.....	.....	.....	Blue sky	Capt. Turner.
S. S. Strathleven, S. 18° 10′, E. 91° 00′	29 91‡	759.7‡	77.5	25.3	.....	ESE	.....	.....	5	.....	4	.....	.....	.....	.....	D. clouds.....	Capt. C. W. Pearson
S. S. Sunbeam, N. 39° 55′, W. 08° 35′	30.40	772.1	86	2.2	.....	E	.....	.....	6	.....	10	.....	.....	6	E	Snowing.....	Capt. O. M. Dobson.
Light House Tender Richmond.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. H. Stewart.
S. S. Gordon Castle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Wm. Waring.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Señor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrumental error and temperature. Inches.	BAROMETER. Corrected for instrumental error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. L'w'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
San José	26.27	667.2	29.99	761.7	63.5	17.5	90	NE			2	1ck	8n		NE	0	0		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.34	770.6	30.39	771.8	30.7	— 0.7	98	SSW			2		10					Foggy	
Farõe	30.36	771.2	30.38	771.7	35.1	1.7	100	WSW			4		10						
Godthaab (Greenland)																			
Stykkisholm (Iceland)	29.35	745.5	29.39	746.6	22.6	— 5.2	90	E			6		8						
Thorshavn (Farõe)	29.61	752.2	29.65	753.1	42.4	5.8	75	W			8		10					Raining	
Vestervig	30.14	765.5	30.25	768.3	36.1	2.3	100	SSW			4		10					Rain & fog	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	30.07	763.8	30.62	777.8	32.9	0.5	81	N			1		10			0	0	Foggy	Collignon, Director.
Amiens, Normal School	30.37	771.3	30.49	774.4	25.9	— 3.4	87	NE			1		6		Calm	0	0	Cloudy	Vaillant, Director.
Arras, Engin'r School	30.35	770.8	30.63	777.9	27.3	— 2.6	92	W			1					0	0		Klein, Commandant.
Avignon, Normal School	30.50	774.7	30.58	776.7	41.9	5.5	89	NE			1		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	30.05	763.2	30.66	778.8	21.7	— 5.7		SSE			1		5cn		SW	0	0	Cloudy	C. Saillard, Director.
Beauvais, Normal School	30.35	770.9	30.65	778.4	21.9	— 5.6	80	NNE			1		8			0	0	Very cloudy	Frère Eugene Marie.
Besançon, Normal School	29.73	755.1	30.71	780.0	20.8	— 6.2		E			1		0			0	0	Clear	A. Carré, Director.
Bourg-en-Bresse, N. School	29.75	755.6	30.67	779.0	26.6	— 3	100	SE			1		0			0	0	Clear	Marlot, Diretor.
Bourges, Normal School	29.90	760.9	30.55	776.0	25.2	— 3.8	95	N			3		1		N	0	0	Clear	M. Gence, Director.
Brest, Naval Observatory	30.41	772.5	30.66	778.7	45.3	7.4	88	NNW			1		2		NW	0.089	2.26		Ch. de Rermaree, Dir.
Caen, Normal School	30.46	773.6	30.54	775.6	40.6	4.8	93	W			2				W	0	0		M. Bletrin, Director.
Carcassonne, N. School	30.17	766.2	30.60	777.1	44.4	6.9	49	NNE			1		2		SSW	0	0	Slightly cld'y	September, Director.
Châlons-sur-Marne, N. Sch'l	30.31	769.9	30.67	778.9	18.0	— 7.8		Calm			0		2					Slightly cld'y	Jadot, Director.
Chartres, Normal School	29.98	761.5	30.59	777.0	29.7	— 1.3	46	NNE			1		6			0	0		Vergier, Director.
Clermont-Fd, Puy de D. Obs	29.16	740.6	30.59	776.9	37.4	3.0	59	NW			1		5			0	0		Alluard, Director.
Commercy, Normal School	29.74	755.3	30.69	779.5	15.4	— 9.2		E			1	2c			E	0	0	Slightly cld'y	Dr. Coullet, Director.
Commune de Gréasque*	29.42	747.3	30.56	776.3	53.8	12.1	29	NW			2		0			0	0		L. Kina, Director.
Grenoble, Normal School	29.82	757.5	30.65	778.5	29.8	- 1.2		E			1		0			0	0	Clear	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.38	771.7	30.61	777.5	38.5	3.6	73	SE			1		0			0	0	Clear	Mouillot, Director.
Le Mans, Normal School	30.32	770.2	30.66	778.7	22.6	— 5.2	80	N			1		5			0	0	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.67	753.7	30.65	778.4	24.3	— 4.3	73	NW			1		0			0	0	Misty	A. Baudry, Director
Lorient, Naval Observatory	30.54	775.8	30.65	778.6	45.7	7.6	97	NNW			1				NNW	0.157	4.0		Lt. T. Carré, Director
Lyons Obs'y (Park Station)	29.98	761.5	30.65	778.5	27.5	— 2.5	78	N			1		0			0	0	Misty	Ch. André, Director
Mâcon, Normal School																			Galxin, Director.
Marseilles, Observatory	30.25	768.4	30.63	778.4	57.2	14.0	55	WNW			0-1		0			0	0	Clear	E. Stephan, Director.
Mirecourt, Normal School	29.55	750.6	30.71	780.1	14.5	— 9.7	81	SW			1				SW	0	0	Foggy	Barbier, Director.
Mont-Louis	25.15	638.8	30.47	773.8	39.6	4.2	47	SE	9.4	4.2			0			0	0		M. Cave.
Nice	30.47	774.0	30.51	774.9	54.8	12.4	63	SW			2		1	SW	SW	0	0	Clear	M. Boissière, Director.
Nismes, Normal School	30.36	771.1	30.58	776.7	51.3	10.7	70	NE			1		0			0	0	Clear	M. Boyer, Director.
Paris, Montsouris Obs'y	30.34	770 6			51.2	— 6.0	79	SE			1	6c		SW		0	0		Marié Davy, Director.
Perpignan	30.44	773.2	30.55	776.0	49.5	9.7	87	E	1.8	0.8			1		E	0	0		Dr. Fines.
Pic du Midi (Plantade) H. P.	22.78	578.7			33.8	1.0									NW	0	0		Gen'l de Nansouty.
Pic du Midi (Summit) H. P.																			M. Baylac.
Privas, Normal School	29.41	747.0	30.52	775.3	38.3	3.5	78	N			1		1	N	NW	0	0	Clear	M. Tallieu
Puy de Dome (Summit) Obs	25.54	648.8			36.1	2.3	66	W			2		0			0	0	Clear	Alluard, Director.
Rochefort, Naval Obs'y	30.57	776.4	30.60	777.2	38.8	3.8	76	S			2		2	S	S	0	0	¾ covered	Lt E. Decante, Director
Rouen, Normal School	30.52	775.3	30.61	777.5	26.1	— 3.3	80	SE			1		10			0	0	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.57	776.5	30.60	777.3	46.9	8.3	86	NW			1		1	NW	NW	0	0	Clear	Lt. Hercouet, Director
Saint Maur (near Paris)	30.47	774.0	30.64	778.2	42.4	5.8	77	SW			1		5	WSW		0	0	Solar halo	E. Renou, Director.
Tarbes, Normal School	29.47	748.4	30.58	776.7	50.0	10	64	W			1		2			0	0	Slightly cld'y	T. Huguet, Director.
Toulouse, Observatory	29.90	759.4	30.63	778.1	38.3	3.5	70	SE			1		0			0	0	Clear	M. Juher Mercadier.
Tours	30.41	772.4	30.61	777.4	21.2	— 6.0		E			1		5	Calm	SW	0	0	¼ covered	Cousin-Marquet.
Versailles, Observatory	30.10	764.6	30.60	777.1	33.1	0.6		SW			1		9			0	0	Al. covered	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.83	757.6	30.60	777.2	27.5	— 2.5	96	N			1		0			0	0	Clear	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	30.02	762.5	30.05	763.2	75.6	24.2										0.16	4.		L'Abbé Marchésl
Zi-Ka-Wei (near Shanghai	30.23	767.8	30.26	768.5	32.4	0.2	70	NNW	0.7	0.3		4cs		W		0	0	Cloudy	Marc Dechevrens.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:58 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 822 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 306.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Hamberg	29.73	755.2	30.60	777.1	9.1	—12.7	88	NE			2		5s			0	0	Foggy	Prof. Dr. Hoh.
Berlin	30.35	770.8	30.53	775.5	27.7	— 2.4	75	W			3		0			0	0		Prof. Dr. Arndt.
Breslau	30.03	762.7	30.57	776.5	17.4	— 8.1	85	SE			1		0			0	0		Royal University Obs'y.
Carlsruhe	30.22	767.5	30.70	779.8	12.9	—10.6	100	SSW			0		0			0	0	Foggy	Albert Senz.
Cassel	29.99	761.7	30.61	777.4	20.1	— 6.6	74	SE			3		0			0	0		Dr. H. Möhl.
Emden			30.51	775.0	27.3	— 2.6	82	SW			2		10			0	0		Prof. Dr. Prestel.
Frankfort on the Main	30.39	771.9	30.78	781.9	9.3	—12.6	81	NW			0		4			Inap.	Inap.		Physical Society.
Friedrichshafen	29.16	740.7	30.74	780.7	17.6	— 8.0	97	NW			2		10			0	0	Foggy	Chief Telegrapher Wilhelm.
Hamburg	30.45	773.5	30.52	775.3	29.1	— 1.6	80	SW			3		0			0	0		Capt. P.F.A. Hegerman.
Kiel	30.44	773.2	30.46	773.6	27.1	— 2.7	81	SSW			2		8			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.33	770.4	30.42	772.6	30.2	— 1.0	67	SW			4		0			0	0		Prof. E. Luther.
Köslin			30.47	773.9	19.4	— 7.0		S			2		4			0	0		H. Müller.
Leipsic Observatory	30.16	766.1	30.62	777.7	23.2	— 4.9	86	SW			2		0			0	0	Hazy	Prof. Dr. Bruhns, Privy Councelo
Magdeburg	30.35	770.8	30.58	776.7	26.4	— 3.1	76	SE			2		0			0	0		Dr. Assmann.
Memel	30.31	769.9	30.36	771.1	30.4	— 0.9	98	S			4		0			0	0		Reinbrecht & Issermann.
Munich (München)	28.71	729.2	30.61	777.4	17.8	— 7.9	84	Calm			0		0			0	0	Foggy	Dr. C. Lang.
Neufahrwasser	30.51	775.0	30.53	775.4	28.8	— 1.8	76	SSE			2		0			0	0		A. Lothes.
Neustadt (Palatinate)	30.11	764.7	30.64	778.3	8.6	—13.0		Calm			0					0	0		Reallehrer Dickmether.
Posen	30.09	764.2	30.40	772.2	21.9	— 5.6	81	Calm			0		0			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	30.12	765.1	30.74	780.9	11.1	—11.6	100	Calm			0		3			0	0		Imp. University Observatory.
Stuttgart	29.63	752.6	30.66	778.7	18.0	— 7.8	80	E			0		0			0	0		Prof. Dr. Schoder.
Weissenburg (Bavaria)	29.05	737.9	30.64	778.3	19.9	— 6.7	95	Calm			0		0			0	0	Foggy	Reallehrer J. Hopfner.
Wustrow	30.45	773.5	30.48	774.1	25.9	— 3.4	87	SW			4		5s			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.94	760.4	30.34	770.7	40.3	4.6		NE			3.0		10					Light rain..	Dr. J. F. J. Schmidt

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	30.00	761.9	30.05	763.2	69.6	20.9	57	WSW	15	6.7			4	S		0	0	D. clouds	
Deesa	29.56	750.7	30.04	763.1	71.7	22.1	32	W	8.5	3.8			0			0	0	Blue sky	
Bombay	29.90	759.4	29.94	760.3	76.4	24.7	73	NNW	18	8.0			0			0	0	Blue sky	
Poona (Yarrowda)	28.08	713.1	29.94	760.5	76.8	24.9	14	ENE	10	4.5			0			0	0	Blue sky	
Belgaum	27.38	695.3	29.93	760.2	72.9	22.7	41	ENE	6	2.7			0			0	0	Blue sky	
Lahore	29.23	742.4	30.01	762.1	60.1	15.6	44	Calm	0.5	0.2			4			0	0	Blue sky	
Roorkee	29.09	739.0	30.05	763.3	52.0	11.1	60	S	2.5	1.1			4			0	0	D. clouds	
Agra	29.46	748.4	30.06	763.4	61.8	16.6	46	W	3.6	1.6			8		W	0	0		
Nagpur	28.93	734.7	29.99	761.8	70.7	21.6	32	Calm	2.1	0.9			0			0	0	Blue sky	
Jubbulpore	28.62	726.9	30.03	762.7	65.1	18.4	43	NE	1.8	0.8			0			0	0	Blue sky	
Lucknow	29.64	752.8	30.04	762.9	59.3	15.2	46	NW	1.1	0.5			0			0	0	Blue sky	
Allahabad	29.72	755.0	30.06	763.4	56.2	13.4	66	Calm	2.2	1.0			0			0	0	Blue sky	
Patna	29.84	757.9	30.03	762.7	65.2	18.4	47	W	1.0	0.4			2	W	W	0	0		
Hazaribagh	27.94	709.6	30.04	763.1	56.8	13.8	53	NW	4.3	1.9			8			0	0	Overcast	
Cuttack	29.94	760.6	30.03	762.7	63.9	17.7	74	ENE	1	0.4			1			0	0	Blue sky	
Calcutta (Alipore)	29.99	761.8	30.01	762.3	58.3	14.6	98	NNW	1	0.4			3			0	0	D. clouds	
Goalpara	29.58	751.4	29.98	761.6	67.4	19.7	71	ESE	0.4	0.2			4	SW		0	0	D. clouds	
Chittagong	29.87	758.6	29.96	761.0	68.8	20.4	79	WNW	1.4	0.6			8			0	0	Misty	
Sibsagar	29.68	753.9	30.03	762.8	62.9	17.2	80	ENE	1.4	0.6			0			0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	30.11	764.7	30.55	775.9	43.6	6.4	37	NW	0.7	0.3			0			0	0		Prof. Giovanni Clodig.
Milan	30.03	762.8	30.59	776.9	32.7	0.4	85	W			2		1			0	0		Prof. Schiaparelli.
Padua	30.44	773.2	30.56	776.2	33.1	0.6	86	NW	3.1	1.4			0			0	0		Prof. Dott. Lorenzoni.
Moncalieri	29.63	752.7	30.62	777.7	28.4	— 2.0	67	E	1.3	0.6			0			0	0		Prof. P. F. Denza.
Genoa	30.30	769.5	30.49	774.5	56.3	13.5	10	N	11.9	5.3			0			0	0		Prof. G. M. Garibaldi.
Mondovi	28.58	726.0	30.59	777.0	40.3	4.6	29	W			2		0			0	0		Prof. D. C. Bruno.
Pesaro	30.51	775.0	30.56	776.3	38.1	3.4	53	W	3.8	1.7			0			0	0		Prof. Luigi Guidi.
Florence	30.23	767.7	30.50	774.7	52.7	11.5	20	NE			4		0			0	0		Cav. F. Meucci.
Leghorn	30.43	772.9	30.52	775.1	50.0	10.0	42	N	6.9	3.1			0			0	0		Prof. P. Monte.
Rome	30.26	768.5	30.44	773.2	53.6	12.0	25	N	3.1	1.4			0			0	0		Prof. P. S. Ferrari
Lecce	30.13	765.3	30.39	772.0	48.7	9.3	52	NE	15.4	6.9			0			0	0		Prof. C. De Giorgi
Cosenza	29.47	748.4	30.40	772.1	44.6	7.0	74	NW	0	0			0			0	0		Prof. D. Conti.
Cagliari	30.20	767.0	30.40	772.1	53.4	11.9	55	NW			2		0			0	0		Prof. A. Pacinotti.
Palermo	30.10	764.5	30.39	771.2	51.3	10.7	41	NE	10.5	4.7			9		NE	0.008	0.2		Prof. G. Cacciatore.
Syracuse	30.23	767.8	30.26	768.7	52.7	11.5	69	ENE	26.2	11.7			10		ENE	0.295	7.5		Prof. V.G. Guiliano.
SUB-SERIES.																			
Naples, S. R.	29.89	759.2	30.43	773 0	48.7	9.3	47	NE	7.4	3.3			0			0	0		Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.96	761.0	29.97	761.2	40.0	4.4	80	NNE	1.4	0.6		0	0			0.028	0.71	Clear.	K. Sasaki.
Nagasaki, I. M. Obs'y	29.84	757.9	30.05	763.3	38.4	3.6	69	N	0.8	0.2		0	0			0.010	0.25	Clear.	S. Takehayashi.
Tokei, (Yeddo) Observatory.	29.62	752.3	29.69	754.1	36.3	2.4	74	NNW	5.8	2.6		0	0			0	0	Clear.	The Staff.
Wakayama	29.85	758.2	29.90	759.4	42.6	5.9	69	N	8.5	3.8		2ck		NW		0	0	Fair.	

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published *as given in the originals.*

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the *respective Observers.*

Colima																			R. Banda, C. E.
Guadalajara	25.13	638.2	30.40	772.1	42.8	6.0	61	SW			1		0			0	0	Fine.	Prof. L. Perez.
Leon	24.54	623.2	30.33	770.4	52.5	11.4	78	N			1	0	0			0	0	Fine.	Prof. M. Leal.
Mazatlan	29.80	757.0	30.07	763.7	68.4	20.2	76	N			1	7cs	0	SW		0	0	Cloudy.	I. Guerrero, C. E.
Mexico, Central Observatory	23.15	588.0	30.13	765.3	45.5	7.5	68	Calm	0	0		0	0			0	0	Fine.	The Staff.
Pabellon (Aguascalientes)					45.7	7.6	69	Calm			0	1cs	0			0	0	Clear.	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.48	596.5	30.50	774.6	39.2	4.0	53	Calm	0	0		0	0			0	0	Fine.	Prof. P. Spina.
San Luis Potosi	24.28	616.9	30.38	771.7	49.1	9.5	43	E			1	1	0	W		0	0	Clear.	G. Barroeta, M. D.
Tlacotalpam																			Prof. M. M. Chazaro.
Vera-Cruz																			Prof. J. Rossell
Zacatecas	22.62	574.6	30.33	770.3	51.1	10.6	63	Calm	0	0		0	0			0	0	Fine.	J. C. Castrillon.

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, *Catholic Institute*, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column; the instrumental correction —0.88 mm., or —0.035 inch, has been applied at this office to the barometer at *Mexico.*

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.68	776.8	30.68	776.8	30.7	— 0.7		SW			3					0	0		
Groningen	30.45	773.5	30.51	774.9	28.0	— 2.2		SW			2					0	0		
Helder	30.49	774.6	30.49	774.6	35.8	2.1		SSW			4					0	0		
Hellevoetsluis	30.54	775.7	30.54	775.7	31.6	— 0.2	91	SW			3								
Utrecht	30.52	775.2	30.57	776.4	29.7	— 1.3	73	S			2		* 8			0	0	Very cloudy	H. v. d. Brink

NOTE.—The originals give the wind-pressure in *kilograms per square meter, except Hellevoetsluis*, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Bergen	30.11	764.9	30.17	766.3	41.0	5.0	72	SW	12.3	5.5	.....	.....	3	.....	.....	1.819	46.2	.....	
Brönö	29.56	750.9	29.60	751.9	41.0	5.0	54	SSW	18	8	.....	.....	10	.....	.....	0	0	.....	
Christiana	29.87	758.8	30.03	762.8	25.2	— 3.8	98	NNE	0	0	.....	.....	10	.....	.....	0	0	Foggy	
Tromsö	29.37	746.1	29.42	747.2	32.7	0.7	75	SW	11	5	.....	.....	10	.....	.....	0	0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	30.25	768.3	30.44	773.2	58.3	14.6	72	E	11.2	5.0	.....	.....	4	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.45	747.9	30.48	774.2	49.3	9.6	61	NNE	6.9	3.1	.....	.....	2	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Madeira)	30.12	765.0	30.21	767.2	64.8	18.2	77	ENE	14.3	6.4	.....	.....	10	.....	.....	0.579	14.7	.....	Capt. D. A. de Cunha.
Lisbon Observatory	30.12	765.1	30.50	774.6	48.6	9.2	62	NNE	23.0	10.3	.....	.....	1	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.34	770.7	30.41	772.5	62.2	16.8	64	E	7.4	3.3	.....	.....	3	.....	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.																Sea or swell. Height scale 0-9	Sea or swell. Direction form—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd't
Duque da Terceira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Rio Lima. Capt. S. C. da Silva Costa. Santiago, Cape Verd Ids	.....	.....	.....	.....	79.2	26.2	.....	NE	.....	.....	2	.....	3	.....	NE	1	NE	D. clouds.....	A. D. de Fonseca Sarurento....
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Comd't.
Sado, Capt. J. A de Brito Capello, St. Paul de Loando	.....	.....	29.86	758.4	80.6	27.0	.....	WNW	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds.....	F. de Assis Camillo, jun., Q. M.
Tejo, Capt. J. M. T. Guimarães, Macao, China	.....	.....	30.26	768.6	68.0	20.0	.....	NE	.....	.....	2	.....	10	.....	.....	1	.....	Overcast.....	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sá da Bandeirá gives the barometer reduced tofreezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	29.88	759.0	29.90	759.5	17.2	— 8.2	91	SE	4	2	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Astrakhan	30.11	764.7	30.02	762.6	21.2	— 6.0	87	W	13	6	.....	.....	10n	.....	.....	Blank	Blank	.....	Capt. Wisganow.
Barnaul	29.38	746.3	29.94	760.4	— 1.3	—18.5	88	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	29.86	758.4	30.11	764.9	31.6	— 0.2	92	WSW	13	6	.....	.....	8kn	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	28.59	726.2	29.63	752.6	7.3	—13.7	89	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	29.53	750.0	29.82	757.3	18.5	— 7.5	78	NNW	13	6	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.72	755.0	30.40	772.2	31.1	— 0.5	79	NW	7	3	.....	.....	10ks,n	.....	.....	.....	.....	.....	Physical Cabinet.
Krotkowo*	29.30	744.1	29.80	756.9	16.7	— 8.5	74	N	18	8	.....	.....	10	.....	.....	.....	.....	Light snow.	Cand. Fatjanow.
Lugan	29.95	760.6	30.16	766.0	28.8	— 1.8	80	NNW	9	4	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Moscow	29.65	753.2	30.24	768.2	23.9	— 4.5	84	NW	7.8	3.5	.....	.....	10s	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	27.33	694.2	29.88	758.9	— 6.9	—21.6	82	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	30.38	771.6	30.45	773.4	35.2	1.8	85	N	4	2	.....	.....	10ks	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	29.78	756.3	30.02	762.6	24.4	— 4.2	85	Calm	0	0	.....	.....	10n	.....	.....	.....	.....	.....	.....
Oienberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	29.87	758.8	30.02	762.4	26.8	— 2.9	61	Calm	0	0	.....	.....	2cs	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	29.97	761.3	29.99	761.7	31.3	— 0.4	87	SW	16	7	.....	.....	10n	.....	.....	.....	.....	.....	Central Physical Obs.
Tashkend	28.44	722.4	30.06	763.5	40.3	4.6	94	N	4	2	.....	.....	10	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.62	726.9	30.08	764.0	41.0	5.0	73	NW	13	6	.....	.....	10s	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	30.10	764.5	30.57	776.4	15.3	— 9.3	100	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.97	761.3	30.42	772.7	27.9	— 2.3	95	SW	4	2	.....	.....	10	.....	.....	.....	.....	.....	Astronomical Obs.
Yenisiesk	29.63	752.5	29.95	760.6	— 5.8	—21.0	77	SW	4	2	.....	.....	7	.....	.....	.....	.....	Heavy clouds...	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	30.41	772.4	30.52	775.1	50.0	10	53	E	0.9	0.42	.....	.....	0	.....	.....	0	0	Clear.	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.51	775.0	30.55	776.0	51.4	10.8	66	SE	2.5	1.13	.....	.....	10	.....	.....	0	0	Covered.....	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.53	699.3	.....	.....	44.6	7.0	40	NE	1.1	0.50	.....	0	1	.....	.....	0	0	Almost clear	Domingo Martin y Perez.
Madrid, Royal Observatory.	28.23	717.0	30.56	776.1	43.2	6.2	60	SE	3.0	1.33	.....	3	1	NW	.....	0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	30.35	771.0	30.51	774.9	50.0	10.0	76	WSW	1.9	0.86	.....	4	5	NNW	.....	0.028	0.70	Misty.....	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.70	754.4	30.63	777.9	50.2	10.1	72	NE	14.3	6.4	.....	.....	5	.....	.....	0	0	Cloudy.....	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.13	765.2	30.19	766.9	66.3	19.1	88	E	0	0	.....	0	0	.....	.....	0	0	Clear.	Benito Vines S. J.
Manilla, Phillippine Islands	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.28	769.2	30.38	771.8	60.3	15.7	55	ESE	18.8	8.4	.....	0	8	.....	E	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I	30.04	762.9	30.13	765.2	74.8	23.8	87	SE	0	0	.....	5cks	3kn	SE	SE	0.010	0.25	Cloudy.....	Enrique Gadea, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rübenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.68	753.9	29.72	754.9	18.0	— 7.8	.....	Calm	.....	.....	0	.....	10	.....	.....	0	0	Foggy.....	
Umea	29.74	755.5	29.80	756.8	28.0	— 2.2	100	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	
Hernosand	29.75	755.7	29.80	757.0	23.4	— 4.8	90	W	.....	.....	2	.....	10	.....	.....	0	0	.....	
Stockholm	29.92	759.9	30.10	764.4	30.9	— 0.6	85	WSW	.....	.....	6	.....	10	.....	.....	0	0	.....	
Wisby	30.08	764.0	30.14	765.5	30.2	— 1.0	84	WNW	.....	.....	7	.....	5	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.90	759.4	29.98	761.6	29.7	— 1.3	92	WSW	12.3	5.5	.....	.....	4	.....	W	0.001	0.02	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	29.19	741.5	30.72	780.3	21.7	— 5.7	98	SE	.....	.....	1	.....	10	.....	.....	0	0	Misty.....	The Observatory.
Zurich	28.94	735.1	30.72	780.2	16.5	— 8.6	100	S	.....	.....	1	.....	10	.....	.....	0	0	Foggy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +13.9 mm.; Thermometer, —7.6 Cent.; Relative Humidity, +18 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.31	769.9	37.6	3.1	90	N	22	10.0	.....	.....	10	.....	N	0.252	6.4	Raining.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.32	770.1	46.9	8.3	.....	NW	.....	.....	1	.....	2	.....	.....	0	0	Slightlycld'y	A. Bertrand.
Sub-series.																			
Beirut, (Syria) Lee Obs'y	29.91	759.7	30.03	762.8	58.8	14.9	62	SW	.....	.....	5	.....	10n	.....	SW	0.495	12.58	Overcast.....	Prof. C. V. A. van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	30.00	777.2	30.08	779.3	—22.3	—30.2	92	Calm	0	0	.....	10ck	0	.....	.....	0	0	Cloudy.....	G. A. Blair.
Charlottetown, P. E. Island	30.57	776.5	30.62	777.7	—10.2	—23.4	100	W	.....	.....	.....	.....	9s	.....	.....	0	0	Cloudy.....	H. J. Cundall, C. E.
Cornwall, Ontario	29.79	756.7	30.01	762.2	— 4.9	—20.5	100	E	.....	.....	6	.....	10n	.....	.....	0	0	Overcast.....	James Smith, M. A.
Dalhousie, N. B	30.47	773.9	30.67	779.0	—23.5	—30.8	.....	W	.....	.....	1	0	4s	.....	.....	0	0	Fair.....	H. A. Johnson.
Father Point, Quebec	30.05	778.5	30.67	779.0	—20.5	—29.2	100	S	5	2.2	.....	5cs	0	.....	.....	0	0	Fair.....	J. McWilliams.
Fredericton, N. B	30.00	777.2	30.68	779.3	—16.6	—27.0	100	Calm	0	0	.....	.....	10cs	.....	.....	0.34	8.6	Overcast.....	Prof. Harrison.
Fort Garry, Manitoba	29.07	738.4	30.06	763.5	—32.3	—35.7	100	NW	5	2.2	.....	0	0	.....	.....	0.30	7.6	Clear.	James Stewart.
Granton, Ontario	28.45	722.6	29.58	751.3	30	— 1.1	.....	SW	.....	.....	1	.....	10n	.....	.....	0	0	Foggy	James Grant.
Halifax, N. S	30.53	775.4	30.68	779.3	— 8.2	—22.3	92	N	6	2.7	.....	0	0	.....	.....	0	0	Clear.	A. Allison.
Hamilton, Ontario	29.25	742.9	29.64	752.8	26.1	— 3.3	87	W	.....	.....	1	10cs	0	NE	.....	0.06	1.5	Cloudy.....	Geo. Dickson, B. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.61	752.1	29.98	761.6	2.5	—16.4	86	NE	11	4.9	.....	.....	10n	.....	.....	0.51	13.0	Light snow.	S. Woods, M. A.
Little Glace Bay, N. S	30.46	773.7	30.60	777.4	13.2	—10.4	85	N	15	6.7	.....	8k	0	N	.....	0	0	Cloudy.....	C. H. Rigby.
Montreal, Quebec	30.01	762.2	30.24	768.1	— 9.0	—23.3	95	NE	15	6.7	.....	.....	10n	.....	.....	0.36	9.1	Snow-drift..	C. H. McLeod, C. E.
Moose Factory, Ontario	30.08	764.0	30.12	765.0	—11.1	—23.9	81	NE	.....	.....	5	.....	10n	.....	.....	0.10	2.5	Snowing.....	J. R. Nerson.
Norwood	29.90	736.6	29.77	756.1	0.3	—17.6	100	E	13	5.8	.....	.....	10s	.....	.....	0	0	Cloudy.....	Rev. T. F. Fotheringham, M.A.
Parry Sound, Ontario	28.87	733.3	29.62	752.3	7.3	—13.7	89	E	18	8.0	.....	.....	10n	.....	E	0.05	1.3	Light snow.	Rev. R. Mosley.
Peterboro, Ontario	28.89	733.8	29.70	754.4	7.8	—13.4	54	Calm	.....	.....	0	.....	10n	.....	.....	0	0	Overcast.....	J. F. Jeffers, M. A.
Port Dover, Ontario	28.89	733.8	29.59	751.6	38.0	3.3	100	S	19	8.5	.....	.....	10n	.....	S	0.45	11.4	Threatening	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	28.98	736.1	29.63	752.6	37.2	2.9	93	SW	25	11.2	.....	.....	10n	.....	SW	0.02	0.5	Cloudy.....	M. Payne.
Quebec, Quebec	30.18	766.6	30.56	776.2	—11.6	—24.2	.....	N	.....	.....	6	.....	10n	.....	.....	0	0	Cloudy.....	Capt. Ashe, R. N.
Rockliffe, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. McIntyre.
St. Andrews, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Gove.
St. John, N. B	30.44	773.2	30.64	778.2	—16	—26.7	100	NE	8	3.6	.....	0	8s	.....	.....	0.55	14.0	Cloudy.....	G. Murdock, C. E.
Saugeen, Ontario	28.78	731.0	29.53	750.0	21.7	— 5.7	94	SE	14	6.3	.....	.....	10s	.....	.....	0.15	3.8	Snowing.....	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.26	717.8	29.57	751.1	32.1	0.1	98	SW	20	8.9	.....	.....	Fog	.....	.....	0.15	3.8	Foggy.....	C. J. MacGregor, M. A.
Sydney, C. B	30.46	773.7	30.50	774.7	9.0	—12.8	87	NW	7	3.1	.....	0	2ks	.....	.....	0	0	Fine.....	T. C. Hill, C. E.
Toronto, Ontario	29.21	741.9	29.60	751.8	32.0	0.0	97	S	14	6.3	.....	0?	0?	.....	.....	0.68	17.3	Light rain?..	Magnetic Observatory
Windsor, N. S	30.00	777.2	30.72	780.3	—10.0	—23.3	100	W	2	0.9	.....	0	8ks	.....	.....	0.10	2.5	Fair.....	Prof. John E. Oram, M.A.
Woodstock, Ontario	28.52	724.4	29.60	751.8	34.2	1.2	98	S	28	12.5	.....	.....	10s	.....	.....	0	0	Overcast.....	Prof. J. Montgomery.
Yarmouth, N. S	30.58	776.7	30.65	778.5	0.9	—17.3	86	E	4	1.8	.....	.....	Fog	.....	.....	0.13	3.3	Foggy.....	Lt. F. E. Wilmot, R. N
Sub-Series.																			
St. Johns, Newfoundland	29.82	757.4	30.10	764.5	— 2	—18.7	84	W	.....	.....	.....	0	0	.....	.....	0	0	Fair.....	John Delany.
St. Pierre, M. F., l'Hopital Maritime	.....	.....	30.20	767.0	10.4	—12	.....	NW	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	The Commandant.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0–10.	CLOUDS. Amount. Up'er 0–10.	CLOUDS. Amount. Lo'er 0–10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	30.02	762.5	30.28	769.1	1	—17.2	100	N	2	0.9	.....	.....	10n	.....	Calm	0.25	6.3	Heavy snow	
Alpena, Michigan	28.88	733.5	29.54	750.3	20	— 6.7	85	NW	8	3.6	.....	.....	10n	.....	Calm	0.10	2.5	Light snow..	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	28.94	735.1	30.07	763.8	61	16.1	94	S	15	6.7	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy.....	
Atlantic City, New Jersey	30.06	763.5	30.08	764.0	47	8.3	100	SE	15	6.7	.....	.....	10s	.....	S	0.58	14.7	Threatening	
Augusta, Georgia	30.02	762.5	30.22	767.6	57	13.9	94	S	4	1.8	.....	Haze	Fog;hz	Calm	Calm	0	0	Hazy.....	
Baltimore, Maryland	30.09	764.3	30.14	765.5	29	— 1.7	89	N	6	2.7	.....	.....	10n	.....	Calm	0.23	5.8	Light rain...	
Barnegat, New Jersey	30.07	763.8	30.09	764.3	46	7.8	100	SE	25	11.2	.....	.....	10n	.....	SE	0.48	12.2	Light rain...	
Bismarck, Dakota	28.21	716.5	30.06	763.5	—18	—27.8	100	Calm	0	0	.....	0	0	.....	.....	Inap.	Inap.	Clear.....	
Boerne, Texas	28.48	723.4	29.76	755.9	64	17.8	100	SW	8	3.6	.....	.....	10s	.....	S	0.10	2.5	Cloudy.....	
Boise City, Idaho	26.96	684.8	29.92	760.0	23	— 5.0	79	NW	4	1.8	.....	0	0	.....	.....	0.05	1.3	Clear.....	
Boston, Massachusetts	30.24	768.1	30.41	772.4	11	—11.7	100	SE	8	3.6	.....	.....	10n	.....	E	0.82	20.8	Light snow..	
Brackettville, Texas	28.77	730.7	29.81	757.2	63	17.2	100	E	8	3.6	.....	.....	10n	.....	Calm	0.09	2.3	Light rain...	
Breckenridge, Minnesota	29.00	736.6	30.16	766.1	—17	—27.2	100	NW	8	3.6	.....	0	0	.....	.....	0.03	0.8	Clear.....	
Brownsville, Texas	29.89	759.2	29.93	760.2	72	22.2	95	S	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Buffalo, New York	28.89	733.8	29.59	751.6	38	3.3	72	S	17	7.6	.....	.....	10s	.....	SW	0.30	7.6	Cloudy.....	
Burkes, Arizona	.....	.....	.....	.....	34	1.1	79	Calm	.....	.....	0	2c	2s	Calm	Calm	0.08	2.0	Fair...	
Burlington, Vermont	29.90	759.4	30.22	767.6	2	—16.7	100	SE	11	4.9	.....	.....	10n	.....	SE	0.04	1.0	Light snow.	
Cairo, Illinois	29.58	751.3	29.98	761.5	45	7.2	84	N	16	7.2	.....	.....	10s	.....	N	0.11	2.8	Threatening	
Campo, California	27.46	697.5	30.03	762.7	34	1.1	100	SW	4	1.8	.....	.....	10s	.....	Calm	0.06	1.5	Cloudy.....	
Cape Hatteras, N. Carolina	30.15	765.8	30.16	766.1	53	11.7	93	N	4	1.8	.....	.....	10s	.....	NW	0	0	Cloudy.....	
Cape Henry, Virginia	30.11	764.8	30.13	765.3	51	10.6	74	S	8	3.6	.....	.....	10s	.....	SW	0.03	0.8	Cloudy.....	
Cape Lookout, N. Carolina	30.16	766.1	30.18	766.6	50	10.0	93	NE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Cape May, New Jersey	30.07	763.8	30.10	764.5	44	6.7	92	SW	18	8.0	.....	.....	10s	.....	SW	0.09	2.3	Cloudy.....	
Castroville, Texas	29.16	740.7	29.85	758.2	66	18.9	100	SE	7	3.1	.....	.....	10n	.....	Calm	0.01	0.3	Light rain...	
Cedar Keys, Florida	30.21	767.3	30.23	767.8	62	16.7	94	E	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Charleston, South Carolina	30.16	766.1	30.22	767.6	57	13.9	94	E	4	1.8	.....	.....	Fog	.....	.....	0	0	Foggy.....	
Charlotte, North Carolina	29.28	743.7	30.11	764.8	44	6.7	100	NW	3	1.3	.....	.....	Fog	.....	Calm	0	0	Foggy.....	
Chattanooga, Tennessee	29.18	741.1	29.98	761.5	62	16.7	88	SW	8	3.6	.....	.....	10n	.....	SW	0.09	2.3	Light rain...	
Cheyenne, Wyoming	23.76	603.5	29.70	754.4	17	— 8.3	51	S	14	6.3	.....	0	0	.....	.....	0	0	Clear.....	
Chicago, Illinois	29.13	739.9	29.86	758.4	25	— 3.9	75	W	16	7.2	.....	0	0	.....	.....	0.04	1.0	Clear.....	
Cincinnati, Ohio	29.12	739.6	29.75	755.6	55	12.8	84	W	5	2.2	.....	.....	10ks;fg	.....	W;Calm	1.34	34.0	Cloudy.....	
Cleveland, Ohio	28.95	735.3	29.66	753.4	47	8.3	85	SW	13	5.8	.....	.....	10s	.....	W	0.97	24.6	Cloudy.....	
Coleman City, Texas	28.17	715.5	29.84	757.9	52	11.1	86	S	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Columbus, Ohio	28.89	733.8	29.72	754.9	49	9.4	85	SW	7	3.1	.....	0	5ks	.....	W	0	0	Fair...	
Concho, Texas	28.05	712.5	29.72	754.9	54	12.2	80	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear.....	
Corsicana, Texas	29.44	747.8	29.90	759.4	63	17.2	94	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Davenport, Iowa	29.36	745.7	30.05	763.3	13	—10.6	81	NW	16	7.2	.....	0	0	.....	.....	0.01	0.3	Clear.....	
Dayton, Washington T'y	.....	.....	.....	.....	8	—13.3	66	SW	.....	.....	1	.....	10s	.....	Calm	0.26	6.6	Cloudy.....	
Deadwood, Dakota	25.12	638.0	.....	.....	—10	—23.3	54	Calm	0	0	.....	0	0	.....	.....	0.03	0.8	Clear.....	
Decatur, Texas	28.88	733.5	30.08	764.0	43	6.1	59	NW	6	2.7	.....	9cs	0	W	.....	0	0	Cloudy.....	
Denison, Texas	29.20	741.7	30.02	762.5	34	1.1	79	N	9	4.0	.....	5k	0	SW	.....	0	0	Fair...	
Denver, Colorado	24.55	623.6	29.77	756.1	10	— 7.2	69	S	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Des Moines, Iowa	29.20	741.7	30.18	766.6	4	—15.6	74	NW	8	3.6	.....	0	0	.....	.....	0.03	0.8	Clear.....	
Detroit, Michigan	28.95	735.3	29.62	752.3	35	1.7	100	W	9	4.0	.....	.....	10s	.....	W	0.62	15.7	Cloudy.....	
Dodge City, Kansas	27.46	697.5	30.00	762.0	4	—15.6	74	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Dubuque, Iowa	29.33	745.0	30.10	764.5	9	—12.8	57	W	5	2.2	.....	0	0	.....	.....	0.06	1.5	Clear.....	
Duluth, Minnesota	29.15	740.4	29.89	759.2	2	—16.7	72	NW	10	4.5	.....	0	0	.....	.....	0.34	8.6	Clear.....	
Eagle Pass, Texas	29.13	739.9	29.84	757.9	62	16.7	94	S	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Eastport, Maine	30.57	776.5	30.65	778.5	— 9	—22.8	79	NE	9	4.0	.....	.....	10s	.....	N	0	0	Cloudy.....	
Edinburg, Texas	.....	.....	.....	.....	72	22.2	81	S	.....	.....	4	.....	10s	.....	S	0	0	Cloudy.....	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	28.93	734.8	29.64	752.8	40	4.4	91	S	21	9.4	.....	.....	10n	.....	SW	0.14	3.6	Light rain...	
Escanaba, Michigan	29.02	737.1	29.72	754.9	9	—12.8	78	N	6	2.7	.....	0	5s	.....	NW	0.55	14.0	Fair...	
Florence, Arizona	28.51	724.1	30.11	764.8	45	7.2	92	N	1	0.4	.....	0	5ks	.....	S	0.68	17.3	Fair...	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	28.01	711.4	30.19	766.8	—25	—31.7	53	W	4	1.8	.....	0	0	.....	.....	Inap.	Inap.	Clear.....	
Fort Custer, Montana	26.80	680.7	.....	.....	— 8	—22.2	100	NE	2	0.9	.....	.....	10n	.....	Calm	0.06	1.5	Light snow..	
Fort Davis, Texas	25.14	638.5	30.10	764.5	48	8.9	63	SW	6	2.7	.....	5s	0	Calm	.....	0	0	Fair...	
Fort Gibson, Indian Ter.	29.52	749.8	30.09	764.3	28	— 2.2	88	N	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Fort Grant, Arizona	25.16	639.0	29.96	761.0	45	7.2	69	NE	9	4.0	.....	.....	10s	.....	Calm	0.26	6.6	Cloudy.....	
Fort Griffin, Texas	28.71	729.2	30.02	762.5	39	3.9	55	N	14	6.3	.....	0	5s	.....	Calm	0	0	Fair...	
Fort Keogh, Montana	27.32	693.9	.....	.....	— 8	—22.2	55	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	
Fort McKavett, Texas	27.70	703.6	29.60	751.8	55	12.8	87	Calm	0	0	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.83	732.3	30.01	762.2	24	— 4.4	48	N	22	9.8	.....	0	5s	.....	Calm	0	0	Fair...	
Fort Stevenson, Dakota	28.14	714.7	.....	.....	—24	—31.1	100	W	16	7.2	.....	0	0	.....	.....	0.02	0.5	Clear.....	
Fort Verde, Arizona	.....	.....	.....	.....	40	4.4	91	S	.....	.....	1	.....	Fog	.....	Calm	0.02	0.5	Foggy	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.14	714.7	29.67	753.5	59	15.0	82	S	10	4.5	.....	0	8ks	.....	Calm	0	0	Fair...	
Galveston, Texas	29.96	761.0	30.00	762.0	66	18.9	95	S	6	2.7	.....	5cs	2ks	W	S	0	0	Cloudy.....	
Graham, Texas	28.94	735.1	30.04	763.0	35	1.7	70	N	10	4.5	.....	.....	10s	.....	W	0	0	Cloudy.....	
Grand Haven, Michigan	29.08	738.6	29.75	755.6	30	— 1.1	78	W	24	10.7	.....	.....	10s	.....	W	0.04	1.0	Cloudy.....	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.11	739.4	30.10	764.5	29	— 1.7	78	NE	12	5.4	.....	0	8s	.....	NW	0	0	Cloudy.....	
Indianapolis, Indiana	29.06	738.1	29.86	758.4	35	1.7	80	NW	12	5.4	.....	.....	10s	.....	NW	0.91	23.1	Cloudy.....	
Indianola, Texas	29.96	761.0	29.99	761.7	67	19.4	95	S	9	4.0	.....	8c	0	W	.....	0	0	Fair...	
Jacksboro, Texas	28.88	733.5	30.04	763.0	37	2.8	63	N	12	5.4	.....	2k	0	N	.....	0	0	Clear.....	
Jacksonville, Florida	30.22	767.6	30.24	768.1	59	15.0	94	SE	2	0.9	.....	.....	Fog	.....	Calm	0	0	Foggy.....	
Keokuk, Iowa	29.40	746.7	30.07	763.8	16	— 8.9	83	NW	13	5.8	.....	0	5s	.....	NW	Inap.	Inap.	Fair...	
Key West, Florida	30.16	766.1	30.19	766.8	72	22.2	85	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Kittyhawk, North Carolina	30.13	765.3	30.15	765.8	51	10.6	100	NE	3	1.3	.....	8cs	Fog	W	Calm	0	0	Fair...	
Knoxville, Tennessee	28.95	735.3	29.93	760.2	61	16.1	88	SW	16	7.2	.....	.....	10n	.....	Calm	0.23	5.8	Heavy rain..	
La Crosse, Wisconsin	29.16	740.7	29.95	760.7	12	—11.1	61	W	4	1.8	.....	0	0	.....	.....	0.05	1.3	Clear.....	
La Mesilla, New Mexico	26.04	661.4	30.19	766.8	40	4.4	73	Calm	0	0	.....	0	1s	.....	Calm	0	0	Clear.....	
Laredo, Texas	29.53	750.0	29.86	758.4	65	18.3	94	SE	8	3.6	.....	.....	8ks	.....	SE	0	0	Cloudy.....	
Leavenworth, Kansas	29.30	744.2	30.24	768.1	7	—13.9	54	NW	17	7.6	.....	0	2s	.....	.....	0.01	0.3	Clear.....	
Lewiston, Idaho	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Little Rock, Arkansas	29.59	751.6	29.94	760.5	63	17.2	94	SW	6	2.7	.....	.....	10s	.....	Calm	0.09	2.3	Cloudy.....	
Los Angeles, California	29.78	756.4	30.13	765.3	43.5	6.4	83	NE	5	2.2	.....	0	5s	.....	W	0	0	Fair...	
Louisville, Kentucky	29.28	743.7	29.84	757.9	47	8.3	85	W	6	2.7	.....	.....	10s	.....	Calm	0.76	19.3	Cloudy.....	
Lynchburg, Virginia	29.45	748.0	30.16	766.1	35	1.7	90	S	2	0.9	.....	.....	10s	.....	S	0.02	0.5	Threatening	
Madison, Wisconsin	28.82	732.0	29.85	758.2	19	— 7.2	85	W	24	10.7	.....	.....	10s	.....	W	0.07	1.8	Cloudy.....	
Marquette, Michigan	28.93	734.8	29.66	753.4	17	— 8.3	87	SE	4	1.8	.....	0	0	.....	.....	0.35	8.9	Clear.....	
Mason, Texas	28.32	719.3	30.05	763.3	59	15.0	94	NW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Memphis, Tennessee	29.59	751.6	30.02	762.5	63	17.2	88	SW	10	4.5	.....	.....	10s	.....	S	0.06	1.5	Cloudy.....	
Milwaukee, Wisconsin	29.03	737.3	29.79	756.7	22	— 5.6	86	NW	21	9.4	.....	0	8s	.....	Calm	0.11	2.8	Fair...	

UNITED STATES SERIES -CONTINUED.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	Lo'er 0—10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER.
Mobile, Alabama	30.09	764.3	30.13	765.3	62	16.7	100	S	6	2.7	.....	.....	10s	.....	SW	0.	0	Cloudy.....	
Montgomery, Alabama	29.90	759.4	30.14	765.5	64	17.8	94	S	7	3.1	.....	2k	5ks	W	W	0.01	0.3	Fair.....	
Morgantown, West Virginia	28.82	732.0	29.80	756.9	51	10.6	86	SW	5	2.2	.....	.....	10s	.....	Calm	0.50	12.7	Cloudy.....	
Mt. Washington, N. H.	23.56	598.4	29.92	760.0	— 2	—18.9	100	S	54	24.1	.....	.....	10n	.....	S	0.08	2.0	Light snow.	
Nashville, Tennessee	29.37	746.0	29.88	758.9	64	17.8	94	S	4	1.8	.....	.....	10ks	.....	S	0.07	1.8	Cloudy.....	
New Haven, Connecticut	30.15	765.8	30.28	769.1	9	—12.8	78	NE	22	9.8	.....	.....	10n	.....	NE	0.20	5.1	Heavy snow	
New London, Connecticut	30.25	768.3	30.31	769.9	22	— 5.6	92	NE	11	4.9	.....	.....	10n	.....	Calm	0.11	2.8	Heavy snow	
New Orleans, Louisiana	30.05	763.3	30.11	764.8	68	20.0	90	S	5	2.2	.....	.....	Fog	.....	Calm	0	0	Foggy	
Newport, Rhode Island	30.26	768.6	30.32	770.1	27	— 2.8	100	E	20	8.9	.....	.....	10n	.....	Calm	0.07	1.8	Light snow.	
New River, North Carolina	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
New York, New York	30.02	762.5	30.21	767.3	29	— 1.7	100	NE	18	8.0	.....	.....	10n	.....	Calm	0.31	7.9	Light snow..	
Norfolk, Virginia	30.08	764.0	30.14	765.5	48	8.9	85	SE	3	1.3	.....	5k	Fog	SW	Calm	0	0	Fair.....	
North Platte, Nebraska	27.12	688.8	30.07	763.8	—12	—24.4	75	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Olympia, Washington Ter.	30.00	762.0	30.04	763.0	26.0	— 3.3	75	N	10	4.5	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy.....	
Omaha, Nebraska	29.03	737.3	30.28	769.1	— 4	—20.0	65	NW	10	4.5	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Oswego, New York	29.52	749.8	29.85	758.2	16	— 8.9	83	SE	28	12.5	.....	.....	10n	.....	Calm	0.24	6.1	Light snow..	
Pembina, Dakota	29.04	737.6	30.03	762.7	—32	—35.6	100	NW	6	2.7	.....	0	0	.....	.....	0.22	5.6	Clear.....	
Pensacola, Florida	30.15	765.8	30.18	766.6	63	17.2	94	S	2	0.9	.....	4k	0	W	.....	0	0	Fair.....	
Philadelphia, Pennsylvania	29.99	761.7	30.05	763.3	29	— 1.7	80	NE	17	7.6	.....	.....	10n;fog	.....	Calm	0.32	8.1	Light rain..	
Phœnix, Arizona	28.82	732.0	30.64	778.2	50	10.0	86	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.31	439.7	29.52	749.8	— 8	—22.2	100	SW	10	4.5	.....	.....	Fog	.....	Calm	0.10	2.5	Foggy	
Pilot Point, Texas	29.28	743.7	30.15	765.8	85	1.7	70	N	.....	.....	.....	8k	2s	NW	N	0	0	Clear.....	
Ploche, Nevada	.....	.....	.....	.....	23	— 5.0	47	S	7	3.1	.....	0	2s	.....	Calm	0	0	Clear.....	
Pittsburg, Pennsylvania	28.98	736.1	29.78	756.4	47	8.3	92	S	6	2.7	.....	.....	10n	.....	SW	1.28	32.5	Light rain...	
Port Huron, Michigan	28.92	734.6	29.59	751.6	35	1.7	100	SW	18	8.0	.....	.....	10s	.....	SW	0.19	4.3	Threatening	
Portland, Maine	30.48	774.2	30.54	775.7	2	—16.7	72	N	20	8.9	.....	.....	10n	.....	Calm	0.03	0.8	Light snow.	
Portland, Oregon	29.98	761.5	30.05	763.3	16	— 8.9	57	NW	1	0.4	.....	0	1s	.....	Calm	0.21	5.3	Clear.....	
Portsmouth, North Carolina	.....	.....	.....	.....	52	11.1	93	N	5	2.2	.....	10cs	0	Calm	.....	0	0	Cloudy.....	
Prescott, Arizona	24.64	625.8	30.00	762.0	33	0.6	79	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear.....	
Punta Rassa, Florida	30.20	767.1	30.22	767.6	64	17.8	80	NE	7	3.1	.....	0	1ks	.....	NE	0	0	Clear.....	
Red Bluff, California	29.62	752.3	29.99	761.7	41	5.0	91	SE	5	2.2	.....	0	3s	.....	W	Inap.	Inap.	Fair	
Rio Grande City, Texas	29.72	754.9	29.94	760.5	66	18.9	95	SE	10	4.5	.....	2c	5s	Calm	Calm	0	0	Fair	
Rochester, New York	29.07	738.4	29.69	754.1	32	0.0	80	SE	14	6.3	.....	.....	10s	.....	SE	0.12	3.0	Cloudy.....	
Roseburg, Oregon	29.37	746.0	29.96	761.0	32.5	0.3	95	Calm	0	0	.....	.....	10n	.....	Calm	0.53	13.5	Light snow.	
Sacramento, California	29.96	761.0	30.03	762.7	41	5.0	91	S	10	4.5	.....	c	2s	.....	Calm	0.09	2.3	Clear	
St. Louis, Missouri	29.46	748.3	30.07	763.8	28	— 2.2	88	NW	20	8.9	.....	.....	10s	.....	NW	0.34	8.6	Cloudy.....	
St. Paul, Minnesota	29.08	738.6	29.99	761.7	0	—17.8	55	W	10	4.5	.....	0	0	.....	.....	0.25	6.3	Clear	
Salt Lake City, Utah	25.33	643.4	29.66	753.4	27	— 2.8	64	SE	5	2.2	.....	0	5s	.....	W	0.04	1.0	Fair	
San Antonio, Texas	29.27	743.4	29.83	757.7	70	21.1	90	Calm	0	0	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy.....	
San Diego, California	30.10	764.5	30.18	766.6	47	8.3	92	SE	3	1.3	.....	0	2ks	.....	W	0	0	Fair.....	
Sandusky, Ohio	29.01	736.8	29.68	753.9	43	6.1	83	W	22	9.8	.....	.....	10ks	.....	SW	1.15	29.2	Cloudy.....	
Sandy Hook, New Jersey	30.12	765.0	30.16	766.1	38	3.3	100	E	36	16.1	.....	.....	10n	.....	Calm	0.49	12.4	Light rain....	
San Francisco, California	30.01	762.2	30.08	764.0	46	7.8	77	NW	10	4.5	.....	2k	2ks	W	W	0.61	15.5	Fair	
Santa Fé, New Mexico	23.15	588.0	29.69	754.1	26	— 3.3	63	SE	6	2.7	.....	.....	10s	.....	SE	0.04	1.0	Cloudy.....	
Savannah, Georgia	30.14	765.5	30.23	767.8	54	12.2	87	Calm	0	0	.....	10cs	Fog	SW	Calm	0	0	Cloudy.....	
Shreveport, Louisiana	29.76	755.9	29.97	761.2	68	20.0	90	S	4	1.8	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.18	766.6	30.21	767.3	50	10.0	100	N	3	1.3	.....	.....	Fog	.....	.....	0	0	Dense fog....	
Socorro, New Mexico	25.30	644.1	29.42	747.3	37	2.8	45	S	1	0.4	.....	0	5s	.....	SW	0	0	Fair.....	
Springfield, Illinois	29.37	746.0	30.08	764.0	26	— 3.3	75	NW	16	7.2	.....	.....	10s	.....	NW	0.39	9.9	Cloudy.....	
Springfield, Massachusetts	30.25	768.3	30.39	771.9	6	—14.4	76	N	7	3.1	.....	.....	10n	.....	N	0.09	2.3	Heavy snow	
Stockton, Texas	26.93	684.0	29.93	760.2	47	8.3	15	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Thatcher's Island, Mass	30.34	770.6	30.39	771.9	27	— 2.8	100	E	30	13.4	.....	.....	10n	.....	E	0.18	4.6	Heavy snow	
Toledo, Ohio	28.95	735.3	29.63	752.6	40	4.4	100	W	20	8.9	.....	.....	10s	.....	W	0.85	21.6	Threatening	
Tucson, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon	29.84	757.9	30.38	771.6	10.0	—12.2	88	E	6	2.7	.....	.....	10s	.....	.....	0	0	Cloudy.....	
Uvalde, Texas	29.05	737.9	29.86	758.4	65	18.3	94	NE	2	0.9	.....	.....	10n	.....	NE	Inap.	Inap.	Light rain...	
Vicksburg, Mississippi	29.78	756.4	30.04	763.0	67	19.4	89	SW	10	4.5	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Virginia City, Montana	23.84	605.5	29.92	744.7	—10	—12.2	54	SE	2	0.9	.....	5cs	0	Calm	.....	0	0	Fair	
Visalia, California	29.72	754.9	30.11	764.8	35	1.7	90	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	30.04	763.0	30.16	766.1	28	— 2.2	100	N	2	0.9	.....	.....	10n	.....	Calm	0.24	6.1	Sleeting.....	
Wickenburg, Arizona	.....	.....	.....	.....	33	0.6	89	NW	.....	.....	1	0	0	.....	.....	0	0	Clear.....	
Wilmington, North Carolina	30.10	764.5	30.19	766.8	48	8.9	100	E	1	0.4	.....	.....	Fog	.....	Calm	0	0	Foggy.....	
Winnemucca, Nevada	25.32	643.1	29.68	753.9	26	— 3.3	88	SW	6	2.7	.....	.....	10n	.....	Calm	0.03	0.8	Light snow.	
Wood's Holl, Massachusetts	30.27	768.8	30.31	769.9	31	— 0.6	89	SE	24	10.7	.....	.....	10n	.....	SE	0.09	2.3	Heavy snow	
Yankton, Dakota	28.86	732.8	30.3	770.4	— 7	—21.7	59	NW	6	2.7	.....	.....	10s	.....	Calm	0.05	1.3	Cloudy.....	
Yuma, Arizona	29.90	759.4	30.05	763.3	44	6.7	68	W	7	3.1	.....	0	0	.....	.....	0	0	Clear.....	
SUB-SERIES.																			
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	30.11	764.8	30.16	766.1	71	21.7	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.18	766.6	30.19	766.8	73	22.8	82	Calm	0	0	.....	.....	5cs	.....	.....	.....	.....	Fair.....	James Gall.
Navassa, W. I.	29.98	761.5	30.00	762.6	76	24.4	73	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A.	30.08	764.0	30.08	764.0	74	23.3	95	E	.....	.....	2	.....	10n	.....	.....	0.270	6.86	Raining	C. J. Hering.
Santiago de Cuba, W. I.	30.10	764.5	30.13	765.3	74	23.3	81	Calm	0	0	.....	0	2k	.....	.....	Blank	Blank	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	29.99	761.7	30.04	763.0	—41.5	—40.8	.....	W	10	4.5	.....	4k	3s	NW	W	0.10	2.5	Cloudy.....	J. Fortescue & W. Wood
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,087.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,289 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,014 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.33 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.14‡	765.5‡	.....	.....	66	18.9	89	NW	1	0.4	.....	.....	2	.....	SW	0	0	.....	.....	Fair.....	
Navy Yard, Portsmouth, N.H.	30.10‡	764.5‡	.....	.....	2	—16.7	72	NE	2	0.9	.....	.....	10	.....	.....	0	0	.....	.....	Overcast....	
Adams, Mare I'd., Navy Yard, Cal.	30.10‡	764.5‡	.....	.....	49	9 4	93	W	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Alaska, Iquique, Peru .....*	29.99‡	761.7‡	.....	.....	65	18.3	94	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Hazy.....	
Colorado, New York, . Y.....	30.14‡	765.5‡	.....	.....	33	0.6	.....	NE	1	0.4	.....	.....	10	.....	.....	0.2	5.	.....	.....	Snowing....	
Constitution, N. 19° 40′, W. 57° 08′.....	30.17‡	766.3‡	.....	.....	76	24.4	68	ENE	.....	.....	4	.....	2	.....	E	.....	.....	Smooth	E	Clear.....	
Enterprise. Smyrna, Turkey.....	30.17‡	766.3‡	.....	.....	48	8.9	70	NE	.....	.....	6	.....	5?	.....	NE	.....	.....	Rough	.....	Cloudy?.....	
Franklin, Off Navy Yard, Norfolk, Va.	30.17‡	766.3‡	.....	.....	60	10.0	86	SSW	4.8	2.1	.....	.....	10	.....	SW	0	0	.....	.....	Cloudy.....	
Independence, Mare I'd, Navy Yard, Cal.	30.10‡	764.5‡	.....	.....	53	11.7	86	W	2.4	1.1	.....	.....	8	.....	SW	0.176	4.47	.....	.....	Cloudy.....	
Kearsarge, Kingston, Jamaica, W. I.	30.08‡	764.0‡	.....	.....	76	24.4	73	N	.....	.....	0–1	.....	2	.....	N	0	0	.....	.....	Fair.....	
Lackawana. Honolulu, Sandwich Id's†	29.94‡	760 5‡	.....	.....	73	22.8	85	SE	.....	.....	2–3	.....	8	.....	SE	.....	.....	Smooth	.....	Fair...	
Marion, N. 36° 05′, W. 52° 20′...	30.33‡	770.4‡	.....	.....	62	16.7	??	NNE	.....	.....	4	.....	10	.....	NE	Heavy	Heavy	Mod'ate	N;E	Cloudy.....	
Michigan, Erie, Pa.....	29.61‡	752.1‡	.....	.....	42	5.6	74	SSW	.....	.....	3	.....	10	.....	SSW	.....	.....	.....	.....	Cloudy.....	
Monocacy, Shanghai, China..	30.09‡	764.3‡	.....	.....	42	5.6	68	S	.....	.....	0–1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
New Hampshire, Port Royal, S. C.....	30.26‡	768.6‡	.....	.....	59	15.0	100	Calm	0	0	..	.....	.....	.....	.....	0	0	.....	.....	D. clouds....	
Nipsic, Norfolk, Va.....	30.11‡	764.8‡	.....	.....	49	9.4	93	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....	Misty.....	
Onward, Callao, Peru ....†.	29.97‡	761.2‡	.....	.....	63	17.2	94	SSE	.....	.....	2	.....	10	.....	.....	.....	.....	Mod'ate smooth	W	Foggy.....	
Palos, Tientsin, China.	30.02‡	762.5‡	.....	.....	34	1.1	90	S	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Passaic, Washington, D. C.....	30.17‡	766.3‡	.....	.....	30	— 1.1	78	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....	Cloudy.....	
Pensacola, Callao, Peru	29.98‡	761.6‡	.....	.....	64	17.8	94	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Smooth	.....	Foggy.....	
Powhatan, Navy Yard, Brooklyn, N.Y.	30.22‡	767.6‡	.....	.....	30	— 1.1	89	ENE	.....	.....	3	.....	10	.....	Calm	.....	.....	.....	.....	Heavy snow	
Quinnebaug, Villafranca, France.....	30.49‡	774.4‡	.....	.....	57	13.9	58	SW	.....	... ..	1	.....	0?	.....	.....	. .....	.....	.....	.....	Cloudy?.....	
Ranger, Honolulu, Sandwich Ilds.	29.94‡	760.5‡	.....	.....	73	22.8	95	E	.....	.....	4	.....	2	.....	.....	.....	.....	.....	.....	Fair.....	
Richmond, Massila, Philippine Ilds	29.95‡	760.7‡	.....	.....	79	26.1	78	ESE	.....	.....	2	.....	10	.....	NE	.....	... .	Smooth	.....	Cloudy.....	
Rio Bravo, Brownsville, Texas... †.	30.05‡	763.3‡	.....	.....	70	21.1	100	SW	1	0.4	.....	.....	5	.....	S	0	0	.....	.....	Fair.....	
Santee. Annapolis, Md	30.16‡	766.1‡	.....	.....	29	— 1.7	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Foggy.....	
Shenandoah, Montivideo, Uruguay. ..	29.80‡	756.9‡	.....	.....	68	20.0	79	SW	.....	.....	0	.....	5	.....	SW	.....	.....	Mod'ate	SW	Fair.....	
St. Louis, League Island, Pa.....	30.16‡	766 1‡	.....	.....	29	- - 1.7	.....	N	14	6.3	.....	.....	10	.....	.....	0.03	0.8	.....	.....	Rain & fog...	
Tennessee, Navy Yard, Brooklyn, N.Y.	30.23‡	767.8‡	.....	.....	35	1.7	90	NE	.....	.....	3	.....	10	.....	.....	.....	.....	.....	.....	Cloudy	
Tuscarora, N. 14° 16′, W. 91° 56′.....	29.94‡	760.5‡	.....	.....	73	22.8	85	NE	.....	.....	2	.....	0	.....	.....	0	0	Smooth	.....	Clear.	
Vandalia. Navy Yard, Brooklyn, N.Y	30.24‡	768.1‡	.....	.....	25	— 3.9	??	NE	.....	.....	1	.....	10	.....	NE	.....	.....	.....	.....	Snowing.....	
Wabash, Boston, Mass.....	30.53‡	755.4‡	.....	.....	15	— 9.4	100	E	6	2.7	.....	.....	10	.....	.....	.....	.....	.....	.....	Snowing.....	
Wachusett, S. 27°, W. 45°†.....	30.54‡	775.7‡	.....	.....	75	23.9	68	ENE	.....	.....	3	.....	0	.....	.....	.....	.....	Long	SE	Clear	
Wyoming, N. 41° 45′, E. 3° 43′.....	30.50‡	774.7‡	.....	.....	52	11.1	66	N	.....	.....	3–4	.....	2	.....	N	.....	.....	Mod'ate	N	Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.			CHARACTER.	DIRECTION FROM—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'er 0—10.	Upper. From—	Lower. From—					
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S. S. Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitebury.
S. S. Costa Rica																			W. House & R. Lawless.
S. S. Dakota, Capt. H. G. Morse																			Capt. Connolly.
S. S. Georgia																			F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin																			Capt. A. Fuller.
S. S. Wilmington																			R. C. Ghest, 1st Officer.
S. S. Zealandia, Sydney, N. S. W.		29.87‡	758.7‡				S			2				W				Cloudy	

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The orginals give the barometer as read off, wind-force by the scale 0 to to 12; for the Brittanic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer N. 40° 33′, E. 174° 33′		30.08‡	764.0‡	45	7.2	68	NNW			6		2		NNW		Heavy	NNW	Squally	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson																			J. A. Thompson, U. O.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES

Furnished by the co-operation of A. Schumacher & Co., Agents

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Pfeiffer. N. 51° 25′, W. 10° 40′		30.61‡	777.5‡	41.0	5.0	100	WSW			4		10		SW		Smooth	SW	Drizzling	S. Risius, 3rd Officer.
S. S. Nurnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 41° 04′, W. 62° 05′		30.63‡	778.0‡				NE			5		8		NE		Cross	N	Hailing	Capt G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa.		30 17‡	766.3‡	33	0.6		SE			4		9		S		Mod'ate		Cloudy	Capt. R. W. Sargent
S. S. Ohio																			Wm. Shackford, Chief Officer
S. S. Pennsylvania																			Capt. Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES. Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents.																			
S. S. Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland, N. 48° 35′, W. 26° 10′†		30.06‡	763.5‡	57	13.9		SW.	10	4.5			5		WSW		Heavy	SW; NW	Squally	Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

NOTE.—The originals give the barometer as read off; do not distinguish between upper and lower clouds; sea-swell in general terms, as published. ‡Corrections for temperature, instrumental error and elevation applied at this office.

ALLAN LINE MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian, N. 54° 15′, W. 22° 57′		29 60‡	751.8‡	53	11.7		WSW			8		10		WSW		Heavy	WSW	Cloudy	J. Powell, 4th Officer.
S. S. Peruvian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. *The error of the barometer is not known. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES—Miscellaneous. Furnished by the co-operation of the Observers named.																			
Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Barkentine "Carrie Heckle" N. 18° 57′, W. 32° 32′...*		29.91‡	759.7‡	77.5	25.3		E			4		0			0	Light	NNE	Clear.	B. F. Woodbury.
Brigantine "George" of Halifax																			N. B. Foss.
Schooner Harry and Fred																			Capt. George Gardner.
Haytian																			
§ Iron Cross																			Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time. *Instrumental error not known.

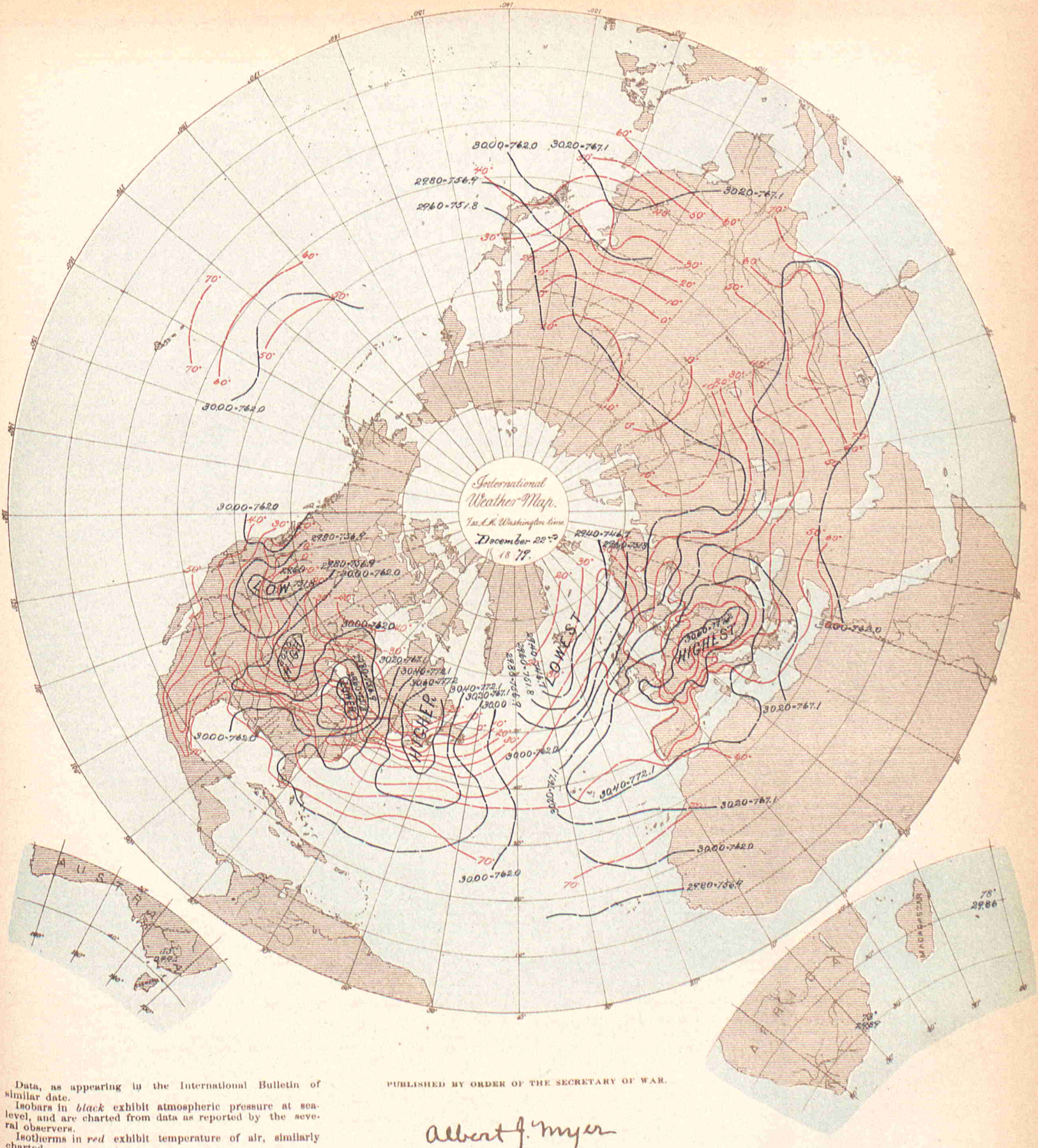
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. A8SG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 23, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:38 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE TOWN, C. G. H. mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level Inches.	BAROMETER. Reduced to sea-level Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Mogador, Marocco	.....	.....	30.35	770 9	62.2	16.8	76	N	.....	.....	1	.....	5	.....	.....	0	0	Cloudy.....	Kesxuche.
Nemours	.....	.....	30.41	772.4	63.0	17.2	61	E	.....	.....	1	.....	8	.....	.....	0	0	Very cloudy	Touriliere.
Algiers	.....	.....	30.53	775.4	55.4	13.0	47	ENE	.....	.....	2	.....	0	.....	.....	0	0	Clear.	Foufrede.
La Calle	.....	.....	30.54	775 8	54.7	12.6	68	N	.....	.....	3	.....	8	.....	.....	0.071	1.8	Very cloudy	Jacques
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Sfax	.....	.....	30.51	775.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Herbin.
Saida	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Watrin.
Tebessa	.....	.....	30.54	775.7	41.0	5.0	81	SSE	.....	.....	2	.....	10	.....	.....	0.004	0.1	Covered	Brugniuax.
Geriville	.....	.....	.....	.....	48.6	9.2	42	Calm	.....	.....	0	.....	0	.....	.....	0	0	Clear	Bertrand.
Laghouat	.....	.....	30.58	776.6	45.7	7.6	40	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	Chanvaux.
Biskra	.....	.....	30.58	776.6	59.4	15.2	58	WNW	.....	.....	1	.....	0	.....	.....	0	0	Clear	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0-4; no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	30.25	768.4	30.86	783.8	21.9	— 5.6	85	NW	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.99	761.8	30.83	783.0	27.3	— 2.6	92	W	11.4	5.1	.....	.....	10	.....	.....	0	0	.....	Dr. Wierzbicki.
Eperies	29.77	756.1	30.74	780.8	18.0	— 7.8	77	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	Julius Mikolik.
Gratz	29.48	748.9	30.84	783.2	29.5	— 1.4	64	S	.....	.....	1	.....	0	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	29.20	741.6	30.78	781.8	18.3	— 7.6	92	N	.....	.....	1	.....	8	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	29.41	747.0	30.91	785.1	14.6	— 9.7	91	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	29.58	751.3	30.65	778.4	27.3	— 2.6	96	NW	.....	.....	3	.....	10	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	30.53	775.4	30.64	778.3	52.5	11.4	25	ENE	.....	.....	2	.....	6	.....	.....	0	0	.....	I.R.Hydrographic Office
Szathmar	30.30	769.6	30.83	783.0	6.1	14.4	83	S	.....	.....	2	.....	0	.....	.....	0	0	.....	Pet. Pancsics, S. J.
Szegedin	30.48	774.3	30.80	782.3	14.0	—10.0	.....	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	Karl Stancel.
Trieste	30.59	777.0	30.69	779.6	51.3	10.7	25	ENE	.....	.....	1	.....	5	.....	.....	0	0	.....	P. Busin.
Vienna	30.07	763.8	30.82	782.7	33.1	0.6	89	S	.....	.....	1	.....	0	.....	.....	0	0	.....	I.R.Central Met. Ob'ry.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	30.17	766.3	30.26	768.6	51.2	10.7	.....	SE	6	2.7	.....	.....	5	.....	.....	0.040	1.02	Blue sky.....	W. Boswell.
Ardrossan	30.40	772.1	30.42	772.7	48	8.9	.....	SSW	.....	.....	5	.....	7	.....	.....	.....	.....	D. clouds	Wm.McNeil &G.Carrick
Armagh, (Observatory)	30.24	768.1	30.47	773.9	47.9	8.8	.....	SSW	17	7.6	.....	.....	9	.....	.....	.....	.....	Squally	S. Call.
Bidston (Liverpool Obs)	.....	.....	30.63	778.0	46.9	8.3	.....	SSW	18	8.0	.....	.....	2	.....	.....	.....	.....	Blue sky	John Hartnup.
Bolton (Sharples)	30.06	763.5	30.60	777.2	38.8	3.8	.....	WSW	6	2.7	.....	.....	5	.....	.....	.....	.....	D. clouds....	Thomas Mackereth.
Bradford, Yorkshire	30.20	767.1	30.59	777.0	42.6	5.9	.....	NW	.....	.....	3	.....	7	.....	.....	0	0	D. clouds....	J McLandsborough.
Bridgetown, Barbadoes	29.98	761.5	30.01	762.2	80	26.7	.....	NE	.....	.....	3	.....	6	.....	.....	.....	.....	Gloomy	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	30.65	778.5	30.75	781.0	33.0	0.6	.....	S	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	H. Todd.
Cardington	.....	.....	30.72	780.3	34.0	1.1	.....	SW	.....	.....	0-1	.....	10	.....	.....	.....	.....	Foggy	John McLaren.
Chatham (School M. E.)	30.64	778.2	30.78	781.8	36.2	2.3	.....	SW	.....	.....	1	.....	9	.....	.....	.....	.....	Foggy	J. Carmell, Sapper, R.E.
Donaghadee	30.43	772.9	30.48	774.2	48	8.9	.....	SW	.....	.....	3	.....	8	.....	.....	.....	.....	D. clouds....	J. Mac Gowan.
Dover	30.72	780.3	30.75	781.0	35	1.7	.....	WSW	.....	.....	1	.....	10	.....	.....	.....	.....	Foggy	J. Costello.
Falmouth (Observatory)	30.47	773.9	30.70	779.8	45.7	7.6	.....	SSE	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds....	The Staff.
Fort Napier, Natal	27.69	703.3	29.90	759.4	80.0	23.7	.....	NE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Galway (Queen's College)	.....	.....	30.39	771.9	48	8.9	.....	SSW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	Prof. A. H. Curtis.
Gibraltar, Mediterranean	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Sergt.Wm. Allen, A. H.
Glasgow, (Observatory)	30.20	767.1	30.40	772.1	48.8	9.3	.....	S	.....	.....	6	.....	6k	.....	.....	.....	.....	D. clouds....	D. G. Maclean. [C.
Great Yarmouth	30.71	780.0	30.72	780.3	33	0.6	.....	SW	.....	.....	2	.....	6	.....	.....	.....	.....	Foggy	G. T. Watson.
Greenwich (Royal Obs'y)	30.59	777.0	30.77	781.5	35.6	2.0	.....	SSW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	The Staff, for G.B.Airy.
Guernsey	30.47	773.9	30.70	779.8	40	4.4	.....	ESE	.....	.....	1	.....	8	.....	.....	.....	.....	Misty.....	Dr. S.E Hoskins, F.R.S.
Helston	30.79	782.1	30.92	785.4	44	6.7	.....	SE	.....	.....	1	4ck	.....	.....	.....	0	0	Fine.....	M. P. Moyle.
Holyhead	30.51	774.9	30.56	776.2	46	7.8	.....	SSW	.....	.....	6	.....	5	.....	.....	.....	.....	D. clouds....	John Tilston.
Jersey	30.44	773.2	30.76	781.3	36.8	2.7	.....	E	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy	J. Fisher.
Kew (Observatory)	30.73	780.5	30.77	781.5	35.7	2.1	.....	WNW	4	1.8	.....	.....	.....	.....	.....	.....	.....	Foggy	The Met'g'l Office.
Leicester (Museum)	30.43	772.9	30.70	779.8	40.0	4.4	.....	SW	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	30.31	769.9	30.39	771.9	56.2	13.4	.....	NE	.....	.....	5	.....	1k	.....	.....	.....	.....	Blue sky.....	A. King.
Nairn	30.10	764.5	30.19	766.8	50	10.0	.....	W	.....	.....	5	.....	5	.....	.....	.....	.....	½ clouded...	W. D. Penny.
Nassau, Bahamas	.....	.....	30.24	768.1	74.0	23.3	.....	NE	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds....	C. S. Duncombe.
Nottingham (Observatory)	30.48	774.2	30.68	779.3	40.2	4.6	.....	SSW	.....	.....	3	.....	0	.....	.....	0	0	Blue sky.....	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	30.14	765.5	30.70	779.8	39.8	4.3	.....	SSW	.....	.....	1-2	.....	10	.....	.....	.....	.....	Foggy	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)	.....	.....	30.74	780.8	35	1.7	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Foggy	H. E. Bellamy.
Plymouth	30.62	777.7	30.70	779.8	39.3	4.1	.....	NE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	30.51	774.9	30.60	777.2	49	9.4	.....	SW	.....	.....	4	.....	5	.....	.....	.....	.....	½ clouded...	Wm. Kennedy.
St. Ann's Head	30.50	774.7	30.67	779.0	46	7.8	.....	SSW	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds....	John C. Walker.
Sandwick Manse, Orkneys	.....	.....	30.10	764.5	50.2	10.1	.....	SW	27	12.1	.....	.....	9	.....	.....	.....	.....	D. clouds....	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	30.40	772.1	30.47	773.9	42.0	5.6	.....	NE	.....	.....	2	.....	10	.....	.....	.....	.....	Showery.....	Serg't W. H. Line.
Sheffield	30.35	770.9	30.64	778.2	46.0	7.8	.....	SW	.....	.....	2	.....	1	.....	.....	0	0	Blue sky.....	W. F. Cooper.
Silloth Rectory	30.49	774.4	30.52	775.2	40.2	7.9	91	SW	.....	.....	7	.....	10	.....	.....	0.013	0.33	Overcast.....	Francis Redford, A. M.
Stonyhurst (Observatory)	.....	.....	30.59	777.0	41.9	4.9	.....	SSW	5	2.2	.....	.....	10	.....	.....	.....	.....	Misty.....	Rev. S. J. Perry.
Stratfield, Turgiss	.....	.....	.....	.....	37.6	3.1	.....	NE	.....	.....	0	.....	7	.....	.....	.....	.....	Foggy	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	30.58	776.7	30.67	779.0	47	8.3	.....	S	.....	.....	3	.....	6	.....	.....	.....	.....	D. clouds....	W. Newcombe.
Valencia Observatory)	30.49	774.4	30.51	774.9	50.7	10.0	.....	S	24	10.7	.....	.....	10	.....	.....	.....	.....	Gloomy.....	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
Constable, Cape Colony	26.75	679.4	.....	.....	89.5	31.9	.....	NE	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Hobart Town, Tasmania	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Leith(RestalrigPark)Sc'tl'd	.....	.....	30.43	772.9	49.5	9.7	.....	W	.....	.....	2	.....	6k	.....	.....	0	0	Fine.....	C. Meldrum.
Mauritius (Observatory)	29.65	753.1	29.84	757.9	79.3	26.3	70	NNE	22.0	9.8	.....	4	6	NE	.....	1.37	34.8	Squally ...	R. L. J. Ellery.
Melbourne (Observatory)	29.98	761.5	30.07	763.8	53.0	11.7	71	SE	10	4.5	.....	.....	2	.....	.....	0	0	Fine.....	J. Youngclause.
Monach Lt-house, Hebrides	.....	.....	30.06	763.5	51	10.6	.....	SSW	.....	.....	8	.....	10	.....	.....	0.1	3.	.....	.....
North Unst, Shetland Is	.....	.....	29.95	760.7	.....	.....	.....	W	.....	.....	7	10	10	W	.....	0	0	.....	.....

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters; Prince Town, 1,400 feet, or 427 meters; Colesberg Bridge and Constable, unknown.

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer
H. M. S. Alert, Latitude Cove, Patagonia	.....	.....	29.56‡	750.8‡	50	10.0	.....	NNE	.....	.....	1-4	.....	8	.....	.....	.....	.....	Squally.....	Capt. J.P. Maclear, R.N.
H. M. Sloop Gannet, S. 18° 28′, W. 70° 21′	.....	.....	29.93‡	760.2‡	66.5	19.2	.....	S	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds....	Commander E. Bourke, R. N.
H. M. S. Magpie, [China. Shauwei Shan Ild, near Shanghai.	.....	.....	30.09‡	764.3‡	46.0	7.8	.....	SSE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	Capt. R. H. Napier, R.N.
Barque Belle-Isle, N. 35° 30′, W. 49° 40′	.....	.....	30.52	775.2	64	17.8	.....	ENE	.....	.....	2	.....	6	.....	.....	4	WNW	D. clouds....	Capt. A. J. Brown
City of Cashmere, S. 20° 10′, W. 131° 38′	.....	.....	30.04‡	763.0‡	77	25.0	.....	ESE	.....	.....	3	.....	4	.....	.....	.....	.....	D. clouds....	Capt. W. M. Grieve.
S. S Ethiopia, N. 44° 05′, W. 55° 40′	.....	.....	29.98	761.5	47	8.3	.....	SSE	.....	.....	6	.....	10	.....	.....	4	S	Raining	Capt. Campbell.
Barque Fedalma, N. 30° 30′, W. 65° 30′	.....	.....	30.36	771.1	72	22.2	.....	SE	.....	.....	2	.....	3	.....	SW	2	S;E	D. clouds....	Capt. H. L. Fox.
S. S. German, N. 33° 36′, W. 16° 15′	.....	.....	30.20‡	767.1‡	65	18.3	.....	ESE	.....	.....	4	.....	8	.....	.....	.....	.....	D. clouds....	Capt. O. D. Coxwell.
Iron Cross, N. 39° 40′, W. 48° 40′	.....	.....	30.59	777.0	46	7.8	.....	E	.....	.....	1	.....	6	.....	.....	7	N;NW	D. clouds....	Capt. W. Randall.
Barque Mertole, N. 46° 00′, W. 11° 35′	.....	.....	30.59‡	777.0‡	50.8	10.4	.....	E	.....	.....	5	.....	8	.....	.....	.....	.....	D. clouds....	Capt. Turner.
S. S. Strathleven, S. 15° 45′, E. 87° 50′	.....	.....	29.90‡	759.4‡	80.5	26.9	.....	ESE	.....	.....	6	.....	6	.....	.....	.....	.....	D. clouds....	Capt. C. W. Pearson.
S. S. Sunbeam, N. 40° 35′, W. 65° 40′	.....	.....	30.28	769.1	44	6.7	.....	N	.....	.....	6	.....	10	.....	.....	5	N;W	Squally.....	Capt. C. M. Dobson.
Light House Tender Richmond.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. H. Stewart.
S. S. Gordon Castle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Wm. Waring.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected.
‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. L'w'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
San José	26.26	667.0	29.98	761.5	63.0	17.2	90	SE			2	2ck	3d		NE	Inap.	Inap.		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.44	773.1	30.48	774.3	38.3	3.5	87	W			4		10					Foggy	
Faröe	30.55	776.0	30.57	776.5	38.3	3.5	93	W			4		8						
Godthaab (Greenland)																			
Stykkisholm (Iceland)	28.80	731.6	28.85	732.7	33.8	1.0	81	SE			4		8					Rain & hail.	
Thorshavn (Faröe)	29.48	748.7	29.51	749.6	51.1	10.6	87	SW			8		6					Raining	
Vestervig	30.33	770.3	30.44	773.1	39.9	4.4	96	SW			6		1						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	30.18	766.6	30.73	780.6	35.6	2	64	NE			1		0			0	0	Clear	Collignon, Director.
Amiens, Normal School	30.54	775.7	30.66	778.8	24.8	— 4	86	NE			1		0			0	0	Clear	Vaillant, Director.
Arras, Engin'r School	30.51	775.0	30.79	782.0	26.2	— 3.2	92	W			1					0	0		Klein, Commandant.
Avignon, Normal School	30.59	776.9	30.67	778.9	45.1	7.3	38	NNE			1		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	30.12	765.1	30.74	780.7	19.0	— 7.2		SSE			1		0			0	0	Clear.	C. Saillard, Director.
Beauvais, Normal School	30.50	774.8	30.80	782.2	26.4	— 3.1	72	NW			1		0			0	0	Clear.	Frère Eugene Marie.
Besançon, Normal School	29.82	757.4	30.80	782.3	21.6	— 5.8		S			1		0			0	0	Clear.	A. Carré, Director.
Bourg-en-Bresse, N. School	29.87	758.8	30.80	782.3	23.7	— 4.6	95	SE			1		0			0	0	Clear.	Marlot, Director.
Bourges, Normal School	30.10	764.5	30.78	781.8	24.1	— 4.4	93	NW			1		1		NW	0	0	Clear.	M. Gence, Director.
Brest, Naval Observatory	30.45	773.4	30.69	779.6	40.3	4.6	90	SE			1		10			0	0	Misty	Ch. de Rermarec, Dir.
Caen, Normal School	30.72	780.4	30.80	782.4	32.4	0.2	99	S			2					0	0		M. Bletrin, Director.
Carcassonne, N. School	30.12	765.1	30.55	776.0	47.5	8.6	58	NE			1		0			0	0	Clear	September, Director.
Châlons-sur-Marne, N. Sch'l	30.43	772.8	30.78	781.7	21.4	— 5.9		Calm			0		0					Clear	Jadot, Director
Chartres, Normal School	30.13	765.4	30.75	781.0	33.4	0.8	84	NNE			1		10			0	0	Light fog	Vergier, Director.
Clermont-Fd, Puy de D. Obs	29.27	743.4	30.72	780.4	30.6	— 0.8	80	NW			1		0			0	0	Foggy	Alluard, Director.
Commercy, Normal School	29.89	759.1	30.88	784.3	21.2	— 6		E			1		0			0	0	Clear.	Dr. Coullet, Director.
Commune de Gréasque*	29.50	749.2	30.64	778.2	56.5	13.6	19	SE			1		5		SE	0	0		L. Kina, Director.
Grenoble, Normal School	29.95	760.8	30.78	781.9	30.9	— 0.6		E			1		28		NE	0	0		Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.47	774.0	30.62	777.7	36.7	2.6	75	E			1		0			0	0	Clear	Mouillot, Director.
Le Mans, Normal School	30.30	772.0	30.72	780.4	29.5	— 1.4	68	E			1		0			0	0	Clear	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.78	756.3	30.76	781.2	22.1	— 5.5	76	NW			1		0			0	0	Misty	A. Baudry, Director
Lorient, Naval Observatory	30.58	776.6	30.69	779.4	40.3	4.6	77	NE			2		0			0	0	Clear	Lt. T. Carré, Director
Lyons Obs'y (Park Station)	30.10	764.5	30.77	781.6	26.2	— 3.2	69	NNE			1		0			0	0	Misty	Ch. André, Director
Mâcon, Normal School																			Gulzin, Director.
Marseilles, Observatory	30.33	770.4	30.61	777.4	57.7	14.3	39	WNW			0–1		1						E. Stephan, Director.
Mirecourt, Normal School	29.68	753.9	30.83	783.0	20.1	— 6.6	95	N			1				N	0	0	Foggy	Barbier, Director.
Mont-Louis	25.27	641.9	30.59	776.9	42.8	6.0	41	SW	13.0	5.8			0			0	0		M. Cave.
Nice	30.58	770.6	30.61	777.4	50.8	13.8	50	E			2		5		E	0	0	Cloudy	M. Boissière, Director.
Nismes, Normal School	30.42	772.7	30.64	778.2	51.8	11	63	NE			1		0			0	0	Clear	M. Boyer, Director.
Paris, Montsouris Obs'y	30.48	774.1			24.4	— 4.2	77	WNW			1		0			0	0	Foggy	Marié Davy, Director.
Perpignan	30.52	775.2	30.63	778.0	49.6	9.8	90	E	5.6	2.5			0			0	0		Dr. Fines.
Pic du Midi (Plantade) H. P.	22.85	580.3			37.4	3.0									NNW	0	0		Gen'l de Nansouty.
Pic du Midi (Summit) H. P.																			M. Baylac.
Privas, Normal School	29.51	749.6	30.64	778.3	36.5	2.5	87	N			1		1		N	0	0	Clear.	M. Tallieu
Puy de Dome (Summit) Obs	25.63	651.1			42.3	5.7	93	ESE			2		0		NW	0	0	Clear	M. Alluard, Director.
Rochefort, Naval Obs'y	30.63	778.0	30.66	778.8	34.5	1.4	93	NNE			2		0			0	0	Clear	Lt E. Decante, Director
Rouen, Normal School	30.67	779.1	30.76	781.3	27.5	— 2.5	78	SSW			1		0			0	0	Clear.	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.66	778.7	30.69	779.5	33.4	0.8	90	SE			1		1		SE	0	0	Clear	Lt. Hercouet, Director
Saint Maur (near Paris)	30.60	777.1	30.76	781.3	25.3	— 3.7	65	NNE			2		0			0	0	Foggy	E. Renou, Director.
Tarbes, Normal School	29.46	747.9	30.56	776.3	46.4	8	46	SW			1		0			0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.89	759.2	30.63	777.9	37.0	2.8	71	NW			1		0			0	0	Clear.	M. Juher Mercadier.
Tours	30.49	774.4	30.69	779.4	24.1	— 4.4		E			1		0			0	0	Clear.	Cousin-Marquet.
Versailles, Observatory	30.23	767.7	30.72	780.2	31.6	— 0.2		SE			1		0			0	0	Clear	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	30.01	762.3	30.78	781.8	29.5	— 1.4	96	NNE			1		0			0	0	Clear.	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	30.02	762.5	30.05	763.2	75.2	24										0	0		L'Abbé Marchésl
Zi-Ka-Wei (near Shanghai)	30.06	763.4	30.08	764.0	35.2	1.8	83	SSE	5.8	2.6			0			0	0	Clear	Marc Dechevrens.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:58 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,082.97 ft.; Mont-Louis, 1,686.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.93	760.3	30.80	782.3	10.6	—11.9	89	E			4		2s			0	0	Foggy	Prof. Dr. Hoh.
Berlin	30.55	776.0	30.73	780.6	34.5	1.4	84	W			2		10			0	0		Prof. Dr. Arndt.
Breslau	30.37	768.8	30.82	782.7	30.2	— 1.0	97	WNW			3		10			0	0		Royal University Obs'y.
Carlsruhe	30.36	771.1	30.84	783.2	20.1	— 6.6	89	NE			1		0			0	0	Light fog	Albert Senz.
Cassel	30.21	767.2	30.95	786.0	19.9	— 6.7	90	SE			2		0			0	0		Dr. H. Möhl.
Emden			30.74	780.8	31.5	— 0.3	100	WSW			2		10			0.087	2.2		Prof. Dr. Prestel
Frankfort on the Main	30.57	776.4	30.96	786.4	20.5	— 6.4	63	NE			0		2			0	0		Physical Society.
Friedrichshafen	29.29	743.9	30.86	783.8	21.6	— 5.8	100	SW			2		10			0	0	Foggy	Chief Telegrapher Wilhelm.
Hamburg	30.67	778.9	30.74	780.7	32.0	0.0	96	WSW			5		10			0	0		Capt. P. F. A. Hegerman.
Kiel	30.64	778.2	30.65	778.6	33.4	0.8	90	W SW			3		2			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.34	770.5	30.42	772.7	32.9	0.5	88	W			6		3			0	0		Prof. E. Luther.
Köslin			30.50	774.7	32.0	0.0		SW			4		4			0	0		H. Müller.
Leipsic Observatory	30.41	772.5	30.87	784.1	27.7	— 2.4	100	SW			2		10			0	0	Foggy	Prof. Dr. Brahms, Privy Counselo
Magdeburg	30.56	776.3	30.80	782.3	32.9	0.5	94	WSW			1		10s			0	0		Dr. Assmann.
Memel	30.26	768.5	30.30	769.7	38.8	3.8	83	W			8		10k					Showery	Reinbrecht & Issermann.
Munich (München)	28.89	733.8	30.80	782.4	10.4	—12.0	90	N			2		0			0	0	Foggy	Dr. C. Lang.
Neufahrwasser	30.47	773.9	30.48	774.3	37.0	2.8	69	WSW			4		4			0	0		A. Lothes.
Neustadt (Palatinate)	30.28	769.2	30.82	782.9	19.9	— 6.7		E			1					0	0		Reallehrer Dicknether.
Posen	30.40	772.2	30.72	780.2	29.8	— 1.2	92	W			5		10			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	30.28	769.0	30.90	784.8	12.6	—10.8	82	Calm			0		3			0	0		Imp. University Observatory.
Stuttgart	29.84	758.0	30.88	784.4	18.5	— 7.5	78	E			0		0			0	0		Prof. Dr. Schoder.
Weissenburg (Bavaria)	29.26	743.0	30.85	783.7	16.6	— 9.1	91	Calm			0		0			0	0	Foggy	Reallehrer J. Hoffner
Wustrow	30.60	777.1	30.61	777.6	33.8	1.0	89	SW			6		9ks			0	0		E. Schütz, Director.
German Naval Series.																			

NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens	30.09	764.2	30.49	774.5	43.0	6.1		NE			3.0		10					Sprinkling	Dr. J. F. J. Schmidt.

NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Kurtachee	29.91	759.6	29.96	761.0	72.2	22.3	68	SW	14	6.3			1			0	0	D. clouds	
Deesa	29.58	751.2	30.06	763.6	72.7	22.6	33	SSW	7.4	3.3			0			0	0	Blue sky	
Bombay	29.87	758.6	29.90	759.6	76.3	24.6	75	NNW	14	6.3			0			0	0	Foggy	
Poona (Yarrowda)	28.05	712.5	29.92	759.9	77.3	25.2	9	E	11	4.9			0			0	0	Blue sky	
Belgaum	27.36	694.8	29.90	759.6	74.0	23.3	41	ENE	1	0.4			0			0	0	Blue sky	
Lahore	29.28	743.6	30.06	763.5	58.6	14.8	46	Calm	1.1	0.5			0			0	0	D. clouds	
Roorkee	29.04	737.6	29.99	761.6	57.4	14.1	55	S	1.5	0.7			2			0	0	D. clouds	
Agra	28.40	746.8	29.99	761.7	63.8	17.7	43	W	1.1	0.5			0			0	0		
Nagpur	28.90	734.0	29.96	761.0	71.5	21.9	30	Calm	2.1	0.9			0			0	0	Blue sky	
Jubbulpore	28.59	726.1	29.99	761.8	66.9	19.4	41	NE	1.0	0.4			0			0	0	Blue sky	
Lucknow	29.59	751.7	29.99	761.8	58.4	14.7	53	WNW	0.8	0.4			0			0	0	Blue sky	
Allahabad	29.68	753.8	30.01	762.2	56.1	13.4	63	Calm	1.0	0.4			0			0	0	Blue sky	
Patna	29.81	757.2	30.00	762.0	63.6	17.6	45	W	0.6	0.3			0			0	0	Blue sky	
Hazaribagh	27.90	708.5	29.99	761.7	58.8	14.9	43	NW	4.5	2.0			0			0	0	Blue sky	
Cuttack	29.89	759.1	29.97	761.2	65.6	18.7	72	ENE	0.5	0.3			2			0	0	D. clouds	
Calcutta (Alipore)	29.94	760.6	29.97	761.2	59.8	15.4	79	NNW	2	0 9			8			0	0	Foggy	
Goalpara																			
Chittagong	29.85	758.2	29.94	760 5	68.2	20.1	87	Calm	1.3	0.6			9			0	0	Misty	
Sibsagar	29.66	753.3	30.01	762.2	61.9	16.6	83	ENE	1.3	0.6			0			0	0	Blue sky	

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,026 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	30.27	768.8	30.71	780.0	44.1	6.7	87	Calm	0	0			7			0	0		Prof. Giovanni Clodig.
Milan	30.14	765.6	30.70	779.8	34.5	1.4	76	WNW			2		4	NW		0	0		Prof. Schiaparelli.
Padua	30.59	777.0	30.71	780.0	40.6	4.8	46	N	3.1	1.4			0			0	0		Prof. Dott. Lorenzoni.
Moncalieri	29.77	756.1	30.75	781.1	30.2	— 1.0	77	ESE	1.3	0.6			0			0	0		Prof. P. F. Denza.
Genoa	30.41	772.5	30.61	777.6	57.9	14.4	18	NE	8.1	3.6			4	SW		0	0		Prof. G. M. Garibaldi.
Mondovi	28.73	729.6	30.59	777.0	43.5	6.4	36	SE			2		0			0	0		Prof. D. C. Bruno.
Pesaro	30.61	777.6	30.67	779.0	43.2	6.2	42	NW	9.8	4.4			8			0	0		Prof. Luigi Guidi.
Florence	30.35	770.8	30.62	777.8	54.5	12.5	12	NE			2		7			0	0		Cav. F. Meucci.
Leghorn	30.61	775.0	30.60	777.3	54.7	12.6	19	ENE	9.8	4.4			5			0	0		Prof. P. Monte.
Rome	30.37	771.5	30.56	776.2	51.4	10.8	38	N	0	0			3			0	0		Prof. P. S. Ferrari
Lecce	30.26	768.5	30.52	775.2	50.5	10.3	53	NNW	17.4	7.8			0			0	0		Prof. C. De Giorgi
Cosenza	29.60	751.8	30.54	775.6	49.3	9.6	69	NW	8.7	3.9			2			0	0		Prof. D. Conti.
Cagliari	30.34	770.6	30.54	775.7	52.5	11.4	49	NW			2		0			0	0		Prof. A. Pacinotti.
Palermo	30.23	767.8	30.45	773.5	54.0	12.2	44	NE	2.5	1.1			0			0	0		Prof. G. Ciaccia tore.
Syracuse	30.39	771.8	30.46	773.7	58.4	11.9	73	NE	13.7	6.1			10	NE		0.295	7.5		Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.97	761.2	30.50	774.8	53.6	12.0	41	E	8.7	3.9			1			0	0		Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.99	761.7	30.01	762.2	38.9	3.8	89	NNE	5.4	2.4		3ck;c				0	0	Clear.	K. Sasaki.
Nagasaki, I. M. Obs'y	29.84	757.9	30.05	763.3	46.6	8.1	73	WNW	0.6	0.3		ck	8s			0.040	1.02	Cloudy	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.82	757.4	29.89	759.2	38.8	3.8	68	NNW	4.0	1.8		0	0			0	0	Clear.	The Staff.
Wakayama	29.95	760.7	30.00	762.0	37.1	2.8	82	E	1.7	0.8			0			0	0	Clear	

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima																			R. Banda, C. E.
Guadalajara	25.10	637.6	30.34	770.6	39.6	4.2	60	SW			1		0			0	0	Fine	Prof. L. Perez.
Leon	24.50	622.3	30.32	770.2	50.0	10.0	75	N			1	0	0			0	0	Fine	Prof. M. Leal.
Mazatlan	29.78	756.4	30.04	763.1	65.5	18.6	92	NW			2	1s	0			0	0	Clear	I. Guerrero, C. E.
Mexico, Central Observatory	23.11	586.9	30.28	769.1	45.0	7.2	67	Calm	0	0		0	0			0	0	Fine	The Staff.
Pabellon (Aguascallentes)					41.4	5.2	59	Calm			0	0	0			0	0	Fine	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.45	595.5	30.43	772.8	40.8	4.9	49	Calm	0	0		0	0			0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.23	615.5	30.29	769.3	52.0	11.1	64	SW			1	2	0	W		0	0	Clear	G. Barroeta, M. D.
Tlacotalpam																			Prof. M. M. Chazaro
Vera-Cruz																			Prof. J. Rossell
Zacatecas	22.59	573.7	30.29	769.3	50.0	10.0	67	Calm	0	0		0	0			0	0	Fine	J. C. Castrillon.

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column; the instrumental correction —0.88 mm., or —0.035 inch, has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.82	782.7	30.82	782.7	30.6	— 0.8		SSE								0.008	0.2		
Groningen	30.71	779.9	30.76	781.3	30.9	— 0.6		SW			1 2 3 4 5 6 7 8 9 10 11 12					0	0		
Helder	30.76	781.3	30.76	781.3	36.5	2.5		SW								0	0		
Hellevoetsluis	30.80	782.2	30.80	782.2	32.0	0.0	100	WSW											
Utrecht	30.75	781.1	30.80	782.3	31.6	— 0.2	98	SSW								0	0	Misty	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Bergen	30.32	770.1	30.37	771.5	45.3	7.4	94	S	23.5	10.5			10			0.091	2.3		
Brönö	29.50	749.2	29.54	750.2	37.4	3.0	66	SSW	9	4			10			0.295	7.5	Raining	
Christiana	29.94	760.4	30.09	764.3	32.2	0.1	100	SW	0	0			10			0	0	Foggy	
Tromsö	29.08	738.6	29.12	739.7	32.0	0.0	76	SW	25	11			10			0.500	12.7		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	30.09	764.2	30.28	769.1	58.6	14.8	83	E	13.0	5.8		5				0	0		Dr. J. A. Sampaio.
Campo Major	29.37	746.0	30.41	772.4	47.8	8.8	63	ENE	6.9	3.1		9				0	0		Dr. A. M. R. dos Santos.
Funchal (Maderia)	30.13	765.4	30.22	767.6	66.7	19.3	79	E	2.5	1.1		1				0.016	0.4		Capt. D. A. de Cunha.
Lisbon Observatory	30.04	763.1	30.42	772.6	46.8	8.2	70	NNE	15.4	6.9		2				0	0		The Staff.
Ponta Delgada (Azores)	30.17	766.3	30.24	768.1	61.9	16.6	66	E	10.5	4.7		10				0	0		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias				A. G. da Silva Costa, Com'd't.
D. Fernando				A. M. de Sande, Com'd't.
Duque da Terceira				J. C. M. Cabrate, 1st Lt.
Mindello				J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos				H. de C. C. e Athayde.
Rio Duro				J. T. d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa. Santiago, Cape Verd Ids	1	ENE	D. clouds	A. D. de Fonseca Saruento
Sà da Bandeira				F. Teixeira da Silva, Comd't.
Sado, Capt. J. A de Brito Capello, St. Paul de Loando			Threatening	F. de Assis Camillo, jun., Q. M.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	1		Overcast	J. G. Felgo, 2nd Lieut.

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sà da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	29.31	744.5	29.33	745.0	23.4	— 4.8	98	S	9	4		10							Capt. Sseliwerstow.
Astrakhan	30.38	771.6	30.30	769.5	16.7	— 8.5	77	W	4	2	1c								Capt. Wisganow.
Barnaul	29.15	740.4	29.69	754.0	9.9	—12.3	100	SE	2	1		10						Snowing	Meteorological Obs.
Dorpat	29.71	754.7	29.97	761.1	33.6	0.9	87	WSW	11	5	1ck								Prof. Dr. Weihrauch.
Ekaterinburg	28.83	732.2	29.91	759.8	—11.0	—23.9	86	NW	4	2		0							Meteorological Obs.
Irkutsk																			
Kasan	29.73	755.1	30.04	762.9	— 6.0	—21.1	82	SSE	2	1		1							Physical Cabinet.
Kertch																			Lagorio.
Kieff	29.65	753.1	30.33	770.4	23.9	— 4.5	93	NW	13	6		10n							Physical Cabinet.
Krotkowo*	29.55	750.6	30.08	764.1	— 5.8	—21.0	63	N	0	0		1							Cand. Fatjanow.
Lugan	29.89	759.3	30.11	764.8	28.2	— 2.1	83	WSW	22	10		9						Light clouds	Meteorological Obs.
Moscow	29.18	741.2	29.76	755.8	25.9	— 3.4	89	S	7.8	3.5		10s						Light snow	Meteorological Obs.
Nertchinsk	27.38	695.5	29.97	761.2	—13.2	—25.1	82	NW	2	1		0				Blank	Blank		Meteorological Obs.
Nikolaiev	30.34	770.6	30.41	772.4	28.4	— 2.0	74	WSW	4	2		0							Kurdukof.
Nukuss	29.84	758.0	30.10	764.4	18.7	— 7.4	89	Calm	0	0		4n							
Orenberg																			
Pekin (China)	29.72	754.9	29.86	758.5	33.6	0.9	66	Calm	0	0		3k							Physical Observatory.
St. Petersburg	29.71	754.6	29.72	755.0	31.6	— 0.2	85	WNW	20	9		0							Central Physical Obs.
Tashkend	28.32	719.2	29.94	760.4	37.8	3.2	80	W	18	8		10							Teich, A. M.
Tiflis	28.84	732.5	30.30	769.7	43.0	6.1	63	NW	9	4		4k							Physical Observatory.
Vladivostock																			
Warsaw	30.18	766.6	30.64	778.2	24.8	— 4.0	98	W	20	9		10							Astronomical Obs.
Wilna	29.84	757.8	30.28	769.0	35.4	1.9	88	W	11	5		10						Heavy clouds	Astronomical Obs.
Yenisiesk	29.54	750.4	29.87	758.6	— 9.6	—23.1	84	Calm	0	0		0							Marks.

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. * N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	30.50	774.7	30.61	777.4	49.3	9.6	53	S	3.0	1.33		0				0	0	Clear	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.47	774.0	30.53	775.5	44.6	7.0	85	SW	1.3	0.57		1	8	E		0.232	5.9	Almost cov'd	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.48	698.1			40.1	4.5	45	SE	5.3	2.35		0	8			0	0	Cloudy	Domingo Martin y Perez.
Madrid, Royal Observatory	28.23	717.1	30.57	776.4	43.2	6.2	60	NE	2.2	1.00		0	5			0	0	Cloudy	The Staff.
Murcia, Met. Obs'y	30.40	772.1	30.55	776.0	51.8	11.0	86	WSW	1.0	0.44		3	5	NNE		0.044	1.13	Misty	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.51	749.5	30.43	773.0	49.1	9.5	60	SE	12.5	5.6		4	0			0	0	Cloudy	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. T.	30.13	765.4	30.20	767.0	70.4	21.3	87	E	3.4	1.5		0	1s;k			0	0	Clear	Benito Vines S. J.
Manilla, Phillippine Islands																			Federico Faura, S. J.
San Fernando, Naval Obs'y	30.23	767.8	30.33	770.4	61.0	16.1	51	ESE	25.8	11.5		0	1		W	0	0		Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	30.08	764.1	30.17	766.4	73.4	23.0	87	NE	6.5	2.90		5kn	4kn	NE	NE	0.226	5.75	Cloudy	Enriqueciaden, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rühenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.47	748.4	29.50	749.4	39.9	4.4	.....	SW	.....	.....	1 2	.....	10	.....	.....	0	0	.....	
Umea	29.66	753.4	29.71	754.7	30.2	— 1.0	80	SW	.....	.....	1 2	.....	9	.....	.....	0	0	.....	
Hernosand	29.75	755.6	29.80	756.9	33.4	0.8	78	SSW	.....	.....	1 2	.....	10	.....	.....	0	0	.....	
Stockholm	29.90	759.5	30.08	764.0	38.1	3.4	87	WNW	.....	.....	4	.....	5	.....	.....	0	0	.....	
Wisby	30.04	763.0	30.10	764.5	38.5	3.6	90	WNW	.....	.....	7	.....	10	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.91	759.6	29.99	761.8	37.9	3.3	87	WSW	11.0	4.9	.....	.....	2	.....	.....	0	0	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	29.31	744.4	30.63	783.1	23.5	— 4.7	100	ESE	.....	.....	1	.....	10	.....	.....	0	0	Misty.....	The Observatory.
Zurich	29.08	738.5	30.85	783.5	17.6	— 8.0	100	S	.....	.....	1	.....	2	.....	.....	0	0	Clear.	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +16.8 mm.; Thermometer, —6.5 Cent.; Relative Humidity, +20 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.52	775.1	41.2	5.1	87	N	27	12.0	.....	.....	10	.....	N	0.130	3.3	Raining.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.43	773.0	51.4	10.8	.....	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear.	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	30.05	763.3	30.17	766.2	66.1	13.4	65	W	.....	.....	3	.....	9n	.....	SW	0.088	2.18	Raining.....	Prof. C. V. A. van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	29.99	761.7	30.06	763.5	— 3.6	—10.8	86	SW	3	1.3	.....	0	0	.....	.....	0.42	10.7	Clear.	G. A. Blair.
Charlottetown, P. E. Island	29.93	760.2	29.97	761.2	17.2	— 8.2	85	W	15	6.7	.....	0	1s	.....	.....	0.45	11.4	Fine	H. J. Cundall, C. E.
Cornwall, Ontario	30.15	765.8	30.30	771.1	18.5	— 7.5	69	NW	.....	.....	1	.....	10s	.....	.....	0	0	Overcast....	James Smith, M. A.
Dalhousie, N. B	29.82	757.4	30.01	762.2	0.5	—17.5	.....	W	.....	.....	2	0	1s	.....	.....	0.40	10.2	Fine.....	H. A. Johnson.
Father Point, Quebec	30.04	763.0	30.00	763.5	— 9.3	—22.9	100	W	10	4.5	.....	0	2s	.....	.....	0.30	7.6	Fair.....	J. McWilliams.
Fredericton, N. B	30.11	764.8	30.18	766.6	—5.9	—21.1	100	Calm	0	0	.....	0	Haze	.....	.....	0.02	0.5	Clear.	Prof. Harrison.
Fort Garry, Manitoba	29.54	750.3	30.58	776.7	—41.4	—40.8	100	W	3	1.3	.....	0	0	.....	.....	0	0	Clear.	James Stewart.
Granton, Ontario	29.18	741.1	30.38	771.6	14	—10.0	.....	Calm	.....	.....	0	2cs	0	.....	.....	0	0	Fair.....	James Grant.
Halifax, N. S	29.95	760.7	30.08	764.0	28.0	— 2.2	77	NW	16	7.2	.....	0	0	.....	.....	0.55	14.0	Clear.	A. Allison.
Hamilton, Ontario	30.08	764.0	30.43	772.9	15.7	— 9.1	91	SW	.....	.....	3	10cs	0	E	.....	0	0	Cloudy.....	Geo. Dickson, B. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	30.03	762.7	30.38	771.6	25.6	— 3.6	71	W	5	2.2	.....	.....	10s	.....	.....	0.17	4.3	Cloudy.....	S. Woods, M. A.
Little Glace Bay, N. S	29.78	756.4	29.82	757.4	32.7	0.4	87	W	8	3.6	.....	7k	0	W	.....	0.44	11.2	Cloudy.....	C. H. Rigby.
Montreal, Quebec	30.08	764.0	30.30	769.6	16.5	— 8.6	75	W	25	11.2	.....	2cs	0	.....	.....	0	0	Clear.	C. H. McLeod, C. E.
Moose Factory, Ontario	30.22	767.6	30.26	768.6	—18.9	—28.3	87	W	.....	.....	2	0	0	.....	.....	0	0	Clear.	J. R. Nerson.
Norwood	29.60	751.8	30.35	770.9	21.4	— 5.9	100	N	2	0.9	.....	.....	10s	.....	.....	0	0	Cloudy.....	Rev. T. F. Fotheringham, M. A.
Parry Sound, Ontario	29.02	752.3	30.38	771.6	15.1	— 9.4	82	NE	5	2.2	.....	2ck	5ks	W	W	0.13	3.3	Fair.....	Rev. R. Mosley.
Peterboro, Ontario	29.59	751.6	30.40	772.1	20.4	— 6.4	77	Calm	.....	.....	0	0	8ks	.....	.....	0	0	Cloudy.....	J. F. Jeffers, M. A.
Port Dover, Ontario	29.67	753.6	30.43	772.9	14.1	— 9.9	100	Calm	0	0	.....	10ck	0	NW	.....	0	0	Fair.....	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.68	753.9	30.40	772.1	10.8	—11.8	96	N	2	0.9	.....	.....	10ks	.....	NW	0	0	Cloudy.....	M. Payne.
Quebec, Quebec	29.87	758.7	30.23	767.8	5	—15.0	.....	W	.....	.....	5	0	0	.....	.....	1.15	29.2	Clear.	Capt. Ashe, R. N.
Rockliffe, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. McIntyre.
St. Andrews, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Gove.
St. John, N. B	30.03	762.7	30.21	767.3	13	—10.6	81	SW	7	3.1	.....	0	0	.....	.....	0.03	0.8	Clear.	G. Murdock, C. E.
Saugeen, Ontario	29.60	751.8	30.37	771.4	21	— 6.1	88	NW	2	0.9	.....	0	0	.....	.....	0.02	0.5	Clear.	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.99	736.3	30.40	772.1	11.2	—11.6	93	Calm	0	0	.....	2cs	0s	NW	.....	0	0	Cloudy.....	C. J. MacGregor, M. A
Sydney, C. B	29.67	753.6	29.71	754.6	32.4	0.2	93	W	9	4.0	.....	5cs	5n	.....	.....	0.03	0.8	Cloudy.....	T. C. Hill, C. E.
Toronto, Ontario	30.02	762.5	30.44	773.2	14.5	— 9.7	80	W	4	1.8	.....	0	8s	.....	W	0.12	3.0	Fair.....	Magnetic Observatory
Windsor, N. S	30.10	764.5	30.20	767.1	23.0	— 5.0	93	N	11	4.9	.....	0	0	.....	.....	0.30	7.6	Clear.	Prof. John E. Oram, M. A
Woodstock, Ontario	29.25	742.9	30.43	772.9	10.3	—12.1	98	SE	4	1.8	.....	0	9ks	.....	W	0	0	Cloudy.....	Prof. J. Montgomery.
Yarmouth, N. S	30.14	765.5	30.21	767.3	29.5	— 1.4	87	NW	16	7.2	.....	2ck	0	W	.....	0.32	8.1	Fair.....	Lt. F. E. Wilmot, R. N
Sub-Series.																			
St. Johns, Newfoundland	30.03	762.7	30.30	769.6	25	— 3.9	100	SE	.....	.....	.....	.....	10n	.....	.....	Blank	Blank	Stormy.....	John Delany.
St. Pierre, N. F., l'Hopital Maritime	.....	.....	29.83	757.6	30 2	— 1	.....	S	.....	.....	5	.....	.....	.....	.....	.....	.....	.....	The Commandant.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer. U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	30.17	766.3	30.42	772.7	18	— 7.8	84	S	1	0.4	.....	5c	5s	W	Calm	0.70	17.8	Fair...	.....
Alpena, Michigan	29.67	753.6	30.40	772.1	5	—15.0	75	W	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	.....
Atcha, Aleutian Is., Ala ska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Atlanta, Georgia	28.96	735.6	30.09	764.3	62	16.7	94	SW	15	6.7	.....	.....	10s	.....	Calm	0.04	1.0	Cloudy	.....
Atlantic City, New Jersey	30.36	771.1	30.38	771.6	36	2.2	90	W	4	1.8	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy	.....
Augusta, Georgia	30.03	762.7	30.23	767.8	61	16.1	88	S	4	1.8	.....	0	8s	.....	SW	0	0	Fair...	.....
Baltimore, Maryland	30.35	770.9	30.40	772.1	39	3.9	73	SW	3	1.3	.....	.....	10s;fog	.....	Calm	0.28	7.1	Cloudy	.....
Barnegat, New Jersey	30.36	771.1	30.39	771.9	35	1.7	90	NW	4	1.8	.....	.....	10s	.....	W	0.25	6.3	Cloudy	.....
Bismarck, Dakota	28.50	723.9	30.35	770.9	—18	—27.8	100	N	14	6.3	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	.....
Boerne, Texas	28.40	721.3	29.67	753.6	64	17.8	100	S	8	3.6	.....	.....	10s	.....	SW	Inap.	Inap.	Cloudy	.....
Boise City, Idaho	27.21	691.1	30.17	766.3	5	—15.0	75	W	12	5.4	.....	0	0	.....	.....	0	0	Clear.	.....
Boston, Massachusetts	30.17	766.3	30.34	770.6	24	— 4.4	61	W	2	0.9	.....	2c	5s	W	Calm	0.21	5.3	Fair...	.....
Brackettville, Texas	28.67	728.2	29.69	754.1	64	17.8	94	E	10	4.5	.....	.....	10s	.....	Calm	0.03	0.8	Threatening	.....
Breckenridge, Minnesota	29.31	744.5	30.49	774.4	—17	—27.2	100	W	6	2.7	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	.....
Brownsville, Texas	29.84	757.9	29.89	759.2	75	23.9	90	S	12	5.4	.....	8k	0	S	.....	0	0	Fair ..	.....
Buffalo, New York	29.64	752.8	30.40	772 1	24.5	— 4.2	68	W	4	1.8	.....	.....	10s	.....	SW	0.01	0.3	Cloudy	.....
Burkes, Arizona	.....	.....	.....	.....	45	7.2	61	SW	.....	.....	1	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	.....
Burlington, Vermont	30.03	762.7	30.34	770.6	30	— 1.1	78	W	15	6.7	.....	2ck	5ks	W	W	0.05	1.3	Fair...	.....
Cairo, Illinois	29.70	754.4	30.10	764.5	37	2.8	81	E	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	.....
Campo, California	27.39	695.7	29.96	761.0	35	1.7	90	SW	11	4.9	.....	.....	10n	.....	Calm	0.61	15.5	Light rain...	.....
Cape Hatteras, N. Carolina	30.24	768.1	30.25	768.3	57	13.9	94	NE	9	4.0	.....	.....	10n	.....	Calm	0.08	2.0	Light rain...	.....
Cape Henry, Virginia	30.29	769 4	30.32	770.1	47	8.3	85	NE	26	11.6	.....	.....	10s	.....	NE	0.08	2.0	Cloudy	.....
Cape Lookout, N. Carolina	30.23	767.8	30.25	768.3	60	15.6	94	SW	5	2.2	.....	.....	10ks	.....	Calm	0	0	Cloudy	.....
Cape May, New Jersey	30.34	770.6	30.38	771.6	39	3.9	82	N	10	4.5	.....	.....	10n	.....	N	0.30	7.6	Light rain...	.....
Castroville, Texas	29.06	738.1	29.75	755.6	67	19.4	95	S	7	3.1	.....	.....	10s	.....	S	0	0	Cloudy	.....
Cedar Keys, Florida	30.23	767.8	30.25	768.3	65	18.3	94	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear.	.....
Charleston, South Carolina	30.17	766.3	30.23	767.8	60	15.6	94	SW	4	1.8	.....	5c	0	Calm	.....	0	0	Fair...	.....
Charlotte, North Carolina	29.31	744.5	30.13	765.3	55	12.8	100	E	1	0.4	.....	.....	Fog	.....	Calm	0	0	Foggy	.....
Chattanooga, Tennessee	29.24	742.7	30.03	762.7	59	15.0	94	Calm	0	0	.....	.....	10ks	.....	SW	1.84	46.7	Cloudy	.....
Cheyenne, Wyoming	23.72	602.5	29.66	753.4	—12	—24.4	75	N	6	2.7	.....	.....	10s	.....	N	0.01	0.3	Cloudy	.....
Chicago, Illinois	29.51	749.5	30.21	767.3	28	— 2.2	77	NE	13	5.8	.....	.....	10s	.....	Calm	0	0	Cloudy	.....
Cincinnati, Ohio	29.51	749.5	30.19	766.8	35	1.7	70	NE	5	2.2	.....	10cs	0	N	.....	0	0	Cloudy	.....
Cleveland, Ohio	29.60	751.8	30.38	771.6	24	— 4.4	87	SE	4	1.8	.....	5ck	5s	W	Calm	0	0	Cloudy	.....
Coleman City, Texas	28.04	712.2	29.66	753.4	59	15.0	88	Calm	0	0	.....	.....	10s	.....	SW	0	0	Cloudy	.....
Columbus, Ohio	29.34	745.2	30.23	767.8	30	— 1.1	78	NE	7	3.1	.....	5cs	0	Calm	.....	0	0	Fair...	.....
Concho, Texas	27.88	708.1	29.49	749.0	62	16.7	77	SW	.....	.....	1	.....	10s	.....	Calm	0	0	Cloudy	.....
Corsicana, Texas	29.37	746.0	29.84	757.9	51	10.6	93	Calm	0	0	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy	.....
Davenport, Iowa	29.48	748.8	30.18	766.6	13	—10.6	71	NE	13	5.8	.....	.....	10s	.....	NE	0	0	Cloudy	.....
Dayton, Washington T'y	.....	.....	.....	.....	—12	—24.4	50	N	.....	.....	1	0	0	.....	.....	0	0	Clear.	.....
Deadwood, Dakota	25.32	643.1	.....	.....	—15	—26.1	45	Calm	0	0	.....	.....	10n	.....	Calm	0.03	0.8	Light snow.	.....
Decatur, Texas	28.66	728.0	29.84	757.9	42	5.6	66	NE	16	7.2	.....	.....	Fog	.....	.....	0	0	Foggy	.....
Denison, Texas	29.07	738.4	29.89	759.2	36	2.2	100	N	1	0.4	.....	.....	10n	.....	Calm	0.02	0.5	Light rain...	.....
Denver, Colorado	24.56	623.8	29.78	756.4	— 1	—18.3	100	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear.	.....
Des Moines, Iowa	29.22	742.2	30.20	767.1	6	—14.4	76	NE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	.....
Detroit, Michigan	29.63	752.6	30.36	771 1	17	— 8.3	83	NE	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	.....
Dodge City, Kansas	27.51	693.7	29.83	757.7	1	—17.2	71	NE	20	8.9	.....	0	8s	.....	NW	0	0	Cloudy	.....
Dubuque, Iowa	29.42	747.2	30.20	767.1	2	—16.7	72	N	5	2.2	.....	.....	10s	.....	N	0	0	Cloudy	.....
Duluth, Minnesota	29.68	753.9	30.48	774 2	— 9	—22.8	78	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear.	.....
Eagle Pass, Texas	29.10	739.1	29.82	757.4	58	14.4	94	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	.....
Eastport, Maine	30.10	764.5	30.18	766.6	14	—10.0	64	W	8	3.6	.....	0	0	.....	.....	0.27	6.9	Clear	.....
Edinburg, Texas	.....	.....	.....	.....	70	21.1	90	S	.....	.....	4	.....	10s	.....	S	0	0	Cloudy	.....
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Erie, Pennsylvania	29.63	752.6	30.39	771.9	32	0.0	69	Calm	0	0	.....	.....	10s	.....	W	0.15	3.8	Cloudy	.....
Escanaba, Michigan	29.69	754.1	30.43	772.9	0	—17.8	70	N	5	2.2	.....	.....	10s	.....	N	0	0	Cloudy	.....
Florence, Arizona	28.43	722.1	30.03	762.7	43	6.1	92	S	2	0.9	.....	.....	10s	.....	S	0	0	Cloudy	.....
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fort Buford, Dakota	28.31	719.1	30.56	776.2	—32	— 35.6	100	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	.....
Fort Custer, Montana	27.05	687.1	.....	.....	-19	—28.3	100	SW	2	0.9	.....	0	0	.....	.....	0.02	0.5	Clear	.....
Fort Davis, Texas	25.02	635.5	29.98	761.5	52	11.1	41	SW	7	3.1	.....	5cs	0	SW	.....	0	0	Fair...	.....
Fort Gibson, Indian Ter	29.35	745.5	29.90	759.4	34	1.1	100	NW	3	1.3	.....	.....	10n	.....	Calm	0.43	10.9	Light rain...	.....
Fort Grant, Arizona	25.09	637.3	29.89	759.2	32	0.0	59	NW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	.....
Fort Griffin, Texas	28.52	724.4	29.80	756.9	45	7.2	76	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	.....
Fort Keogh, Montana	27.56	700.0	.....	.....	—34	—36.7	.....	Calm	0	0	.....	0	0	.....	.....	0.20	5.1	Clear.	.....
Fort McKavett, Texas	27.53	699.2	29.38	746.2	62	16.7	88	S	10	4.5	.....	.....	10ks	.....	S	0	0	Cloudy	.....
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fort Sill, Indian Territory	28.64	727.4	29.80	756.9	28	— 2.2	88	N	8	3.6	.....	.....	10n	.....	Calm	Inap	Inap.	Light rain...	.....
Fort Stevenson, Dakota	28.54	724.9	.....	.....	—34	—36.7	100	W	2	0.9	.....	0	0	.....	.....	0	0	Clear.	.....
Fort Verde, Arizona	.....	.....	.....	.....	36	2.2	90	S	.....	.....	4	.....	10s	.....	S	Inap.	Inap.	Cloudy	.....
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fredericksburg, Texas	28.00	711.2	29.50	749.3	63	17.2	83	S	11	4.9	.....	.....	10s	.....	Calm	0	0	Cloudy	.....
Galveston, Texas	29.93	760.2	29.97	761.2	67	19.4	95	S	11	4.9	.....	2ck	2ks	W	Calm	0	0	Fair...	.....
Graham, Texas	28.74	730.0	29.81	757.2	42	5.6	74	SE	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy.	.....
Grand Haven, Michigan	29.59	751.6	30.30	769.6	18	— 7.8	84	NE	8	3.6	.....	5cs	0	Calm	.....	0	0	Fair...	.....
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Henrietta, Texas	28.89	733.8	29.85	758.2	37	2.8	100	E	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	.....
Indianapolis, Indiana	29.33	745.0	30.15	765.8	28	— 2.2	77	NE	10	4.5	.....	5k	0	NE	.....	0	0	Fair...	.....
Indianola, Texas	29.91	759 7	29.94	760.5	69	20.6	95	S	8	3.6	.....	.....	10s	.....	S	Inap.	Inap.	Cloudy	.....
Jacksboro, Texas	28.62	726.9	29.70	755.9	40	4.4	56	N	4	1.8	.....	0	8s	.....	N	0	0	Fair...	.....
Jacksonville, Florida	30.24	768.1	30.26	768.6	61	16.1	88	Calm	0	0	.....	5cs	0	W	.....	0	0	Fair...	.....
Keokuk, Iowa	29.38	746.2	30.04	763.0	18	— 7.8	76	E	11	4.9	.....	.....	10s	.....	Calm	0	0	Cloudy	.....
Key West, Florida	30.17	766.3	30.20	767.1	72	22.2	85	E	6	2.7	.....	2k	0	E	.....	0	0	Fair...	.....
Kittyhawk, North Carolina	30.24	768.1	30.26	768.6	51	10.6	100	NE	22	9.8	.....	.....	10n	.....	NE	0.67	17.0	Light rain...	.....
Knoxville, Tennessee	29.05	737.9	30.05	763.3	56	13.3	100	E	3	1.3	.....	.....	10n	.....	Calm	1.76	43.7	Heavy rain...	.....
La Crosse, Wisconsin	29.51	749.5	30.35	770.9	— 4	—20.0	65	N	6	2.7	.....	0	0	.....	.....	0	0	Clear.	.....
La Mesilla, New Mexico	25.90	657.8	30.05	763.3	36	2.2	71	Calm	0	0	.....	0	1s	.....	Calm	0	0	Clear.	.....
Laredo, Texas	29.54	750.3	29.88	758.9	66	18.9	80	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear	.....
Leavenworth, Kansas	29.14	740.1	30.05	763.3	20	— 6.7	56	N	6	2.7	.....	.....	10s	.....	.....	0	0	Cloudy	.....
Lewiston, Idaho	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Little Rock, Arkansas	29.63	752.6	29.99	761.7	42	5.6	91	NE	4	1.8	.....	.....	10s	.....	Calm	0.15	3.8	Cloudy	.....
Los Angeles, California	29.67	753.6	30.02	762.5	41.0	5.0	82	NW	2	0.9	.....	0	0	.....	.....	0.04	1.0	Clear	.....
Louisville, Kentucky	29.52	749.8	30.10	764.5	36	2.2	71	N	8	3.6	.....	.....	10s;fg	.....	Calm	0	0	Cloudy	.....
Lynchburg, Virginia	29.63	752.6	30.34	770.6	41	5.0	91	E	5	2.2	.....	.....	10n	.....	Calm	0.36	9.1	Light rain...	.....
Madison, Wisconsin	29.19	741.4	30.31	769.9	— 1	—18.3	68	N	9	4.0	.....	5cs	0	W	.....	0	0	Fair...	.....
Marquette, Michigan	29.60	751.8	30.38	771.6	5	—15.0	75	W	12	5.4	.....	0	0	.....	.....	0	0	Clear	.....
Mason, Texas	28.17	715.5	29.86	758.4	67	19.4	89	S	10	4.5	.....	.....	10s	.....	S	0.06	1.5	Cloudy	.....
Memphis, Tennessee	29.67	753.6	30.02	762.5	43	6.1	91	NE	4	1.8	.....	.....	10n;fog	.....	Calm	0.41	10.4	Light rain...	.....
Milwaukee, Wisconsin	29.49	749.0	30.30	769 6	8	—13.3	78	N	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	.....

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer: Corrected for instrumental error and temperature. Inches.	Barometer: Corrected for instrumental error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mobile, Alabama	30.10	764.5	30.14	765.5	60	15.6	100	S	1	0.4	.....	.....	Fog	.....	.....	0	0	Foggy	
Montgomery, Alabama	29.93	760.2	30.16	766.1	64	17.8	97	S	6	2.7	.....	0	8ks	.....	W	0.53	13.5	Fair	
Morgantown, West Virginia	29.22	742.2	30.25	768.3	39	3.9	55	NE	8	3.6	.....	.....	10s	.....	Calm	0.09	2.3	Cloudy	
Mt. Washington, N. H.	23.51	597.1	29.87	758.7	6	—14.4	100	NW	72	32.2	.....	.....	Fog	.....	NW	0.57	14.5	Foggy	
Nashville, Tennessee	29.60	749.3	30.04	763.0	52	11.1	86	N	2	0.9	.....	.....	10n	.....	Calm	0.86	21.8	Light rain	
New Haven, Connecticut	30.25	768.3	30.38	771.6	23	— 5.0	86	Calm	0	0	.....	.....	10s;fg	.....	Calm	0.13	3.3	Cloudy	
New London, Connecticut	30.30	769.6	30.36	771.1	26	— 3.3	75	W	6	2.7	.....	7ck	1s	W	SW	0.60	15.2	Cloudy	
New Orleans, Louisiana	30.04	763.0	30.10	764.5	68	20.0	90	SE	4	1.8	.....	.....	10s	.....	S	0.02	0.5	Cloudy	
Newport, Rhode Island	30.29	769.4	30.35	770.9	29	— 1.7	78	W	2	0.9	.....	5c	2s	W	Calm	0.72	18.3	Fair	
New River, North Carolina	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
New York, New York	30.19	766.8	30.38	771.6	36	2.2	62	Calm	0	0	.....	5cs	2ks	Calm	Calm	0.31	7.9	Fair	
Norfolk, Virginia	30.26	768.6	30.32	770.1	46	7.8	92	NE	14	6.3	.....	.....	10s	.....	NE	0.01	0.3	Cloudy	
North Platte, Nebraska	27.12	688.8	30.04	763.0	— 9	—22.8	78	N	20	8.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Olympia, Washington Ter.	30.46	773.7	30.51	774.9	12.0	—11.1	80	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Omaha, Nebraska	28.94	735.1	30.17	766.3	— 2	—16.7	72	N	12	5.4	.....	.....	10n	.....	Calm	0.01	0.3	Light snow	
Oswego, New York	30.05	763.3	30.39	771.9	32	0.0	66	SW	11	4.9	.....	.....	10s	.....	W	0.01	0.3	Cloudy	
Pembina, Dakota	29.48	748.8	30.51	774.9	—44	—42.2	100	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Pensacola, Florida	30.15	765.8	30.18	766.6	65	18.3	100	S	2	0.9	.....	2cs	Haze	Calm	Calm	0	0	Fair	
Philadelphia, Pennsylvania	30.34	770.6	30.39	771 9	41	5.0	74	N	1	0.4	.....	.....	10s;fg	.....	Calm	0.51	13.0	Cloudy	
Phœnix, Arizona	28.73	729.7	30.57	776.5	43	6.1	75	S	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Pike's Peak, Colorado	17.11	434.6	30.32	770.1	— 6	—21.1	100	W	12	5.4	.....	.....	Fog	.....	Calm	0	0	Foggy	
Pilot Point, Texas	29.17	740.9	30.02	762.5	41	5.0	91	NW	.....	.....	.....	.....	10n	.....	NW	Inap.	Inap.	Light rain	
Ploche, Nevada	.....	.....	.....	.....	13	—10.6	81	NW	10	4.5	.....	0	0	.....	.....	0.03	0.8	Clear	
Pittsburg, Pennsylvania	29.47	748.5	30.34	770.6	29	— 1.7	78	E	4	1.8	.....	.....	10s	.....	E	0.04	1.0	Cloudy	
Port Huron, Michigan	29.64	752.8	30 37	771.4	15	— 9.4	82	NW	5	2.2	.....	10cs	0	Calm	.....	0	0	Cloudy	
Portland, Maine	30.17	766.3	30.23	767.8	22	— 5.6	72	NW	8	3.6	.....	5k	0	Calm	.....	0.63	16.0	Fair	
Portland, Oregon	30.49	774.4	30.58	776.7	8.5	—13.1	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Portsmouth, North Carolina	.....	.....	.....	.....	58	14.4	94	NE	12	5.4	.....	.....	10s	.....	Calm	0.05	1.3	Cloudy	
Prescott, Arizona	24.45	621.0	29.81	757.2	31	— 0.6	79	W	.....	.....	4	.....	10n	.....	W	Inap.	Inap.	Light snow	
Punta Rassa, Florida	30.22	767.6	30.24	768.1	65	18.3	89	NE	6	2.7	.....	1k	0	Calm	.....	0	0	Clear	
Red Bluff, California	29.88	758 9	30.26	768.6	29.5	— 1.4	57	N	21	9.4	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.69	754.1	29.90	759.4	66	18.9	80	SE	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Rochester, New York	29.74	755.4	30.40	772.1	26	— 3.3	75	W	6	2.7	.....	.....	10s	.....	W	0.02	0.5	Cloudy	
Roseburg, Oregon	29.93	760.2	30.57	776.5	11	—11.7	80	Calm	0	0	.....	0	0	.....	.....	0.15	3.8	Clear	
Sacramento, California	30.07	763.8	30.15	765.8	34	1.1	61	NW	16	7.2	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.47	748.5	30.08	764.0	26	— 3.3	88	NW	9	4.0	.....	.....	10s;smo	.....	.....	0	0	Cloudy	
St. Paul, Minnesota	29.42	747.3	30.36	771.1	— 1	—18.3	55	N	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Salt Lake City, Utah	29.29	642.2	29.62	752.3	18	— 7.8	53	NW	5	2.2	.....	0	0	.....	.....	0.11	2.8	Clear	
San Antonio, Texas	29.18	741.1	29.75	755.6	70	21.1	90	S	4	1.8	.....	.....	10ks	.....	Calm	0.02	0.5	Cloudy	
San Diego, California	30.02	762.5	30.10	764.5	51	10.6	59	W	16	7.2	.....	0	1s	.....	W	0.05	1.3	Clear	
Sandusky, Ohio	29.61	752.1	30.32	770.1	30	— 1.1	89	E	16	7.2	.....	10cs	0	Calm	.....	0	0	Cloudy	
Sandy Hook, New Jersey	30.36	771.1	30.40	772.1	37	2.8	71	N	4	1.8	.....	0	8s	.....	NW	0.84	21.3	Fair	
San Francisco, California	30.09	764.3	30.16	766.1	38	3.3	72	NW	8	3.6	.....	0	0	.....	.....	0.01	0.3	Clear	
Santa Fé, New Mexico	22.97	583.4	29.51	749.5	18	— 7.6	37	Calm	0	0	.....	0	0	.....	.....	0.10	2.5	Clear	
Savannah, Georgia	30.16	766.1	30.25	768.3	60	15.6	88	Calm	0	0	.....	2cs	Fog	Calm	Calm	0	0	Fair	
Shreveport, Louisiana	29.71	754.6	29.92	760.0	65	18.3	89	Calm	0	0	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.20	767.1	30.23	767.8	61	16.1	88	SW	4	1.8	.....	8ck	1s	SW	Calm	0	0	Cloudy	
Socorro, New Mexico	25.10	637.5	29.16	740.7	39	3.9	38	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois	29.43	747.5	30.14	765.5	24	— 4.4	87	E	14	6.3	.....	.....	10s	.....	.....	0	0	Cloudy	
Springfield, Massachusetts	30.23	767.8	30.38	771.6	19	— 7.2	69	S	2	0.9	.....	5cs	0	W	.....	0.24	6.1	Fair	
Stockton, Texas	26.77	680.0	29.77	756.1	55	12.8	22	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass.	30.20	769.4	30.35	770.9	30	— 1.1	78	NW	30	13.4	.....	10cs	0	NW	.....	0.21	5.3	Cloudy	
Toledo, Ohio	29.58	751.3	30.31	769.9	23	— 5.0	73	NE	14	6.3	.....	.....	10ks	.....	SW	0	0	Cloudy	
Tucson, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon	30.32	770.1	30.92	785.4	—20.5	—29.2	64	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Uvalde, Texas	28.93	734.8	29.73	755.1	66	18.9	95	SE	4	1.8	.....	.....	10s	.....	SW	0	0	Cloudy	
Vicksburg, Mississippi	29.76	755.9	30.01	762.2	69	20.6	90	S	10	4.5	.....	.....	10s	.....	SW	0.02	0.5	Cloudy	
Virginia City, Montana	24.07	611.4	29.55	750.6	—19	—28.3	66	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.68	753.9	30.07	763.8	34	1.1	90	NW	4	1.8	.....	0	0	.....	.....	0.23	5.8	Clear	
Washington, D. C.	30.27	768.8	30.39	771.9	36	2.2	90	N	5	2.2	.....	.....	10n	.....	Calm	0.03	0.8	Sleeting	
Wickenburg, Arizona	.....	.....	.....	.....	37	2.8	90	S	.....	.....	1	.....	10n	.....	S	0.08	2.0	Light rain	
Wilmington, North Carolina	30.14	765.5	30.22	767.6	61	16.1	88	S	6	2.7	.....	8ck	0	Calm	.....	0	0	Fair	
Winnemucca, Nevada	25.48	647.2	29.84	757.9	9	—12.8	78	NE	20	8.9	.....	.....	8s	.....	NE	0.15	3.8	Cloudy	
Wood's Holl, Massachusetts	30.28	769.1	30.33	770.4	34	1.1	90	NW	10	4.5	.....	.....	8s	.....	.....	0.30	7.6	Cloudy	
Yankton, Dakota	28.96	735.6	30.44	773.2	— 6	—21.1	61	N	13	5.8	.....	10c	0	NW	.....	0	0	Cloudy	
Yuma, Arizona	29.80	756.9	29.96	761.0	44	6.7	68	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	30.10	764.5	30.15	765.8	74	23.3	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.20	767.1	30.21	767.3	74	23.3	82	Calm	0	0	.....	5c	2s	Calm	.....	.....	.....	Fair	James Gall.
Navassa, W. I.	30.01	762.2	30.09	764.3	75	23.9	77	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A.	30.03	762.7	30.03	762.7	70	26.1	82	E	.....	.....	3	4c	5k	E	.....	0.730	18.54	Fair	C. J. Hering.
Santiago de Cuba, W. I.	30.14	765.5	30.16	766.1	72	22.2	75	N	9.6	4.3	.....	0	2s	.....	NE	Blank	Blank	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	29.96	761.0	30.02	762.5	—48.0	—44.4	.....	NW	9	4.0	.....	0	0	.....	.....	0	0	Clear	J. Fortescue & W. Wood

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,289 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,014 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,888.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,642 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.67 in., or 65.3 mm., Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.37 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.19‡	766.8‡	.....	.....	66	20.0	95	SW	5	2.2	.....	.....	2	.....	SW	0	0	.....	.....	Fair	
Navy Yard, Portsmouth, N.H.	30.46‡	773.7‡	.....	.....	20	— 6.7	100	WNW	0	0	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Adams, Mare I'd., Navy Yard, Cal.	30.18‡	766.6‡	.....	.....	36	2.2	90	NW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Alaska, Iquique, Peru *.	29.97‡	761.2‡	.....	.....	68	20.0	79	Calm	.....	.....	0	.....	8	.....	.....	.....	.....	.....	.....	Hazy	
Colorado, New York, . Y.	30.32‡	770.1‡	.....	.....	33	0.6	100	W	10	4.5	.....	.....	8	.....	SW	0	0	.....	.....	Cloudy	
Constitution, N. 16° 59′, W. 59° 32′	30.15‡	765.8‡	.....	.....	76	24.4	73	NE	.....	.....	5	.....	6	.....	NE	.....	.....	Mod'ate	NE	Pleasant	
Enterprise, Smyrna, Turkey	30.33‡	770.4‡	.....	.....	47	8.3	70	NE	.....	.....	5	.....	4	.....	NE	.....	.....	Rough	.....	Clear	
Franklin, Off Navy Yard, Norfolk, Va.	30.39‡	771.9‡	.....	.....	48	8.9	78	ENE	13.3	5.9	.....	.....	10	.....	ENE	0.01	0.3	.....	.....	Cloudy	
Independence, Mare I'd, Navy Yard, Cal.	30.16‡	766.1‡	.....	.....	50	10.0	79	Calm	0	0	.....	.....	0	.....	.....	0.016	0.41	.....	.....	Clear	
Kearsarge, N. 17° 30′, W. 79° 00′	30.08‡	764.0‡	.....	.....	79	26.1	74	ENE	.....	.....	3	.....	2	.....	ENE	0	0	Smooth	.....	Fair	
Lackawana, Honolulu, Sandwich Id's†	29.95‡	760.7‡	.....	.....	74	23.3	86	SE	.....	.....	2–3	.....	10	.....	SE	.....	.....	Smooth	.....	Cloudy	
Marion, N. 34° 05′, W. 50° 40′	30.44‡	773.2‡	.....	.....	62	16.7	77	E	.....	.....	5	.....	8	.....	ESE	0	0	Long	SE	Cloudy	
Michigan, Erie, Pa.	30.35‡	770.9‡	.....	.....	32	0.0	69	S	.....	.....	1	.....	10	.....	SW	.....	.....	.....	.....	Cloudy	
Monocacy, Shanghai, China.	30.09‡	764.3‡	.....	.....	42	5.6	68	S	.....	.....	0–1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
New Hampshire, Port Royal, S. C.	30.23‡	767.8‡	.....	.....	61	16.1	94	SSW	4	1.8	.....	.....	5?	.....	W	0	0	.....	.....	Clear?	
Nipsic, Norfolk, Va.	30.30‡	769.6‡	.....	.....	49	9.4	78	NE	.....	.....	3	.....	10	.....	.....	.....	.....	.....	.....	Drizzling	
Onward, Callao, Peru †.	29.97‡	761.2‡	.....	.....	62	16.7	94	NW	.....	.....	2	.....	10	.....	.....	.....	.....	Mod'ate smooth	W	Foggy	
Palos, Tientsin, China.	29.86‡	758.4‡	.....	.....	36	2.2	80	Calm	.....	.....	0	.....	8	.....	.....	.....	.....	.....	.....	Cloudy	
Passaic, Washington, D. C.	30.36‡	771.1‡	.....	.....	37	2.8	81	NE	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Cloudy	
Pensacola, Callao, Peru	29.94‡	760.5‡	.....	.....	62	16.7	100	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Smooth	.....	Foggy	
Powhatan, Navy Yard, Brooklyn, N.Y.	30.36‡	771.1‡	.....	.....	40	4.4	82	WNW	.....	.....	1	.....	10	.....	Calm	Light	Light	.....	.....	Overcast	
Quinnebaug, Villafranca, France.	30.60‡	777.2‡	.....	.....	58	14.4	53	ESE	.....	.....	1	.....	5	.....	E	.....	.....	.....	.....	Fair	
Ranger, Honolulu, Sandwich Ilds.	29.91‡	759.7‡	.....	.....	72	22.2	100	SW	.....	.....	3	.....	5	.....	.....	.....	.....	.....	.....	Rainy	
Richmond, Manila, Philippine Ilds.	29.94‡	760.5‡	.....	.....	80	26.7	74	SE	.....	.....	2	.....	8	.....	SE	.....	.....	Smooth	.....	Cloudy	
Rio Bravo, Brownsville, Texas. †	29.99‡	761.7‡	.....	.....	73	22.8	95	SSE	3	1.3	.....	.....	8	.....	S	0	0	.....	.....	Cloudy	
Santee, Annapolis, Md	30.38‡	771.6‡	.....	.....	38	3.3	91	Var.	.....	.....	1	.....	10	.....	W	0.02	0.5	.....	.....	Overcast	
Shenandoah, Montivideo, Uruguay.	29.85‡	758.2‡	.....	.....	72	22.2	46	W	.....	.....	2	.....	0	.....	.....	.....	.....	Smooth	.....	Clear	
St. Louis, League Island, Pa.	30.34‡	770.6‡	.....	.....	34	1.1	90	Calm	0	0	.....	.....	10	.....	.....	0.7	18.	.....	.....	Cloudy	
Tennessee, Navy Yard, Brooklyn, N.Y.	30.30‡	771.9‡	.....	.....	36	2.2	80	NNW	.....	.....	1–2	.....	8	.....	.....	.....	.....	.....	.....	Cloudy	
Tuscarora, Champerico, Mexico.	29.92‡	760.0‡	.....	.....	73	22.8	90	ENE	.....	.....	2	.....	2	.....	Calm	0	0	Smooth	.....	Clear	
Vandalia, Navy Yard, Brooklyn, N.Y.	30.09‡	764.3‡	.....	.....	37	2.8	81	W	.....	.....	1	.....	8	.....	NW	.....	.....	.....	.....	Fair	
Wabash, Boston, Mass.	30.27‡	768.8‡	.....	.....	23	— 5.0	73	W	2	0.9	.....	.....	2	.....	.....	0	0	.....	.....	Fair	
Wachusett, S. 29°, W. 45°†	30.40‡	772.1‡	.....	.....	74	23.3	81	WNW	.....	.....	4	.....	5	.....	NW	.....	.....	Long	S	Fair	
Wyoming, N. 43° 12′, E. 6° 42′	30.60‡	777.2‡	.....	.....	55	12.8	56	NNE	.....	.....	0–1	.....	2	.....	N	.....	.....	Smooth	N	Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		Character.	Direction from—		

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S. S. Samaria																		Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																		Capt. Cobb.
S. S. City of New York																		Capt. Seabury.
S. S. City of Panama																		Capt. Berry.
S. S. City of Peking																		Capt. Dearborn.
S. S. City of Sydney																		L. B. Walls.
S. S. City of Tokio, Capt. Maury																		Capt. R. Searle.
S. S. Colima																		Capt. Whitebury.
S. S. Costa Rica																		W. House & R. Lawless.
S. S. Dakota, Capt. H. G. Morse																		Capt. Connolly.
S. S. Georgia																		F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin																		Capt. A. Fuller.
S. S. Wilmington																		
S. S. Zealandia, Sydney, N. S. W.		29.82‡	757 4‡				E			3				SE				Cloudy	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																		Capt. J. W. Kennedy.
S. S. Baltic																		Capt. H. Perry.
S. S. Britannic																		Capt. B. Gleadell
S. S. Celtic																		Capt. C. W. Kennedy.
S. S. Germanic																		

NOTE.—The orginals give the barometer as read off; wind-force by the scale 0 to to 12; for the Brittanic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer N. 40° 43′, W. 168° 00′..†		29.80‡	758.4‡	46	7.8	77	NW			6		5		NW		Mod'ate	NW	Raining	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson N. 37° 10′, E. 161° 32′		29.54‡	750.3‡	58	14.4		NW			4–6		11		W	Slight	Rough	W	Showery	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																		Capt. H. Andreassen.
S. S. Berlin																		Capt. T. H. Lamke.
S. S. Braunschweig																		Capt. C. Undetsch.
S. S. Leipzig, Capt. F. Pfeiffer. N. 50° 03′, W. 4° 02′		30.79‡	782.1‡	47.5	8.6	96	SE			1		10		N	0′	Smooth	S	Hazy	S. Rislus, 3rd Officer.
S. S. Nurnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 42° 30′, W. 57° 26′		30.03‡	762.7‡				S			7		10		S		Heavy	SSW	Raining	Capt G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as p10. shed; generally give amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.			Force.	Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.			Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'er 0—10.	Upper. From—	Lower. From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa		30.44‡	773.2‡	34	1.1		SW			3		6		SW	Light			Fair	Capt. R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer
S. S. Pennsylvania																			Capt. Harris.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents.

S. S. Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland, N. 48° 50′, W. 19° 00′†		30.27‡	768.8‡	56	13.3		SW	8	3.6			10		WSW		Heavy	W	Gloomy	Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

Note.—The originals give the barometer as read off; do not distinguish between upper and lower clouds; sea-swell in general terms, as published. ‡Corrections for temperature, instrumental error and elevation applied at this office.

ALLAN LINE MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian, N. 53° 45′, W. 24° 43′		30.01‡	762.2‡	43	6.1		WSW			9		8		WSW		Heavy	WSW	Cloudy	J. Powell, 4th Officer.
S. S. Peruvian																			

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12. *The error of the barometer is not known. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES—Miscellaneous.

Furnished by the co-operation of the Observers named.

Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Barkentine "Carrie Heckle" N. 11° 07′, W. 31° 02′	*	29.84‡	757.9‡	79	26.1		E			4		2		E	0	Smooth	N	Fair	B. F. Woodbury.
Brigantine "George" of Halifax																			N. B. Foss.
Schooner Harry and Fred																			Capt. George Gardner.
Haytian																			
§ Iron Cross																			Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time. *Instrumental error not known.

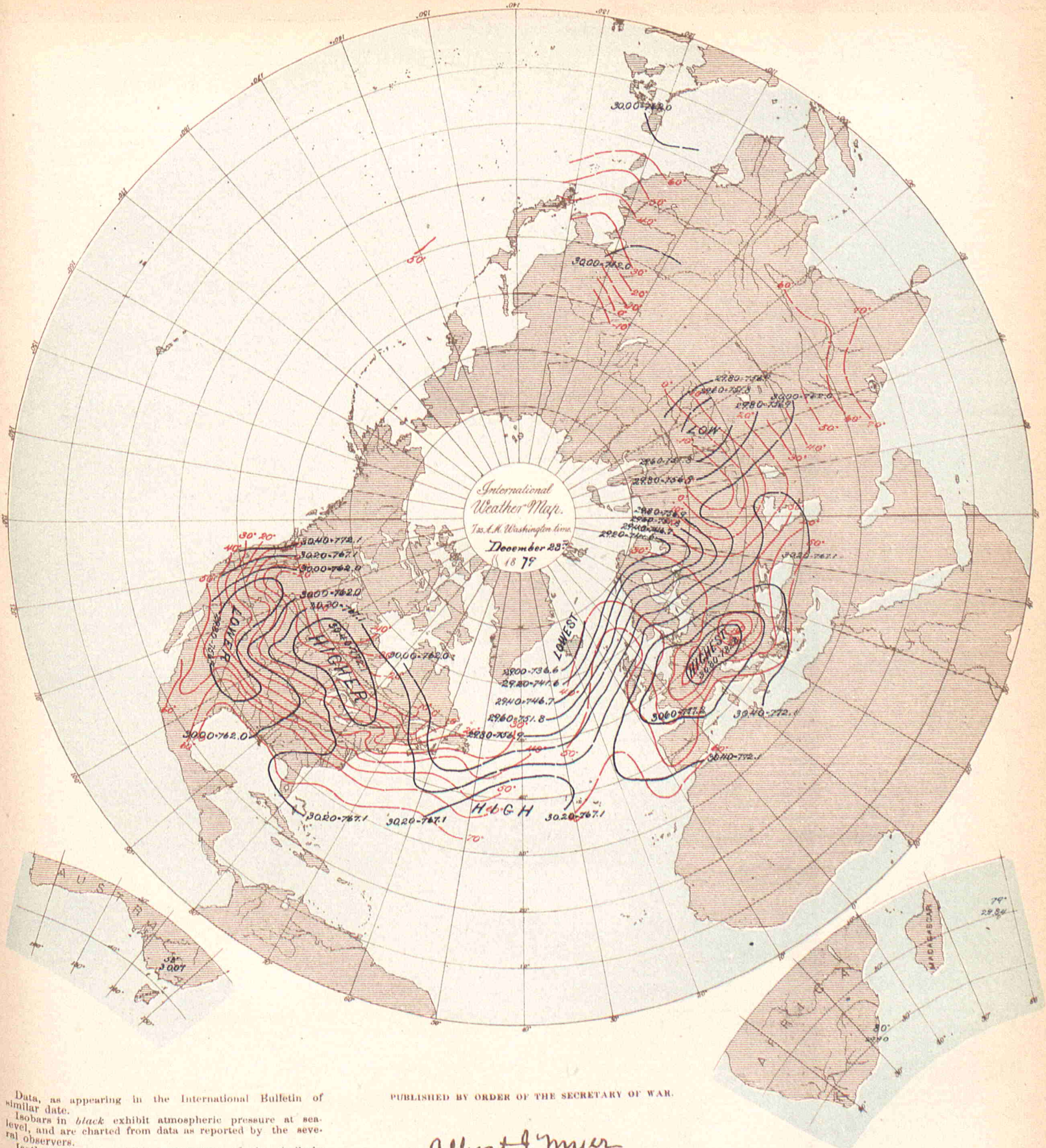
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, *fg*, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 24, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE TOWN, C. G. H. mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 1—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30 42	772.6	62.1	16.7	73	N			1		5			0	0	Cloudy	
Nemours			30.33	770.3	59.7	15.4	73	N			2		0			0	0	Clear	Kesxuche.
Algiers			30.45	773.4	54.0	12.2	59	NNE			2		0			0	0	Clear	Tourillere.
La Calle			30.40	774.5	56.8	13.8	65	N			2		8			0.020	0.5	Very cloudy	Foufrede.
Tunis																			Jacques
Sfax			30.52	775.2															Gau.
Saida																			Herbin.
Tebessa			30.61	775.0	43.7	6.5	74	SSE			2		8			0.020	0.5	Very cloudy	Watrin.
Geriville					40.1	9.5	46	Calm			0		0			0	0	Clear	Brugniuax.
Laghouat			30.47	774.0	45.3	7.4	44	NE			3		0			0	0	Clear.	Bertrand.
Biskra			30.50	774.8	59.4	15.2	53	WNW			4		0			0	0	Clear.	Chanvaux.

NOTE.—The originals give the amount of cloudiness by the scale 0-4; no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,369? m., or 4,492? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	30.06	763.4	30.66	778.8	20.3	— 6.5	90	NE			1		0			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.76	756.0	30.58	776.8	29.8	— 1.2	80	SW	0.9	0.4			3			0	0		Dr. Wierzbicki.
Eperies	29.70	754.3	30.67	779.1	15.8	— 9.0	75	Calm			0		Haze		Calm	0	0		Julius Mikolik.
Gratz	29.29	743.9	30.64	778.2	27.0	— 2.8	72	S			2		0			0	0		Andreas Rospini.
Hermannstadt	29.11	739.5	30.67	779.1	23.5	— 4.7	88	N			2		10			0	0		Prof. A. Gottschling.
Kremsmünster	29.19	741.3	30.69	779.4	12.4	—10.9	91	Calm			0		1			0	0		Prof. C. Wagner.
Lemberg	29.38	746.3	30.43	772.8	30.0	— 1.1	81	NW			3		8			0	0		Dr. T. Stanecki.
Pola	30.48	772.8	30.54	775.7	46.0	7.8	82	NW			1		0			0	0		I.R.Hydrographic Office
Szathmar	30.21	767.4	30.73	780.6	10.8	—11.8	85	SW			2		10			0	0	Foggy	Pet. Pancsics, S. J.
Szegedin	30.39	772.0	30.71	780.0	11.8	—11.2		Calm			0		10			0	0		Karl Stancel.
Trieste	30.46	773.6	30.56	776.2	45.3	7.4	40	Calm			0		0			0	0		P. Busin.
Vienna	29.88	759.0	30.65	778.5	15.6	— 9.1	97	Calm			0		0			0	0		I.R.Central Met. Ob'sy.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.88	758.9	29.98	761.5	41.5	4.7	.....	SW	18	8.0	.....	.....	2	.....	.....	0	0	Blue sky	W. Boswell.
Ardrossan	30.13	765.3	30.15	765.8	43	6.1	.....	WSW	.....	.....	6	.....	5	.....	.....	.....	.....	Raining	Wm. McNeil & G. Carrick
Armagh, (Observatory)	30.05	763.3	30.28	769.1	42.2	5.7	.....	SW	13	5.8	.....	.....	0	.....	.....	.....	.....	Blue sky	S. Call.
Bidston (Liverpool Obs)	.....	.....	30.59	777.0	42.2	5.7	.....	WSW	24	10.7	.....	.....	10	.....	.....	.....	.....	Raining	John Hartnup.
Bolton (Sharples)	29.71	754.6	30.24	768.1	40.2	4.6	.....	SSW	18	8.0	.....	.....	10	.....	.....	.....	.....	Gloomy	Thomas Mackereth.
Bradford, Yorkshire	29.86	758.4	30.25	768.3	42.1	5.6	.....	SW	.....	.....	4	.....	10	.....	.....	0	0	Overcast	J. McLandsborough.
Bridgetown, Barbadoes	29.98	761.5	30.01	762.2	76	24.4	.....	NE	.....	.....	2	.....	8	.....	.....	.....	.....	Overcast	Pvt. G. Surgener, A.H.C.
Cambridge (Observatory)	30.30	769.6	30.40	772.1	35.5	1.9	.....	S	.....	.....	1	.....	1	.....	.....	.....	.....	D. clouds	H. Todd.
Cardington	.....	.....	30.37	771.4	36.0	2.2	.....	SW	.....	.....	0–1	.....	4	.....	.....	.....	.....	D. clouds	John McLaren.
Chatham (School M. E.)	30.31	769.9	30.44	773.2	42.1	5.6	.....	NW	.....	.....	1	.....	8	.....	.....	.....	.....	Overcast	J. Carmell, Sapper, R.E.
Donaghadee	30.21	767.3	30.25	768.3	42	5.6	.....	WSW	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds	J. Mac Gowan.
Dover	30.38	771.6	30.42	772.7	40	4.4	.....	SW	.....	.....	3	.....	2	.....	.....	.....	.....	Misty	J. Costello.
Falmouth (Observatory)	30.24	768.1	30.47	773.9	47.3	8.5	.....	WSW	.....	.....	2	.....	9	.....	.....	.....	.....	Overcast	The Staff.
Fort Napier, Natal	27.49	698.2	29.70	754.4	84.4	29.1	.....	NE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Galway (Queen's College)	.....	.....	30.29	769.4	42.5	5.8	.....	W	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	Prof. A. H. Curtis.
Gibraltar, Mediterranean	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Sergt. Wm. Allen, A. H.
Glasgow, (Observatory)	29.91	759.7	30.11	764.8	40.4	4.7	.....	SW	.....	.....	6	.....	8k	.....	.....	.....	.....	Gloomy	D. G. Maclean. [O.
Great Yarmouth	30.56	771.1	30.36	771.1	32	0.0	.....	WSW	.....	.....	3	.....	6	.....	.....	.....	.....	Foggy	G. T. Watson.
Greenwich (Royal Obs'y)	30.25	768.3	30.43	772.9	36.6	2.6	.....	SW	.....	.....	1	.....	1	.....	.....	.....	.....	Blue sky	The Staff, for G.B. Airy.
Guernsey	30.26	768.6	30.49	774.4	43.5	6.4	.....	SSW	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds	Dr. S.E. Hoskins, F.R.S.
Helston	30.56	776.2	30.68	779.3	48	8.9	.....	SW	.....	.....	2	2ck	.....	.....	.....	0	0	Fine	M. P. Moyle.
Holyhead	30.26	768.6	30.32	770.1	45	7.2	.....	W	.....	.....	2	.....	1	.....	.....	.....	.....	Blue sky	John Tilston.
Jersey	30.24	768.1	30.55	776.0	41.6	5.0	.....	W	.....	.....	2	.....	6	.....	.....	.....	.....	Misty	J. Fisher.
Kew (Observatory)	30.40	772.1	30.44	773.2	32.7	0.4	.....	W	3	1.3	.....	.....	3	.....	.....	.....	.....	D. clouds	The Met'g'l Office.
Leicester (Museum)	30.06	763.5	30.33	770.4	39.1	3.9	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	30.29	769.4	30.37	771.4	56	13.3	.....	NE	.....	.....	2	.....	8ku	.....	.....	.....	.....	Overcast	A. King.
Nairn	29.82	757.4	29.92	760.0	40	4.4	.....	W	.....	.....	2	.....	5	.....	.....	.....	.....	½ clouded	W. D. Penny.
Nassau, Bahamas	.....	.....	30.29	769.4	75.0	23.9	.....	NE	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham (Observatory)	30.12	765.0	30.32	770.1	38.8	3.8	.....	SSW	.....	.....	3	.....	10k	.....	.....	SW	0	Overcast	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.79	756.7	30.33	770.4	38.0	3.3	.....	SW	.....	.....	5	.....	10	.....	.....	.....	.....	Misty	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)	.....	.....	30.40	772.1	42	5.6	.....	SW	.....	.....	1	.....	3	.....	.....	.....	.....	Blue sky	H. E. Bellamy.
Plymouth	30.39	771.9	30.46	773.7	44.0	6.7	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Foggy	John Merrifield.
Prince Town	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Tooker.
*Roche's Point	30.31	769.9	30.40	772.1	46	7.8	.....	NNW	.....	.....	3	.....	5	.....	.....	.....	.....	½ clouded	Wm. Kennedy.
St. Ann's Head	30.21	767.3	30.37	771.4	48	8.9	.....	WSW	.....	.....	6	.....	10	.....	.....	.....	.....	Misty	John C. Walker.
Sandwick Manse, Orkneys	.....	.....	29.73	755.1	41.9	5.5	.....	WSW	42	18.8	.....	.....	0?	.....	.....	.....	.....	Showery?	Rev. C. Clouston, L.L.D.
Scutari Cemetery, Turkey	30.31	769.9	30.38	771.6	43.4	6.3	.....	NE	.....	.....	1	.....	9	.....	.....	.....	.....	Gloomy	Serg't W. H. Lane.
Sheffield	30.04?	763.0?	30.33?	770.4?	43.0	6.1	.....	SSW	.....	.....	3	.....	6	.....	.....	0	0	D. clouds	W. F. Cooper.
Silloth Rectory	30.16	766.1	30.20	767.1	41.8	5.4	87	SW	.....	.....	4	.....	0	.....	.....	0	0	Blue sky	Francis Redford, A. M.
Stonyhurst (Observatory)	.....	.....	30.23	767.8	40.6	4.8	.....	WSW	14	6.3	.....	.....	10	.....	.....	.....	.....	Drizzling	Rev. S. J. Perry.
Stratfield, Turgiss	.....	.....	.....	.....	34.0	1.1	.....	SW	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	Rev. C. H. Griffith, F.M.S.
Truro (Royal Institution)	30.40	772.1	30.48	774.2	50	10.0	.....	SW	.....	.....	2	.....	7	.....	.....	.....	.....	Gloomy	W. Newcombe.
Valencia Observatory)	30.37	771.4	30.39	771.9	47.8	8.8	.....	W	6	2.7	.....	.....	2	.....	.....	Blank	Blank	Misty	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.44	646.2	.....	.....	98	36.7	.....	WNW	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	Robert Burnet.
Constable, Cape Colony	26.72	678.7	.....	.....	81	27.2	.....	W	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Hobart Town, Tasmania	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Leith (Restalrig Park) Sc'tl'd	.....	.....	30.12	765.0	41.2	5.1	.....	W	.....	.....	3	.....	2k	.....	.....	0	0	Cloudy	C. Meldrum.
Mauritius (Observatory)	29.60	751.8	29.79	756.6	80.8	27.1	71	NNE	16.0	7.2	.....	.....	8	.....	N	0.01	0.3	Squally	R. L. J. Ellery.
Melbourne (Observatory)	29.85	758.2	29.94	760.5	57.5	14.2	82	Calm	0	0	.....	.....	0	.....	.....	0	0	Very fine	J. Youngclause.
Monach Lt-house, Hebrides	.....	.....	29.91	759.7	47	8.3	.....	W	.....	.....	8	.....	10	.....	.....	0.3	8.	.....	.....
North Unst, Shetland Is	.....	.....	29.59	751.6	.....	.....	.....	W	.....	.....	7	10	10	W	.....	0	0	.....	.....

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters; Prince Town, 1,400 feet, or 427 meters; Colesberg Bridge and Constable, unknown.

BRITISH MARINE SERIES. VESSELS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer
H. M. S. Alert. Latitude Cove, Patagonia	.....	.....	29.20‡	741.7‡	46.5	8.1	.....	NNE	.....	.....	1–4	.....	10	.....	.....	.....	.....	Raining	Capt. J. P. Maclear, R.N.
H. M. Sloop Gannet, S. 18° 28′, W. 70° 21′	.....	.....	29.92‡	760.0	66	18.9	.....	Calm	.....	.....	0	.....	9	.....	.....	.....	.....	Overcast	Commander E. Bourke, R. N.
H. M. S. Magpie, House Island, near Shanghai, China	.....	.....	29.90‡	759.4‡	49.5	9.7	.....	SSE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	Capt. R. H. Napier, R.N.
Barque Belle-Isle, N. 36° 10′, W. 49° 05′	.....	.....	30.33	770.4	57	13.9	.....	N	.....	.....	9	.....	10	.....	.....	5	WNW	Overcast	Capt. A. J. Brown
City of Cashmere, S. 20° 58′, W. 131° 47′	.....	.....	29.99‡	761.7‡	74	23.3	.....	Calm	.....	.....	0	.....	3	.....	.....	.....	.....	D. clouds	Capt. W. M. Grieve.
S. S. Ethiopia, N. 42° 30′, W. 60° 30′	.....	.....	30.53	775.4	46	7.8	.....	NNE	.....	.....	3	.....	7	.....	.....	3	W	D. clouds	Capt. Campbell.
Barque Fedalma, N. 31° 00′, W. 65° 05′	.....	.....	30.40	772.1	70	21.1	.....	SSE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	Capt. H. L. Fox.
S. S. German, N. 30° 56′, W. 17° 06′	.....	.....	30.13‡	765.3‡	67	19.4	.....	SE	.....	.....	6	.....	4	.....	.....	0	.....	D. clouds	Capt. O. D. Coxwell.
Iron Cross, N. 41° 35′, W. 45° 30′	.....	.....	30.26	768.6	47	8.3	.....	NNW	.....	.....	8	.....	4	.....	.....	5	NNW	D. clouds	Capt. W. Randall.
Barque Mertole, N. 46° 50′, W. 11° 15′	.....	.....	30.48‡	774.2‡	51.8	11.0	.....	SW	.....	.....	2	.....	9	.....	.....	.....	.....	Overcast	Capt. Turner.
S. S. Peruvian, N. 38° 00′, W. 72° 55′	.....	.....	30.18	766.6	56	13.3	.....	S	.....	.....	5	.....	10	.....	.....	4	S	Foggy	Capt. W. H. Smith.
S. S. Strathleven, S. 13° 35′, E. 84° 50′	.....	.....	29.78‡	756.4‡	80.6	26.9	.....	ESE	.....	.....	5	.....	7	.....	.....	.....	.....	D. clouds	Capt. C. W. Pearson.
S. S. Sunbeam, N. 41° 10′, W. 61° 55′	.....	.....	30.51	774.9	47	8.3	.....	ENE	.....	.....	3	.....	9	.....	.....	2	ENE	Overcast	Capt. C. M. Dobson.

NOTE.—*The originals give the wind directions to 32 points*, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. L'w'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
San José	26.27	667.2	29.99	761.7	60.8	16.0	87	SE			2		1d		E	0	0		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.20	767.0	30.24	768.2	33.4	0.8	94	SW			4		0						
Faröe	30.19	766.8	30.21	767.3	34.7	1.5	96	SW			4		10						
Godthaab (Greenland)																			
Stykkisholm (Iceland)	29.45	748.1	29.50	749.2	30.7	— 0.7	90	NE			6		8						
Thorshavn (Faröe)	29.32	744.7	29.35	745.6	41.4	5.2	80	W			6		5						
Vestervig	29.95	760.7	30.06	763.5	37.6	3.1	93	SSW			6		2						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	30.00	762.1	30.56	776.1	24.8	— 4	91	NE			1		0			0	0	Clear	Collignon, Director.
Amiens, Normal School	30.30	769.5	30.42	772.0	24.4	— 4.2	81	NE			1		0			0	0	Clear	Vaillant, Director.
Arras, Engin'r School	30.22	767.6	30.49	774.5	24.4	— 4.2	91	SW			1					0	0		Klein, Commandant.
Avignon, Normal School	30.50	774.6	30.58	776.6	45.1	7.3	44	NE			1		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.99	761.8	30.60	777.3	22.6	— 5.3		S			1	2c				0	0	Slightly cld'y	C. Saillard, Director.
Beauvais, Normal School	30.27	768.8	30.56	776.3	19.4	— 7	78	ENE			1		0			0	0	Clear	Frère Eugene Marie.
Besançon, Normal School	29.78	756.3	30.76	781.4	17.4	— 8.1		E			1		0			0	0	Clear	A. Carré, Director.
Bourg-en-Bresse, N. School	29.72	755.0	30.64	778.3	28.4	— 2	78	SE			1		0			0	0	Clear	Marlot, Director.
Bourges, Normal School	29.95	760.7	30.54	775.8	25.9	— 3.4	87	N			1		1		N	0	0	Clear	M. Gence, Director.
Brest, Naval Observatory	30.28	769.1	30.52	775.3	38.5	3.6	90	Calm			0		10			0	0	Foggy	Ch. de Rermarec, Dir.
Caen, Normal School	30.39	772.0	30.48	774.1	35.2	1.8	96									0	0		M. Bietrin, Director.
Carcassonne, N. School	30.07	763.6	30.49	774.5	47.8	8.8	38	NE			1		0			0	0	Clear	September, Director.
Châlons-sur-Marne, N. Sch'l	30.30	769 6	30.65	778.6	19.6	— 6.9		Calm			0		0					Clear	Jadot, Director
Chartres, Normal School	29.94	760.5	30.55	776.0	29.3	— 1.5	27	SSE			1		0			0	0	Clear	Vergier, Director.
Clermont-Fd, Puy de D. Obs	29.14	740.2	30.56	776.2	41.4	5.2	57	NW			1		0			0	0	Foggy	Alluard, Director.
Commercy, Normal School	29.08	753.8	30.64	778.2	11.3	—11.5		E			1		2s		E	0	0	Slightly cld'y	Dr. Coullet, Director.
Commune de Gréasque*	29.44	747.8	30.58	776.8	54.5	12.5	26	NE			1		0			0	0		L. Kina, Director.
Grenoble, Normal School	29.82	757.5	30.65	778.6	28.4	— 2		E			1		0			0	0	Clear	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.32	770.2	30.55	776.0	36.0	2.2	96	N			1		0			0	0	Clear	Mouillot, Director.
Le Mans, Normal School	30.24	768.2	30.59	776.9	20.8	— 6.2	84	NE			1		0			0	0	Clear	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.66	753.4	30.64	778.2	25.3	— 3.7	73	NW			1		0			0	0	Misty	A. Baudry, Director
Lorient, Naval Observatory	30.45	773.3	30.56	776.1	32.0	0.0	80	N			1		10			0	0	Covered	Lt. T. Carré, Director
Lyons Obs'y (Park Station)	29.97	761.1	30.64	778.2	23.5	— 4.7	90	ENE			1		0			0	0	Misty	Ch. André, Director
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	30.27	768.8	30.54	775.8	57.2	14.0	36	WNW			1		0			0	0	Clear	E. Stephan, Director.
Mirecourt, Normal School	29.81	749.5	30.65	778.6	20.1	— 6.6	94	SW			1				SW	0	0	Foggy	Barbier, Director.
Mont-Louis	25.19	639.9	30.51	774.9	38.8	3.8	45	E	7.4	3.3			0			0	0		M. Cave.
Nice	30.53	775.4	30.56	776.2	55.4	13.0	55	NW			2		1	W	NW	0	0	Clear	M. Boissière, Director.
Nismes, Normal School	30.32	770.1	30.52	776.3	53.2	11.8	66	NE			1		0			0	0	Clear	M. Boyer, Director.
Paris, Montsouris Obs'y	30.26	768.6			19.8	— 6.8	73	SE			1		0			0	0		Marié Davy, Director.
Perpignan	30.44	773.1	30.55	776.0	45.9	7.7	69	E	3.8	1.7			1		NE	0	0		Dr. Flues.
Pic du Midi (Plantade) H. P.	22.53	578.9			39.2	4.0									W	0	0		Gen'l de Nansouty.
Pic du Midi (Summit) H. P.																			M. Baylac.
Privas, Normal School	29.44	747.7	30.55	776.0	42.4	5.8	58	N			1		1	N	N	0	0	Clear	M. Tallieu
Puy de Dome (Summit) Obs	25.55	649.0			39.2	4.0	66	S			3		2			0	0	¼ covered	Alluard, Director.
Rochefort, Naval Obs'y	30.77	776.5	30.60	777.3	33.8	1.0	95	N			1		0			0	0	Clear	Lt E. Decante, Director
Rouen, Normal School	30.44	773.1	30.52	775.3	23.7	— 4.6	80	SE			1		0			0	0	Clear	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.50	774.6	30.53	775.4	34.9	1.6	66	SE			1		0			0	0	Clear	Lt. Hercouet, Director
Saint Maur (near Paris)	30.39	771.9	30.56	776.1	21.4	— 5.9	72	S			2		0			0	0	Foggy	E. Renou, Director.
Tarbes, Normal School	29.41	746.9	30.51	775.0	51.8	11	52	SW			1		0			0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.81	757.2	30.55	775.9	45.1	7.3	63	SE			1		0			0	0	Clear	M. Juher Mercadier.
Tours	30.34	770.6	30.54	775 6	19.4	- 7.0		ESE			1		0			0	0	Clear	Cousin-Marquet.
Versailles, Observatory	30.01	762.3	30.50	774.8	29.1	— 1.6	59	S			1		0			0	0	Clear	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.82	757.4	30.58	776.8	32.0	0	98	NE			1		0			0	0	Clear	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	30.04	763.0	30.07	763.7	75.6	24.2										0.55	14.		L'Abbé Marchésl
Zi-Ka-Wei (near Shanghai	29.87	758.8	29.90	759.4	44.6	7.0	93	SSE	8.5	3.8			0			0	0	Clear	Marc Dechevrens.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,278 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 185.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.69	754.2	30.56	776.1	8.4	—13.1	92	E			2		4s			0	0	Foggy	Prof. Dr. Hoh.
Berlin	30.25	768.4	30.44	773.1	28.4	— 2.0	90	S			1		0			0	0		Prof. Dr. Arndt.
Breslau	30.00	761.9	30.54	775.6	31.5	— 0.3	73	SW			1		1			0	0	Hazy	Royal University Obs'y.
Carlsruhe	30.16	766.0	30.64	778.2	14.0	—10.0	83	ESE			0		0			0	0		Albert Senz.
Cassel	29.91	759.6	30.52	775.3	19.8	— 6.8	90	SE			1		0			0	0		Dr. H. Möhl.
Emden			30.33	770.4	29.7	— 1.3	92	SW			4		0			0	0		Prof. Dr. Prestel
Frankfort on the Main	30.34	770.5	30.73	780.5	14.0	—10.0	68	W			0		5			0	0		Physical Society.
Friedrichshafen	29.14	740.1	30.71	780.0	19.0	— 7.2	100	N			2		10			0	0	Foggy	Chief Telegrapher Wilhelm.
Hamburg	30.35	770.8	30.42	772.6	32.7	0.4	89	SW			3		0			0	0		Capt. P. F. A. Hegerman.
Kiel	30.31	769.9	30.33	770.3	32.2	0.1	84	SW			1		1			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.15	765.8	30.22	767.6	36.5	2.5	100	W			2		10			0.028	0.7		Prof. E. Luther.
Köslin			30.38	771.7	28.2	— 2.1		SW			2		0			0	0		H. Müller.
Leipsic Observatory	30.09	764.2	30.54	775.7	28.4	— 2.0	88	SSE			1		3			0	0	Hazy	Prof. Dr. Bruhns, Privy Counselo
Magdeburg	30.24	768.1	30.47	774.0	28.0	— 2.2	87	SSE			2		0			0	0		Dr. Assmann.
Memel	30.15	765.8	30.20	767.0	37.6	3.1	100	W			5–6		10k						Reinbrecht & Issermann.
Munich (München)	28.69	728.6	30.58	776.8	16.0	— 8.9	82	N			1		2			0	0		Dr. C. Lang.
Neufahrwasser	30.32	770.0	30.33	770.4	36.1	2.3	82	SSW			1		7	WSW		0	0		A. Lothes.
Neustadt (Palatinate)	30.06	763.5	30.60	777.1	12.9	—10.6		E			1					0	0		Reallehrer Dicknether.
Posen	30.17	766.2	30.48	774.1	30.2	— 1.0	96	W			2		2			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	30.08	764.0	30.70	779.7	12.2	—11.0	93	Calm			0		2			0	0		Imp. University Observatory.
Stuttgart	29.61	752.1	30.64	778.3	18.5	— 7.5	72	E			0		0			0	0		Prof. Dr. Schoder.
Weissenburg (Bavaria)	29.02	737.2	30.61	777.6	16.0	— 8.9	97	Calm			0	6c		W		0	0	Foggy	Reallehrer J. Hopfner
Wustrow	30.37	771.4	30.39	772.0	32.4	0.2	92	SSW			4		10s			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	30.02	762.5	30.42	772.7	50.7	10.4		NE			8.0		1k					Clear.	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.83	757.6	29.88	759.0	71.8	22.1	65	SSW	19	8.5			6	SSW		0	0	D. clouds	
Deesa	29.40	746.8	29.89	759.1	70.7	21.5	29	SW	8.4	3.8			0			0	0	Blue sky	
Bombay	29.82	757.5	29.86	758.5	76.9	24.9	67	W	9	4.0			0			0	0	Blue sky	
Poona (Yarrowda)	28.00	711.1	29.85	758.2	79.0	26.1	23	W	5	2.2			0			0	0	Blue sky	
Belgaum	27.41	696.3	29.98	761.5	71.3	21.8	71	WNW	16	6.7			0			0	0	Blue sky	
Lahore	29.12	739.6	29.89	759.3	68.7	14.8	59	E	1	0.4			10			0	0	Overcast	
Roorkee	28.97	735.8	29.92	759.8	67.2	14.0	49	SW	1.8	0.8			4			0	0	D. clouds	
Agra	29.29	744.0	29.87	758.8	66.8	19.3	41	SE	2.2	1.0			0			0	0		
Nagpur	28.82	732.1	29.89	759.1	71.2	21.8	30	Calm	1.7	0.8			0			0	0	Blue sky	
Jubbulpore	28.49	723.7	29.89	759.1	69.7	20.9	43	Calm	1.3	0.6			0			0	0	Blue sky	
Lucknow	29.54	750.2	29.93	760.2	60.4	15.8	47	Calm	0.3	0.1			0			0	0	Blue sky	
Allahabad	29.60	751.9	29.93	760.3	58.8	14.9	58	Calm	0.5	0.2			0			0	0	Blue sky	
Patna	29.76	755.9	29.95	760.8	63.8	17.7	49	W	0.6	0.3			4	W	W	0	0	D. clouds	
Hazaribagh	27.84	707.1	29.94	760.4	56.8	13.8	58	NW	3.7	1.6			0			0	0	Blue sky	
Cuttack	29.83	757.7	29.92	759.8	64.9	18.3	75	Calm	0.4	0.2			0			0	0	Blue sky	
Calcutta (Alipore)	29.88	759.0	29.90	759.6	60.2	15.7	68	Calm					0			0	0	Blue sky	
Goalpara	29.49	749.1	29.90	759.4	63.6	17.6	73	E	2.9	1.3			0			0	0	Blue sky	
Chittagong	29.80	756.8	29.89	759.2	66.8	19.3	80	NW	1.2	0.5			0			0	0		
Sibsagar	29.59	751.5	29.94	760.4	61.3	16.3	85	NE	1.2	0.5			0			0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,361 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	30.14	765.5	30.58	776.7	44.8	7.1	81	Calm	0	0	.....	.....	0	. .....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	30.07	763.7	30.63	777.9	36.0	2.2	64	W	.....	.....	2	.....	3	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	30.46	773.7	30.58	776.7	34.7	1.5	67	NNW	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.66	753.3	30.64	778.3	30.6	— 0.8	77	ENE	0.7	0.3	.....	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	30.34	770.5	30.54	775.6	55.4	13.0	20	NE	4.3	1.9	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.59	726.1	30.59	777.0	43.5	6.4	36	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.54	775.6	30.59	776.9	39.4	4.1	50	NW	5.6	2.5	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	30.29	769.3	30.56	776.2	48.2	9.0	37	E	.....	.....	2	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	30.49	774.4	30.58	776.7	49.8	9.9	42	NE	2.5	1.1	.....	.....	0	.....	.....	0	0	.....	Prof. P. Monte.
Rome	30.34	770.6	30.52	775.3	50.2	10.1	36	N	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari
Lecce	30.21	767.4	30.48	774.2	51.6	10.9	73	NW	9.8	4.4	.....	.....	2	N	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.58	751.4	30.52	775.2	48.6	9.2	66	NW	3.1	1.4	.....	.....	0	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	30.29	769.3	30.49	774.4	52.3	11.3	58	NW	.....	.....	2	.....	0	. .....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	30.23	767.7	30.48	774.3	54.5	12.5	47	NE	4.3	1.9	.....	.....	4	.....	.....	0	0	.....	Prof. G. Cincciatore.
Syracuse	30.36	771.2	30.44	773.1	55.0	12.8	61	NE	8.7	3.9	.....	.....	8	N	.....	0	0	.....	Prof. V.G. Guiliano.
SUB-SERIES.																			
Naples, S. R.	29.97	761.1	30.50	774 8	54.3	12.4	38	NE	0.7	0.3	.....	.....	0	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.98	761.5	29.99	761.7	43.6	6.4	89	NNE	3.7	1.7	.....	3cs	.....	W	.....	0	0	Clear.	K. Sasaki.
Nagasaki, I. M. Obs'y	29.81	757.2	30.02	762.5	46.2	7.9	89	Calm	0	0	.....	ck	10s	.....	.....	0	0	Cloudy	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.80	756.4	29.93	760.2	34.4	1.3	92	NE	5.8	2.6	.....	0	0	.....	.....	0	0	Fair	The Staff.
Wakayama	29.96	761.0	30.01	762.2	41.5	5.3	83	E	6.4	2.9	.....	.....	4cs	.....	.....	0	0	Fair	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	25.13	638.3	30.35	770.9	41.0	5.0	60	Calm	.....	.....	0	.....	0	.....	.....	0	0	Fine	Prof. L. Perez.
Leon	24.52	622.9	30.33	770.4	51.4	10.8	75	N	.....	.....	1	0	0	.....	.....	0	0	Fine	Prof. M. Leal.
Mazatlan	29.82	757.5	30.09	764.2	64.8	18.2	90	NE	.....	.....	2	2cs	0	Calm	.....	0	0	Clear	I. Guerrero, C. E.
Mexico, Central Observatory	23.18	587.5	30.32	770.1	44.4	6.9	70	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	39.6	4.2	60	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.48	596.4	30.46	773.7	41.0	5.0	33	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.28	616.6	30.34	770.5	52.5	11.4	50	S	.....	.....	1	0	0	.....	.....	0	0	Very clear	G. Barroeta, M. D.
Tlacotalpam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. M. Chàzaro.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell
Zacatecas	22.63	574.7	30.34	770.6	50.0	10.0	70	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	J. C. Castrillon.

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column; the instrumental correction —0.88 mm., or —0.035 inch, has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.48	774.1	30.48	774.1	28.9	— 1.7	.....	SW	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Groningen	30.34	770.6	30.39	772.0	.....	.....	.....	SW	.....	.....	2	.....	.....	.....	.....	0.031	0.8	.....	
Helder	30.35	771.0	30.35	771.0	36.0	2.2	.....	SW	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.45	773.3	30.45	773.3	28.6	— 1.9	80	SW	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	
Utrecht	30.41	772.3	30.45	773.5	28.9	— 1.7	88	SSW	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which I have inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Bergen	29.83	757.6	29.88	759.0	43.5	6.4	79	SW	16.8	7.5	.....	.....	10	.....	.....	.....	.....	Raining	
Brönö	29.23	742.4	29.27	743.4	35.6	2.0	82	SW	9	4	.....	.....	10	.....	.....	0.406	10.3	Raining.....	
Christiana	29.57	751.1	29.72	754.9	35.6	2.0	77	SSW	16	7	.....	.....	3	.....	.....	0.075	1.9	.....	
Tromsö	28.99	736.4	29.04	737.5	27.0	— 2.8	83	SW	7	3	.....	.....	10	.....	.....	0.484	12.3	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	30.00	762.1	30.20	767.0	61.2	16.2	89	ESE	8.1	3.6	.....	.....	6	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.37	746.0	30.41	772.4	47.1	8.4	78	NNW	4.9	2.2	.....	.....	10	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	30.19	766.8	30.28	769.0	66.2	19.0	72	E	3.1	1.4	.....	.....	7	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon Observatory	30.05	763.2	30.42	772.7	49.3	9.6	80	NE	15.0	6.7	.....	.....	2	SSW	.....	0.024	0.6	.....	The Staff.
Ponta Delgada (Azores)	30.13	765.4	30.21	767.2	63.7	17.6	86	ESE	21.0	9.4	.....	.....	10	.....	.....	0.138	3.5	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.															Sea or swell: Height scale 0-9	Sea or swell: Direction form—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd't.
Duque da Terceira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Rio Lima. Capt. S. C. da Silva Costa. Santiago, Cape Verd Ids	.....	.....	.....	.....	78.4	25.8	.....	NE	.....	.....	3	.....	5	.....	NE	2	NE	D. Clouds, 2 hr's rain-fall.]	A. D. de Fouseca Sarturento....
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Comd't.
Sado, Capt. J. A de Brito Capello, St. Paul de Loando	.....	.....	29.92	759.9	79.7	26.5	.....	NW	.....	.....	3	.....	4	.....	.....	.....	.....	D. clouds, 1 hr's rain-fall.]	F. de Assis Camillo, jun., Q. M.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	.....	.....	30.11	764.8	67.6	19.8	.....	NE	.....	.....	2	.....	10	.....	.....	1	.....	Overcast....	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sá da Bandeirà gives the barometer reduced tofreezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	29.01	736.9	29.03	737.4	31.6	— 0.2	96	SW	9	4	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Astrakhan	30.17	766.2	30.08	764.1	28.0	— 2.2	89	S	4	2	.....	.....	10cp	.....	.....	.....	.....	Heavy clouds...	Capt. Wisganow.
Barnaul	29.28	743.6	29.32	757.4	6.3	—14.3	100	SW	22	10	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	29.68	753.8	29.93	760.2	36.1	2.3	96	WSW	13	6	.....	.....	10n	.....	.....	.....	.....	Foggy	Prof. Dr. Weihrauch.
Ekaterinburg	28.76	730.5	29.82	757.3	0.9	—17.3	62	WSW	22	10	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	29.54	750.4	29.84	757.8	11.7	—11.3	85	S	11	5	.....	.....	9	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.59	751.6	30.26	768.6	32.0	0.0	89	NW	11	5	.....	.....	10n	.....	.....	.....	.....	.....	Physical Cabinet.
Krotkowo*	29.45	748.1	29.98	761.4	59.4	15.2	72	WSW	2	1	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	29.70	754.3	29.91	759.7	33.4	0.8	85	N	9	4	.....	.....	10	.....	.....	Blank	Blank	.....	Meteorological Obs.
Moscow	29.35	745.5	29.92	760.0	31.8	— 0.1	89	SSE	7.8	3.5	.....	.....	10s	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	27.61	701.3	30.22	767.5	—13.4	—25.2	82	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	30.28	769.1	30.35	770.9	32.2	0.1	90	N	22	10	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	29.91	759.8	30.17	766.3	12.0	—11.1	73	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	.....
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	29.85	758.1	29.99	761.7	40.1	4.5	31	NW	16	7	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	29.71	754.6	29.72	755.0	35.4	1.9	96	WSW	11	5	.....	.....	9n	.....	.....	.....	.....	Light clouds	Central Physical Obs.
Tashkend	28.74	730.0	30.45	773.4	20.5	— 6.4	90	NW	4	2	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.69	728.6	30.15	765.7	41.5	5.3	60	Calm	0	0	.....	.....	8k	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	29.97	761.3	30.43	772.8	28.0	— 2.2	92	W	16	7	.....	7c	.....	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.79	756.6	30.23	767.7	35.6	2.1	94	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Heavy clouds....	Astronomical Obs.
Yenisiesk	29.37	746.0	29.70	754.3	—12.6	—24.8	84	W	4	2	.....	.....	10	.....	.....	.....	.....	.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	30.43	772.9	30.54	775.6	49.6	9.8	56	E	0.7	0.33	.....	.....	0	.....	.....	0	0	Light mist...	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.39	772.0	30.45	773.4	57.2	14.0	51	SE	2.8	1.27	.....	0	0	.....	.....	0	0	Clear.	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.43	696.7	.....	.....	43.3	6.3	49	E	6.1	2.71	.....	0	7	.....	.....	0	0	Cloudy.....	Domingo Martin y Perez.
Madrid, Royal Observatory	28.16	715.2	30.47	773.9	45.9	7.7	70	SE	16.4	7.33	.....	0	10	.....	.....	0	0	Covered.....	The Staff.
Murcia, Met. Obs'y	30.32	770.2	30.48	774.1	55.4	13.0	76	WSW	6.0	2.67	.....	2	5	NW	.....	0.065	1.64	Misty.....	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.52	749.9	30.45	773.4	49.1	9.5	66	NE	4.3	1.9	.....	.....	0	.....	.....	0	0	Clear.	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.17	766.2	30.23	767.9	69.9	21.1	83	E	8.6	1.6	.....	c	1k	N	.....	0	0	Fair.....	Benito Vines S. J.
Manilla, Phillippine Islands	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.27	768.7	30.37	771.3	59.9	15.5	60	ESE	18.5	8.3	.....	0	10	.....	ESE	Inap.	Inap.	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	30.08	763.9	30.17	766.2	75.9	24.4	78	NE	19.6	8.77	.....	4cks	2kn	NE	NE	0	0	Cloudy.....	EnriqueGadea, Chief Engr.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rübenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.16	740.7	29.20	741.7	36.3	2.4	.....	SW	.....	.....	4	.....	5	.....	.....	0	0	.....	
Umea	29.30	744.3	29.36	745.7	38.3	2.4	82	S	.....	.....	2	.....	8	.....	.....	0	0	.....	
Hernosand	29.35	745.4	29.40	746.7	40.3	4.6	78	S	.....	.....	2	.....	7	.....	.....	0	0	.....	
Stockholm	29.71	754.5	29.88	759.0	39.2	4.0	80	WSW	.....	.....	4	.....	3	.....	.....	0	0	.....	
Wisby	29.91	759.0	29.97	761.1	39.6	4.2	87	WSW	.....	.....	6	.....	5	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.69	754.0	29.77	756.2	38.3	3.5	87	WSW	19.2	8.6	.....	.....	8	.....	WSW	6	0	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	29.18	741.1	30.71	780.1	20.3	— 6.5	100	SSW	.....	.....	1	.....	10	.....	.....	0	0	Misty	The Observatory.
Zurich	28.93	734.7	30.70	779.8	16.2	— 8.8	100	S	.....	.....	1	.....	3	.....	.....	0	0	Clear.	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +13.5 mm.; Thermometer, —5.2 Cent.; Relative Humidity, +20 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.43	773.0	43.2	6.2	61	N	4	2.0	.....	.....	6	.....	N	0.118	3.0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.39	771.9	50.9	10.5	.....	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear.	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.94	760.5	30.05	763.3	53.1	11.7	93	SE	.....	.....	1	.....	10n	.....	SW	1.655	42.04	Overcast	Prof. C. V. A. van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	30.00	774.7	30.58	776.7	1.5	—16.9	86	Calm	0	0	.....	.....	10s	.....	.....	0	0	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	30.51	774.9	30.56	776.2	8.8	—12.9	83	NW	4	1.8	.....	.....	10s	.....	.....	0	0	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.78	755.1	29.94	760.5	10.4	— 8.7	97	E	.....	.....	2	.....	10n	.....	.....	0.15	3.8	Overcast	James Smith, M. A.
Dalhousie, N. B	30.39	771.9	30.58	776.7	— 3.5	—19.7	.....	W	.....	.....	1	.....	10s	.....	.....	0	0	Gloomy	H. A. Johnson.
Father Point, Quebec	30.49	774.4	30.61	774.9	— 5.3	—20.7	81	E	5	2.2	.....	.....	10s	.....	.....	0	0	Cloudy	J. McWilliams.
Fredericton, N. B	30.49	774.4	30.56	776.2	4.6	—20.3	85	Calm	0	0	.....	.....	10s	.....	.....	0.27	6.9	Overcast	Prof. Harrison.
Fort Garry, Manitoba	29.78	756.4	30.86	783.8	—48.0	—44.4	100	NW	3	1.3	.....	Haze	Haze	NW	.....	0	0	Hazy	James Stewart.
Granton, Ontario	28.72	729.5	29.85	758.2	34	1.1	.....	W	.....	.....	1	.....	10n	.....	.....	Inap.	Inap.	Cloudy	James Grant.
Halifax, N. S	30.42	772.7	30.56	776.2	15.2	— 9.3	96	N	7	3.1	.....	.....	10n	.....	.....	0	0	Cloudy	A. Allison.
Hamilton, Ontario	29.47	748.5	29.88	758.9	33.1	0.6	96	NW	.....	.....	1	10cs	0	E	.....	0	0	Cloudy	Geo. Dickson, B. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.60	751.8	29.96	761.0	21.4	— 5.9	83	E	2	0.9	.....	.....	10s	.....	.....	0.04	1.0	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	30.41	772.4	30.45	773.4	18.0	— 7.8	80	SW	6	2.7	.....	.....	10n	.....	.....	0	0	Overcast	C. H. Rigby.
Montreal, Quebec	29.85	758.2	30.06	763.5	11.7	—11.3	96	NE	8	3.6	.....	.....	10n	.....	.....	0.46	11.7	Light snow	C. H. McLeod, C. E.
Moose Factory, Ontario	30.37	771.4	30.41	772.4	—13.7	—25.4	84	NW	.....	.....	2	.....	10	.....	.....	0.10	2.5	Snowing	J. R. Nelson.
Norwood	29.09	738.9	29.81	757.2	32.0	0.0	96	SE	6	2.7	.....	.....	10s	.....	.....	.....	.....	Raining	Rev. T. F. Fotheringham, M. A.
Parry Sound, Ontario	29.11	739.4	29.84	757.9	23.0	— 5.0	93	E	10	4.5	.....	.....	10n	.....	E	0.10	2.5	Cloudy	Rev. R. Mosley.
Peterboro, Ontario	29.07	738.4	29.84	757.9	34.9	1.6	79	Calm	.....	.....	0	.....	10n	.....	.....	0.10	2.5	Raining	J. F. Jeffers, M. A.
Port Dover, Ontario	29.13	739.9	29.83	757.7	38.0	3.3	100	S	12	5.4	.....	.....	Fog	.....	.....	0.21	5.3	Foggy	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.22	742.2	29.88	758.9	38.2	3.4	95	W	12	5.4	.....	.....	10n	.....	W	0.16	4.1	Cloudy	M. Payne.
Quebec, Quebec	30.00	762.0	30.36	771.1	7	—13.9	100	E	.....	.....	7	.....	10n	.....	.....	0.05	1.3	Threatening	Capt. Ashe, R. N.
Rockliffe, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. McIntyre.
St. Andrews, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Gove.
St. John, N. B	30.33	770.4	30.52	775.2	11	—11.7	100	N	6	2.7	.....	.....	10ks	.....	.....	0.35	8.9	Overcast	G. Murdock, C. E.
Saugeen, Ontario	29.14	740.1	29.88	758.9	35	1.7	90	NE	17	7.6	.....	.....	10ks	.....	.....	0.01	0.3	Overcast	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.55	725.2	29.80	756.4	34.0	1.1	97	W	14	6.3	.....	.....	10s	.....	.....	0.280	7.11	Cloudy	C. J. MacGregor, M. A
Sydney, C. B	30.44	773.2	30.48	774.2	17.1	— 8.3	75	NW	6	2.7	.....	9c	1ks	NW	NW	0.52	13.2	Cloudy	T. C. Hill, C. E.
Toronto, Ontario	29.44	747.8	29.84	757.9	34.8	1.6	100	E	4	1.8	.....	0	Fog	.....	.....	0.02	0.5	Light rain	Magnetic Observatory
Windsor, N. S	30.48	774.2	30.59	777.0	17.5	— 8.1	84	NW	5	2.2	.....	.....	10s	.....	.....	0	0	Fair	Prof. John E. Oram, M.A.
Woodstock, Ontario	28.76	730.5	29.86	758.4	33.2	0.7	97	E	.....	.....	.....	.....	10s	.....	.....	0	0	Overcast	Prof. J. Montgomery.
Yarmouth, N. S	30.40	772.1	30.47	773.9	20.3	— 6.5	84	E	13	5.8	.....	10k	4n	E	.....	0	0	Overcast	Lt. F. E. Wilmot, R. N
Sub-Series.																			
St. Johns, Newfoundland	29.74	755.4	30.02	762.5	8	—13.3	55	NW	.....	.....	.....	0	0	.....	.....	0	0	Fair	John Delany.
St. Pierre, N. F., l'Hopital Maritime.	.....	.....	30.20	767.0	14.0	—10	.....	NW	.....	.....	6	.....	.....	.....	.....	.....	.....	.....	The Commandant.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,016 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer. U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0-10.	CLOUDS. Amount. Up'er 0-10.	CLOUDS. Amount. Lo'er 0-10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.66	758.4	30.10	764.5	29	— 1.7	94	SW	4	1.8			10n		Calm	0.25	6.3	Sleeting	
Alpena, Michigan	29.24	742.7	29.92	760.0	22	— 5.6	86	W	12	5.4			10s		Calm	0.20	5.1	Cloudy	
Atcha, Aleutian Is., Alaska																			
Atlanta, Georgia	29.08	738.6	30.22	767.6	62	16.7	88	S	6	2.7			Fog		Calm	0	0	Foggy	
Atlantic City, New Jersey	30.10	764.5	30.12	765.0	48	8.9	100	SW	12	5.4			10n		SW	0.35	8.9	Light rain	
Augusta, Georgia	30.13	765.3	30.33	770.4	55	12.8	93	Calm	0	0			Fog		Calm	0	0	Foggy	
Baltimore, Maryland	30.10	764.5	30.15	765.8	39	3.9	91	S	8	3.6			10n		Calm	0.40	10.2	Light rain	
Barnegat, New Jersey	30.04	763.0	30.07	763 8	46	7.8	100	SW	8	3.6			10n		NW	0.89	22.6	Light rain	
Bismarck, Dakota	28.71	729.2	30.56	776.2	—36	—37.8	100	NW	2	0.9		0	0			0	0	Clear.	
Boerne, Texas	28.64	727.4	30.04	763.0	30	— 1.1	78	N	24	10.7			10s		N	0.11	2.8	Light rain	
Boise City, Idaho	27.77	705.4	30.73	780.5	— 0.5	—18.1	70	NW	2	0.9		0	0			0	0	Clear.	
Boston, Massachusetts	30.06	763.5	30.22	767.6	37	2.8	100	E	20	8.9			10n		E	0.13	3.3	Heavy rain	
Brackettville, Texas	28.85	732.8	29.95	760.7	37	2.8	81	N	24	10.7			10s		Calm	0	0	Cloudy	
Breckenridge, Minnesota	29.57	751.1	30.83	783.1	—35	—37.2	100	N	8	3.6		0	0			0.04	1.0	Clear	
Brownsville, Texas	29.86	758.4	29.90	759.4	75	23.9	90	S	12	5.4		0	0			0	0	Clear.	
Buffalo, New York	29.11	739.4	29.81	757.2	41	5.0	91	SW	11	4.9			10n		SW	0.18	4.6	Light rain	
Burkes, Arizona					31	— 0.6	28	N			4	0	0			Inap.	Inap.	Clear.	
Burlington, Vermont	29.76	755.9	30.06	763.5	25	— 3.9	87	SE	7	3.1			10n		S	0.07	1.8	Light snow	
Cairo, Illinois	29.80	756.9	30.21	767.3	33	0.6	89	N	14	6.3			10n		N	2.78	70.6	Sleeting	
Campo, California	27.56	700.0	30.13	765.3	24	— 4.4	74	E	19	8.5		0	0			0.06	1.5	Clear.	
Cape Hatteras, N. Carolina	30.29	769.4	30.30	769.6	60	15.6	94	W	9	4.0		Haze	Haze			0.06	1.5	Hazy	
Cape Henry, Virginia	30.21	767.3	30.23	767.8	49	9.4	93	S	12	5.4		5cs	5s	SW	SW	0.24	6.1	Cloudy	
Cape Lookout, N. Carolina	30.30	769.6	30.32	770.1	60	15.6	100	SW	6	2.7			10ks		SW	0	0	Cloudy	
Cape May, New Jersey	30.11	764.8	30.14	765.5	47	8.3	92	SW	28	12.5			10s		SW	0.23	5.8	Cloudy	
Castroville, Texas	29.27	743.4	29.98	761.5	48	8.9	86	N	6	2.7			10n		N	0.12	3.0	Light rain	
Cedar Keys, Florida	30.59	769.4	30.31	769.9	67	19.4	95	SE	5	2.2		0	0			0	0	Clear.	
Charleston, South Carolina	30.26	768.6	30.32	770.1	63	17.2	94	SW	4	1.8			Fog			0	0	Foggy	
Charlotte, North Carolina	29.41	747.0	30.25	768.3	43	6.1	100	W	1	0.4			Fog		Calm	0	0	Foggy	
Chattanooga, Tennessee	29.36	745.7	30.15	765.8	65	18.3	89	S	3	1.3			10s		SW	0.05	1.3	Cloudy	
Cheyenne, Wyoming	24.00	609.6	29.94	760.5	—23	—30.6	58	NW	5	2.2		0	0			0.01	0.3	Clear.	
Chicago, Illinois	29.38	746.2	30.12	765.0	24	— 4.4	87	W	8	3.6			10s		W	0.02	0.5	Cloudy	
Cincinnati, Ohio	29.43	747.5	30.09	764.3	46	7.8	84	NW	8	3.6			10ks		W	1.93	49.0	Cloudy	
Cleveland, Ohio	29.24	742.7	29.98	761.5	36	2.2	100	W	8	3.6			10s		W	0.20	5.6	Cloudy	
Coleman City, Texas	28.51	724.1	30.38	771.6	10	—12.2	58	N	38	17.0			10s		Calm	0	0	Cloudy	
Columbus, Ohio	29.16	740.7	30.00	762.0	46	7.8	84	W	8	3.6			10ks		W	0	0	Cloudy	
Concho, Texas	28.35	720.1	30.21	767.3	14	—10.0	82	N			2		10s		Calm	0	0	Cloudy	
Corsicana, Texas	29.77	756.1	30.28	769.1	23	— 5.0	60	N	14	6.3			10s		Calm	0.18	4.6	Cloudy	
Davenport, Iowa	29.58	751.3	30.30	769.6	6	—14.4	76	W	16	7.2			10s		Calm	0.01	0.3	Cloudy	
Dayton, Washington T'y					1	—17.2	42	E			1		10s		Calm	0	0	Cloudy	
Deadwood, Dakota	25.46	646.7			—11	—23.9	50	Calm	0	0		0	0			0	0	Clear.	
Decatur, Texas	29.35	745.5	30.68	779.3	11	—11.7	60	N	11	4.9		2ck	0	N		0.10	2.5	Fair	
Denison, Texas	29.49	749.0	30.37	771.4	13	—10.6	100	N	10	4.5			10n		Calm	0.13	3.3	Light sleet	
Denver, Colorado	24.80	632.2	30.11	764.8	—11	—23.9	100	SE	2	0.9			8s		W	0.01	0.3	Cloudy	
Des Moines, Iowa	29.52	749.8	30.53	775.4	— 6	—21.1	81	NW	8	3.6		0	0			0.02	0.5	Clear.	
Detroit, Michigan	29.25	742.9	29.94	760.5	35	1.7	90	W	8	3.6			10s		W	0.28	7.1	Cloudy	
Dodge City, Kansas	27.81	706.4	30.50	774.7	—10	—23.3	55	N	18	8.0		0	5s		W	0	0	Fair	
Dubuque, Iowa	29.44	747.8	30.22	767.6	4	—15.6	74	NW	11	4.9			10s		Calm	0.04	1.0	Cloudy	
Duluth, Minnesota	29.68	753.9	30.47	773.9	—10	—23.3	77	NW	12	5.4			10s		NW	0.24	6.1	Cloudy	
Eagle Pass, Texas	29.23	742.4	29.95	760.7	64	17.8	89	NW	7	3.1			10s		NW	0	0	Cloudy	
Eastport, Maine	30.41	772.4	30.48	774.2	20	— 6.7	85	NE	19	8.5			10s			0	0	Cloudy	
Edinburg, Texas					70	21.1	90	S			4		8s		S	0	0	Cloudy	
El Paso, Texas																			
Erie, Pennsylvania	29.18	741.1	29.90	759 4	45	7.2	92	W	10	4.5			10n		W	0.15	3.8	Light rain	
Escanaba, Michigan	29.36	745.7	30.06	763.5	16	— 8.9	66	N	5	2.2			10n		N	0.08	2.0	Light snow	
Florence, Arizona	28.69	728.7	30.29	769.4	37	2.8	81	Calm	0	0		0	8ks		W	0.07	1.8	Fair	
Fort Assiniboine, Montana																			
Fort Buford, Dakota	28.47	723.1	30.84	783.3	—46	—43.3		Calm	0	0		0	0			0	0	Clear.	
Fort Custer, Montana	27.14	689.3			—36	—37.8		S	5	2.2		0	0			0	0	Clear.	
Fort Davis, Texas	25.17	639.3	30.13	765.3	36	2.2	53	E	1	0.4		5cs	0	Calm		0	0	Fair	
Fort Gibson, Indian Ter	29.86	758.4	30.47	773.9	10	—12.1	100	NW	12	5.4			10n		Calm	1.06	26.9	Sleeting	
Fort Grant, Arizona	25.18	639.6	29.98	761.5	31	— 0.6	79	SE	8	3.6			10n		Calm	0.19	4.8	Light rain	
Fort Griffin, Texas	29.13	739.9	30.57	776.5	9	—12.8	78	N	20	8.9			10s		Calm	Inap.	Inap.	Cloudy	
Fort Keogh, Montana	27.75	704.8			—41	—40.6		Calm	0	0		0	0			0	0	Clear.	
Fort McKavett, Texas	27.94	709.7	30.06	763.5	13	—10.6	81	N	19	8.5			10s		N	0	0	Cloudy	
Fort St. Michael, Alaska																			
Fort Shaw, Montana																			
Fort Sill, Indian Territory	29.18	741.1	30.44	773.2	4	—15.6	22	N	6	2.7			10s		Calm	Inap.	Inap.	Cloudy	
Fort Stevenson, Dakota	28.65	727.7			—45	—42.8	100	W	1	0.4		0	0			0	0	Clear.	
Fort Verde, Arizona					19	— 7.2	69	NW			1	0	0			0	0	Clear.	
Fort Yates, Dakota																			
Fredericksburg, Texas	28.34	719.8	30.02	762.5	25	— 3.9	87	N	16	7.2			10s		Calm	0.01	0.3	Cloudy	
Galveston, Texas	29.96	761.5	30.02	762.5	68	20.0	95	SE	6	2.7		0	2s		Calm	Inap.	Inap.	Clear.	
Graham, Texas	29.28	743.7	30.47	773.9	10	—12.2	79	N					10s		Calm	0	0	Cloudy	
Grand Haven, Michigan	29.34	745.2	30.01	762.2	31	— 0.6	79	Calm	0	0			10s		Calm	0.01	0.3	Cloudy	
Helena, Montana																			
Henrietta, Texas	29.47	748.5	30.54	775.7	5	—15.0	100	N	24	10.7		0	5s		NW	0	0	Fair	
Indianapolis, Indiana	29.27	743.4	30.08	764.0	35	1.7	75	W	8	3.6			10s		Calm	0.38	9.7	Cloudy	
Indianola, Texas	29.90	761.7	30.02	762.5	70	21.1	95	S	9	4.0			10s		S	0	0	Cloudy	
Jacksboro, Texas	29.20	741.7	30.39	771.9	10	—12.2	100	N	20	8.9			10s		N	0.05	1.3	Cloudy	
Jacksonville, Florida	30.31	769.9	30.34	770.6	63	17.2	94	Calm	0	0			Fog		Calm	0	0	Foggy	
Keokuk, Iowa	29.66	753.4	30.36	771.1	3	—16.1	73	NW	12	5.4		0	5s		NW	0.07	1.8	Fair	
Key West, Florida	30.21	767.3	30.24	768.1	74	23.3	81	E	12	5.4		0	0			0	0	Clear.	
Kittyhawk, North Carolina	30.26	768.6	30.28	769.1	55	12.8	100	SW	5	2.2		5cs	Fog	W	Calm	0	0	Fair	
Knoxville, Tennessee	29.12	739.6	30.10	764.5	66	18.9	74	SW	21	9.4		Haze	2s		SW	0.92	23.4	Fair	
La Crosse, Wisconsin	29.48	748.8	30.30	769.6	5	—15.0	75	NW	10	4.5			10n		Calm	0.03	0.8	Light snow	
La Mesilla, New Mexico	26.05	661.7	30.20	767.1	30	— 1.1	68	Calm	0	0		0	0			0	0	Clear.	
Laredo, Texas	29.66	753.4	30.00	762.0	67	19.4	89	N	7	3.1			10s		N	0	0	Cloudy	
Leavenworth, Kansas	29.61	752.1	30.59	777.0	— 5	—20.6	63	NW	19	8.5		0	2s			0.01	0.3	Clear.	
Lewiston, Idaho																			
Little Rock, Arkansas	29.85	758.2	30.22	767.6	39	3.9	91	N	12	5.4			10s		N	0.21	5.3	Cloudy	
Los Angeles, California	29.92	760.0	30.27	768.8	37.5	3.1	71	E	6	2.7		0	0			0	0	Clear.	
Louisville, Kentucky	29.52	749.8	30.09	764.3	45	7.2	76	W	7	3.1			10s		Calm	2.70	68.6	Cloudy	
Lynchburg, Virginia	29.52	749.8	30.23	767.8	40	4.4	91	SW	4	1.8			10s		Calm	0.49	12.4	Cloudy	
Madison, Wisconsin	29.06	738.1	30.13	765.3	14	—10.0	82	W	12	5.4			10n		Calm	0.09	2.3	Light snow	
Marquette, Michigan	29.36	745.7	30.11	764.8	21	— 6.1	86	N	14	6.3			10n		Calm	0.51	13.0	Light snow	
Mason, Texas	28.59	726.2	30.52	775.2	18	— 7.8	84	N	16	7.2			10s		N	0	0	Threatening	
Memphis, Tennessee	29.80	756.9	30 15	765.8	42	5.6	100	NW	8	3.6			10n		N	0.64	16.3	Light rain	
Milwaukee, Wisconsin	29.30	744.2	30.08	764.0	18	— 7.8	84	W	13	5.8			10s		W	0.10	2.5	Cloudy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mobile, Alabama	30.15	765.8	30.19	766.8	66	18.9	100	SW	11	4.9	.....	.....	Fog	.....	.....	Inap.	Inap.	Foggy	
Montgomery, Alabama	29.99	761.7	30.23	767.8	67	19.4	92	S	5	2.2	.....	0	8ks	.....	SW	0	0	Fair	
Morgantown, West Virginia	29.04	737.6	30.01	762.2	58	14.4	88	SW	8	3.6	.....	.....	10s	.....	SW	1.43	36.3	Cloudy	
Mt. Washington, N. H.	23.68	601.5	30.04	763.0	22	— 5.6	100	S	60	26.8	.....	.....	10n	.....	S	0.15	3.8	Light snow.	
Nashville, Tennessee	29.67	753.6	30.20	767.1	60	15.6	88	NW	6	2.7	.....	.....	10n	.....	Calm	0.43	10.9	Light rain..	
New Haven, Connecticut	30.00	762.0	30.12	765.0	36	2.2	90	NE	5	2.2	.....	.....	10n	.....	Calm	0.46	11.4	Heavy rain..	
New London, Connecticut	30.08	764.0	30.13	765.3	39	3.9	91	E	14	6.3	.....	.....	10n	.....	E	0.47	11.9	Light rain...	
New Orleans, Louisiana	30.10	764.5	30.16	766.1	72	22.2	90	SE	10	4.5	.....	.....	10s	.....	SE	Inap.	Inap.	Threatening	
Newport, Rhode Island	30.07	763.8	30.12	765.0	40	4.4	100	E	13	5.8	.....	.....	10n	.....	Calm	0.45	11.4	Heavy rain..	
New River, North Carolina	.....	.....	.....	.....	58	14.4	100	Calm	.....	.....	0	.....	8s	.....	SW	.....	.....	Threatening	
New York, New York	29.90	759.4	30.09	764.3	40	4.4	100	NE	11	4.9	.....	.....	10s;fg	.....	Calm	0.88	22.4	Cloudy	
Norfolk, Virginia	30.18	766.6	30.24	768.1	51	10.6	86	SW	11	4.9	.....	.....	10s	.....	Calm	0.12	3.0	Cloudy	
North Platte, Nebraska	27.48	698.0	30.60	777.2	—23	—30.6	59	W	11	4.9	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Olympia, Washington Ter.	30.66	778.7	30.71	780.0	13.5	—10.3	91	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Omaha, Nebraska	29.35	745.5	30.37	770.0	—17	—27.2	69	NW	18	8.0	.....	0	0	.....	.....	0.01	0.3	Clear	
Oswego, New York	29.57	751.1	29.89	759.2	27	2.8	81	SE	17	7.6	.....	.....	10n	.....	S	0.09	2.3	Light rain...	
Pembina, Dakota	29.73	755.1	30.79	782.1	—66	—48.9	100	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Pensacola, Florida	30.22	767.6	30.25	768.3	69	20.6	97	S	5	2.2	.....	2k	5ks	S	S	0.04	1.0	Fair	
Philadelphia, Pennsylvania	30.04	763.0	30.09	764.3	41	5.0	100	W	2	0.9	.....	.....	10n;fog	.....	Calm	0.61	15.5	Light rain..	
Phœnix, Arizona	29.90	736.6	30.89	784.6	40	4.4	56	W	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.12	4 4.8	29.34	745.4	—14	—25.6	100	SW	8	3.6	.....	.....	Fog	.....	Calm	0.23	5.8	Foggy	
Pilot Point, Texas	29.61	752.1	30.53	775.4	14	—10.0	82	W	.....	.....	.....	5k	5s	NW	N	0.03	0.8	Cloudy	
Pioche, Nevada	.....	.....	.....	.....	—10	—23.3	100	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.15	740.4	29.95	760.7	55	12.8	87	SW	5	2.2	.....	.....	10n	.....	SW	0.72	18.3	Light rain...	
Port Huron, Michigan	29.22	742.2	29.90	759.4	35	1.7	80	W	12	5.4	.....	.....	10s	.....	W	0.03	0.8	Cloudy	
Portland, Maine	30.27	768.8	30.33	770.4	26	— 3.3	88	NE	15	6.7	.....	.....	10n	.....	Calm	0.03	0.8	Light snow.	
Portland, Oregon	30.70	779.8	30.79	782.1	10	—12.2	79	Calm	0	0	.....	0	5s	.....	N	0	0	Fair	
Portsmouth, North Carolina	.....	.....	.....	.....	60	15.6	100	SW	8	3.6	.....	8k	0	S	.....	0.03	0.8	Cloudy	
Prescott, Arizona	24.62	625.3	29.98	761.5	0	—17.8	69	NW	.....	.....	1	0	0	.....	.....	0.06	1.5	Clear	
Punta Rassa, Florida	30.27	768.8	30.28	769.1	67	19.4	89	E	7	3.1	.....	1c	0	Calm	.....	0	0	Clear	
Red Bluff, California	30.17	766.3	30.56	776.2	28	— 2.2	43	N	23	10.3	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.71	754.6	29.92	760.0	67	19.4	95	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Rochester, New York	29.20	741.7	29.82	757.4	40	4.4	91	SW	8	3.6	.....	.....	10s	.....	SW	0.23	5.8	Cloudy	
Roseburg, Oregon	30.13	765.3	30.78	781.8	10	—12.2	96	Calm	0	0	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Sacramento, California	30.37	771.4	30.45	773.4	28	— 2.2	66	NW	15	6.7	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.70	754.4	30.33	770.4	14	—10.0	82	W	15	6.7	.....	.....	10s	.....	NW	0.56	14.2	Cloudy	
St. Paul, Minnesota	29.46	748.3	30.42	772.7	— 4	—20.0	48	NW	14	6.3	.....	0	0	.....	.....	0.15	3.8	Clear	
Salt Lake City, Utah	25.90	657.8	30.23	767.8	— 3	—19.4	68	N	4	1.8	.....	0	0	.....	.....	Inap.	Inap.	Clear	
San Antonio, Texas	29.33	745.0	29.90	759.4	65	18.3	94	N	14	6.3	.....	.....	10n	.....	N	0.08	2.0	Light rain...	
San Diego, California	30.18	766.6	30.25	768.3	40	4.4	65	NE	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Sandusky, Ohio	29.32	744.7	30.00	762.0	38	3.3	81	W	17	7.6	.....	.....	10s	.....	SW	0.26	6.6	Cloudy	
Sandy Hook, New Jersey	30.03	762.7	30.06	763.5	40	4.4	100	N	12	5.4	.....	.....	10n	.....	Calm	1.17	29.7	Light rain...	
San Francisco, California	30.37	771.4	30.44	773.2	36	2.2	29	N	24	10.7	.....	0	0	.....	.....	0	0	Clear	
Santa Fé, New Mexico	23.09	586.5	29.63	752.6	23	— 5.0	60	Calm	0	0	.....	.....	10n	.....	Calm	0.10	2.5	Heavy snow	
Savannah, Georgia	30.24	768.1	30.33	770.4	63	17.2	94	SW	1	0.4	.....	.....	Fog	.....	Calm	0	0	Foggy	
Shreveport, Louisiana	29.85	758.2	30.08	764.0	48	8.9	85	W	8	3.6	.....	.....	10n	.....	Calm	0 13	3.3	Light rain...	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.27	768.8	30.31	769.9	62	16.7	100	SW	4	1.8	.....	.....	Fog	.....	.....	0.04	1.0	Dense fog	
Socorro, New Mexico	25.28	642.1	29.85	745.5	32	0.0	40	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois	29.56	750.8	30.30	769.6	15	— 9.4	82	NW	15	6.7	.....	.....	10s	.....	NW	0.09	2.3	Cloudy	
Springfield, Massachusetts	30.02	762.5	30.16	766.1	34	1.1	90	N	6	2.7	.....	.....	10n	.....	N	0.25	6.3	Light rain...	
Stockton, Texas	27.10	688.3	30.10	764.5	20	— 6.7	18	NE	16	7.2	.....	6	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	30.10	764.5	30.16	765.8	42	5.6	100	E	24	10.7	.....	.....	10n	.....	E	0.31	7.9	Heavy rain..	
Toledo, Ohio	29.27	743.4	29.97	761.2	39	3.9	91	W	10	4.5	.....	.....	10s	.....	.....	0.27	6.9	Threatening	
Tucson, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon	30.43	772.9	31.02	787.9	— 2.5	—19.2	67	Calm	0	0	.....	.....	10s	.....	.....	0	0	Cloudy	
Uvalde, Texas	29.10	739.1	29.94	760.5	46	7.8	75	N	18	8.0	.....	.....	10s	.....	N	0.08	2.0	Cloudy	
Vicksburg, Mississippi	29.85	758.2	30.10	764.5	68	20.0	90	S	6	2.7	.....	0	8s	.....	S	0.02	0.5	Cloudy	
Virginia City, Montana	24.30	617.2	29.78	756.4	—33	—36.1	.....	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.98	761.5	30.49	774.4	24	— 4.4	87	W	1	0.4	.....	0	1s	.....	Calm	0	0	Clear	
Washington, D. C.	30.04	763.0	30.16	766.1	37	2.8	90	S	8	3.6	.....	.....	10s	.....	SW	0.56	14.2	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	26	— 3.3	75	W	.....	.....	2	0	0	.....	.....	Inap	Inap.	Clear	
Wilmington, North Carolina	30.22	767.6	30.30	769.6	61	16.1	94	SW	2	0.9	.....	5cs	Fog	Calm	Calm	0.04	1.0	Fair	
Winnemucca, Nevada	26.03	661.2	30.39	771.9	—14	—25.6	73	Calm	0	0	.....	.....	0	.....	.....	0	0	Clear	
Wood's Holl, Massachusetts	29.97	761.2	30.01	762.2	45	7.2	84	SE	30	13.4	.....	.....	10n	.....	SE	0.05	1.3	Heavy rain..	
Yankton, Dakota	29.29	744.0	30.87	784.1	—22	—30.0	100	NW	11	4.9	.....	0	0	.....	.....	0.05	1.3	Clear	
Yuma, Arizona	30.14	765.5	30.30	769.6	38	3.3	25	NE	20	8.9	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	30.14	765.5	30.19	766.8	73	22.8	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.24	768.1	30.25	768.3	73	22.8	86	Calm	0	0	.....	5c	2cs	Calm	.....	.....	.....	Fair	James Gall.
Navassa, W. I.	30.05	763.3	30.13	765.3	76	24.4	73	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A.	30.02	762.5	30.03	762.7	76	24.4	91	E	.....	.....	3	.....	10n	.....	.....	1.170	29.72	Raining	C. J. Hering.
Santiago de Cuba, W. I.	30.17	766.3	30.20	767.1	73	22.8	85	N	8.4	3.8	.....	0	2s	.....	NE	0	0	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	30.06	763.6	30.12	765.0	—41.5	—40.8	.....	NE	14	6.3	.....	2c	0	NE	.....	0	0	Fair	J. Fortescue & W. Wood
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.8 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,289 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,888.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Plocho, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm., Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 m., or 53.1 mm.; Winnemucca, 4.33 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.24‡	768.1‡	.....	.....	68	20.0	100	SE	5	2.2	.....	.....	10	.....	SW	0	0	.....	.....	Threatening	
Navy Yard, Portsmouth, N.H	29.90‡	759.4‡	.....	.....	37	2.8	?	SE	3	1.3	.....	.....	5†	.....	.....	0	0	.....	.....	Overcast?...	
Adams, Mare I'd., Navy Yard, Cal.	30.44‡	773.2‡	.....	.....	35	1.7	90	NNW	.....	.....	3	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Alaska, Iquique, Peru .....*	29.98‡	761.5‡	.....	.....	70	21.1	70	Calm	.....	.....	0	.....	2	.....	.....	.....	.....	.....	.....	Hazy.....	
Colorado, New York, . Y.....	30.03‡	762.7‡	.....	.....	39	3.9	91	NNE	.....	.....	2	.....	10	.....	.....	0.81	20.6	.....	.....	Raining	
Constitution, N. 16° 20′, W. 60° 36′.....	30.10‡	764. ‡	.....	.....	78	25.6	78	NE	.....	.....	4	.....	2	.....	NE	.....	.....	Mod'ate	NE	Clear	
Enterprise. N. 39° 50′, E. 26° 06′.....	30.45‡	773.4‡	.....	.....	45	7.2	76	NNE	.....	.....	5	.....	1	.....	NE	.....	.....	Mod'ate	.....	Clear	
Franklin, Off Navy Yard, N rfolk, Va.	30.26‡	768.6‡	.....	.....	51	10.6	86	SSW	10.8	4.8	.....	.....	10	.....	.....	0.20	5.1	.....	.....	Cloudy.....	
Independence, Mare I'd, Navy Yard, Cal.	30.39‡	771.9‡	.....	.....	44	6.7	76	NNW	1.2	0.5	.....	.....	0	.....	.....	0	0	.....	.....	Clear.	
Kearsarge, N. 17° 35′, W. 81° 05′.....	30.12‡	765.0‡	.....	.....	80	26.7	78	ENE	.....	.....	3–4	.....	5	.....	ENE	.....	.....	Smooth	ENE	Light rain...	
Lackawana, Honolulu, Sandwich Id's†	30.03‡	762.7‡	.....	.....	68	20.0	84	Calm	.....	.....	0	.....	8	.....	SE	.....	.....	Smooth	.....	Fair...	
Marion, N. 33° 15′, W. 50° 22′....	30.38‡	771.6‡	.....	.....	65	18.3	84	NW	.....	.....	3	.....	10	.....	Calm	0	0	Smooth	NW	Cloudy.....	
Michigan, Erie, Pa.....	29.88‡	758.9‡	.....	.....	40	4.4	73	W	.....	.....	4	.....	10	.....	W	.....	.....	.....	.....	Cloudy.....	
Monocacy, Shanghai, China..	29.91‡	759.7‡	.....	.....	47	8.3	85	SE	.....	.....	0–1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
New Hampshire, Port Royal, S. C.....	30.34‡	770.6‡	.....	.....	62	16.7	100	SW	4	1.8	.....	.....	.....	.....	.....	0	0	.....	.....	Foggy.....	
Nipsic, Norfolk, Va.....	30.23‡	767.8‡	.....	.....	51	10.6	93	SSW	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Misty.....	
Onward, Callao, Peru ....†.	29.97‡	761.2‡	.....	.....	67	19.4	89	SE	.....	.....	1	.....	8	.....	.....	.....	.....	Mod'ate smooth	W	Hazy.....	
Palos, Tientsin, China.	29.92‡	760.0‡	.....	.....	38	3.3	91	NNW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Passaic, Washington, D. C.....	30.18‡	766.6‡	.....	.....	38	3.3	91	SW	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....	Cloudy.....	
Pensacola, Callao, Peru	29.96‡	761.0‡	.....	.....	67	19.4	89	SSE	.....	.....	1	.....	10	.....	.....	.....	.....	Smoot	.....	Overcast....	
Powhatan, Navy Yard, Brooklyn, N.Y.	30.10‡	764.5‡	.....	.....	43	6.1	100	NNE	.....	.....	2	.....	10	.....	.....	Heavy	Heavy	.....	.....	Rainy	
Quinnebaug, Villafranca, France....	30.54‡	775.7‡	.....	.....	59	15.0	38	SSW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Ranger, Honolulu, Sandwich Ilds.	30.05‡	763.3‡	.....	.....	68	20.0	90	E	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Cloudy	
Richmond, Manila, Philippine Ids..	29.87‡	758.7‡	.....	.....	80	26.7	82	E	.....	.....	3–4	.....	0	.....	.....	.....	.....	Smooth	.....	Clear	
Rio Bravo, Brownsville, Texas... †.	30.03‡	762.7‡	.....	.....	72	22.2	95	SSE	2	0.9	.	.....	2	.....	SSE	0	0	.....	.....	Fair.....	
Santee, Annapolis, Md	30.18‡	766.3‡	.....	.....	40	4.4	91	SW	.....	.....	2	.....	10	.....	W	0.86	21.8	.....	.....	Cloudy.....	
Shenandoah, Montivideo, Uruguay.	29.77‡	756.1‡	.....	.....	74	23.3	63	E	.....	.....	3	.....	2	.....	.....	.....	.....	S mo t	.....	Fair.....	
St. Louis, League Island, Pa.....	30.12‡	765.0‡	.....	.....	36	2.2	100	ENE	1	0.4	.....	.....	10	.....	.....	0.72	18.3	.....	.....	Raining.....	
Tennessee, Navy Yard, Brooklyn, N.Y.	30.09‡	764.3‡	.....	.....	40	4.4	91	NE	.....	.....	1–2	.....	10	.....	.....	.....	.....	.....	.....	Cloudy.....	
Tuscarora, Champerico, Mexico.....	29.97‡	761.2‡	.....	.....	72	22.2	95	ENE	.....	.....	2	.....	0	.....	.....	0	0	Smooth	.....	Clear	
Vandalia, Navy Yard, Brooklyn, N.Y	30.12‡	765.0‡	.....	.....	40	4 4	100	NE	.....	.....	2	.....	10	.....	NE	.....	.....	.....	.....	Foggy.....	
Wabash, Boston, Mass.....	30.19‡	766.8‡	.....	.....	36	2.2	90	E	15	6.7	.....	.....	10	.....	.....	0.61	15.5	.....	.....	Light rain...	
Wachusett, S. 31°, W. 47°.. ... . †.	30.40‡	772.1‡	.....	.....	71	21.7	71	SE	.....	.....	1	.....	2	.....	Calm	.....	.....	Long Mod'ate	SE	Fair.....	
Wyoming, Villafranca, France	30.54‡	775.7‡	.....	.....	62	16.7	46	SSW	.....	.....	0–1	.....	0	.....	.....	.....	.....	Smooth	SSW	Clear.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm..

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		CHARACTER.	DIRECTION FROM—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
S. S. Samaria																			Capt. T. Roberts.

NOTE—†Aneroid. *The error of the barometer is not known.

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		CHARACTER.	DIRECTION FROM—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. R. Walls.
S. S. City of Tokio, Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitebury.
S. S. Costa Rica																			W. House & R. Lawless.
S. S. Dakota, Capt. H. G. Morse																			Capt. Connolly.
S. S. Georgia																			F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin																			Capt. A. Fuller.
S. S. Wilmington																			R. C. Ghest, 1st Officer.
S. S. Zealandia, Sydney, N. S. W.		29.87‡	758.7‡				E			2				SE				Cloudy	

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		CHARACTER.	DIRECTION FROM—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The orginals give the barometer as read off; wind-force by the scale 0 to to 12; for the Brittanic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		CHARACTER.	DIRECTION FROM—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
S. S. Belgic, Capt. L. Meyer N. 40° 59', W. 162° 10'..†		30.30‡	769.6‡	50	10.0	93	SW			3		2		SW		Light	SW	D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson N. 36° 30', E. 158° 40'		30.00‡	762.0‡	57	13.9		WNW			2		k		W		Rough	W	Showery	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		CHARACTER.	DIRECTION FROM—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undutsch.
S. S. Leipzig, Capt. F. Pfeiffer N. 49° 47', W. 16° 12'		30.47‡	773.9‡	48.0	8.9	100	NE			3		10		W		Mod'ate	NE	Sprinkling	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 43° 47', W. 51° 22'		30.27‡	768.8‡				NW			8		8		NW		Heavy	NW	Cloudy	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa.		30.19‡	766.8‡	27	— 2.8		N			5		8		NNW	0			Fair	Capt. R. W. Sargent.
S. S. Ohio																			Wm. Shakkford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents.																			
S. S. Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland, N. 49° 07,' W. 12° 48'†		30 43‡	772.9‡	52	11.1		N	3	1.3			8		NW		Moderate;	NW	Hazy	Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

Note.—The originals give the barometer as read off; do not distinguish between upper and lower clouds; sea-swell in general terms, as published. ‡Corrections for temperature, instrumental error and elevation applied at this office.

ALLAN LINE MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian, N. 52° 54', W. 28° 58'		30 07‡	763.8‡	43	6.1		SSE			8		8		SSE		Cross	SSW; WNW	Cloudy	J. Powell, 4th Officer.
S. S. Peruvian																			

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12. *The error of the barometer is not known. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES—Miscellaneous.																			
Furnished by the co-operation of the Observers named.																			
Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Barkentine "Carrie Heckle" N. 8° 35', W. 30° 00'.....*		29.87‡	758.7‡	78	25.6		Var.			2		10		SE	Heavy	Smooth	N	Rainy	B. F. Woodbury.
Brigantine "George" of Halifax																			N. B. Foss.
Schooner Harry and Fred																			Capt. George Gardner.
Haytian																			
§ Iron Cross																			Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time. *Instrumental error not known.

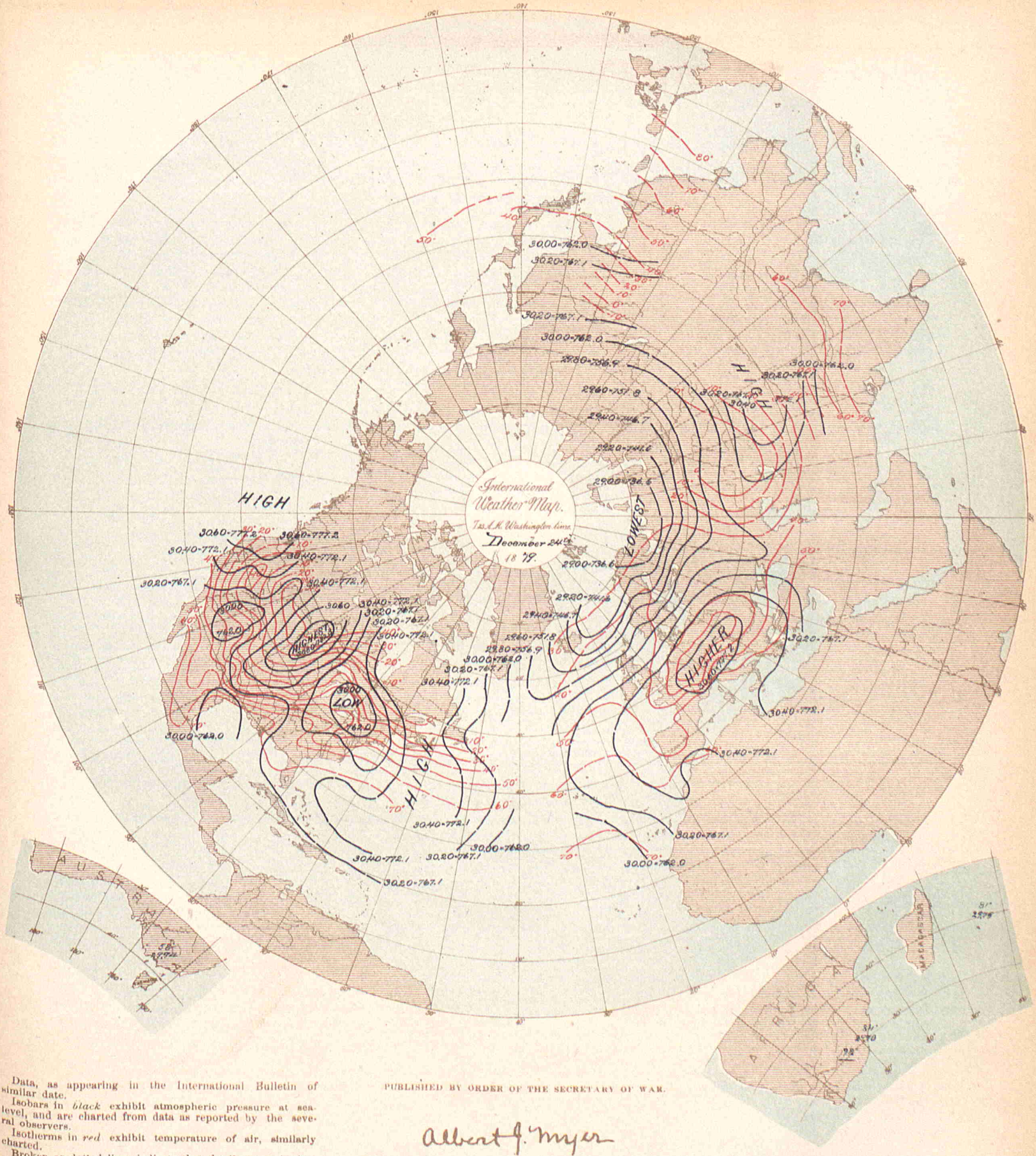
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 25, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time
1:57 P. M. CAPE TOWN, C. G. H. mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.31	769 8	61.3	16.3	76	W			1		5			0	0	Cloudy	
Nemours			30.26	768.6	60.1	15.6	78	Calm			0		0			0	0	Clear.	Kesxuche.
Algiers			30.35	770.9	52.9	11.6	54	SSE			2		0			0	0	Clear.	Tourillere.
La Calle			30.41	772.4	54.7	12.6	74	NE			3		5			0.087	2.2	Cloudy	Foufrede.
Tunis																			Jacques
Sfax			30.47	773.9															Gau.
Saida																			Herbin.
Tebessa			30.45	773.4	44.1	6.7	60	SSE			1		2			0.012	0.3	Fair	Watrin.
Geriville					48.0	8 9	52	Calm			0		0			0	0	Clear	Brugniaux.
Laghouat			30.31	769.8	43.5	6.4	53	SW			2		0			0	0	Clear	Bertrand.
Biskra			30.42	772.6	56.8	13.8	66	NW			1		0			0	0	Clear	Chanvaux.

NOTE.—The originals give the amount of cloudiness by the scale 0–4; no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,460? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Metcorological Institute at Vienna.

Agram	29.95	760.6	30.56	776.1	15.4	— 0.2	94	E			1		0			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.63	752.7	30.46	773.6	26.2	— 3.2	94	WSW	6.5	2.9			10			0	0		Dr. Wierzbicki.
Eperies	29.52	749.9	30.50	774.8	11.5	—11.4	93	Calm			0		0			0	0		Julius Mikolik.
Gratz	29.23	742.4	30.57	776.5	25.9	— 3.4	78	SSE			2		0			0	0		Andreas Rospini.
Hermannstadt	28.94	735.1	30.47	773.9	29.8	— 1.2	90	N			1		0			0	0		Prof. A. Gottschling.
Kremsmünster	29.15	740.3	30.62	777.8	18.1	— 7.7	86	SW			1		0			0	0		Prof. C. Wagner.
Lemberg	29.20	741.6	30.24	768.0	31.8	— 0.1	99	NW			1		0			0.008	0.2		Dr. T. Stanecki.
Pola	30.28	769.0	30.39	771.9	44.2	6.8	77	NW			1		0			0	0		I.R.Hydrographic Office
Szathmar	30.04	762.9	30.56	776.2	6.1	—14.4	83	S			2		10			0	0		Pet. Pancsics, S. J.
Szegedin	30.23	767.8	30.54	775.8	10.4	—12.0		Calm			0		5			0	0		Karl Stancel.
Trieste	30.32	770.0	30.42	772.6	40.6	4.8	79	ENE			1		0			0	0		P. Busin.
Vienna	29.78	756.3	30.53	775.4	10.4	—12.0	100	Calm			0		0			0	0		I.R.Central Met. Ob'sy

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.34	770.6	30.45	773.4	39.6	3.9		WSW	5	2.2			3			0	0	Blue sky	W. Boswell.
Ardrossan	30.46	773.7	30.48	774.2	43	6.1		SW			3		1					Blue sky	Wm. McNeil & G. Carrick
Armagh, (Observatory)	30.26	768.6	30.49	774.4	40.3	4.6		S	8	3.6									S. Call.
Bidston (Liverpool Obs)			30.54	775.7	35.6	2.0		SE	9	4.0			0					Blue sky	John Hartnup.
Bolton (Sharples)	30.00	762.0	30.53	775.4	36.5	2.5		W	18	8.0			0					Blue sky	Thomas M. Ekereth.
Bradford, Yorkshire	30.12	765.0	30.52	775.2	39.9	4.4		W			3		4			0	0	D. clouds	J McLandsborough.
Bridgetown, Barbadoes	29.97	761.2	30.00	762.0	80	26.7		NE			2		3					D. clouds	Pvt. G. Surgener, A.H.C.
Cambridge (Observatory)	30.48	774.2	30.58	776.7	38.0	3.3		S			1		0					Blue sky	H. Todd.
Cardington			30.57	776.5	30.0	— 1.1		W			0		7					Foggy	John McLaren.
Chatham (School M. E.)	30.43	772.9	30.57	776.5	32.2	0.1		Calm			0		10					Foggy	J. Carmell, Sapper, R.E.
Donaghadee	30.46	773.7	30.50	774.7	42	5.6		SW			2		3					D. clouds	D. Mac Gowan.
Dover	30.56	776.2	30.59	777.0	39	3.9		Calm			0		10					Foggy	J. Costello.
Falmouth (Observatory)	30.30	769.6	30.54	775.7	46.0	7.8		SSE			4		9					Overcast	The Staff.
Fort Napier, Natal	27.61	701.3	29.79	756.7	71.4	21.9		NE			1		10					Overcast	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone																			
Galway (Queen's College)			30.49	774.4	42.8	6.0		S			3		8					D. clouds	Prof. A. H. Curtis.
Gibraltar, Mediterranean																			Sergt. Wm. Allen, A. H.
Glasgow, (Observatory)	30.28	769.1	30.48	774.2	41.1	5.1		S			2		6					D. clouds	D. G. Maclean. [C.
Great Yarmouth	30.55	776.0	30.56	776.2	34	1.1		W			2		5					Foggy	G. T. Watson.
Greenwich (Royal Obs'y)	30.41	772.4	30.59	777.0	32.6	0.3		E			1		10					Dense fog	The Staff, for G. B. Airy.
Guernsey	30.32	770.1	30.54	775.7	41	5.0		SE			2		0					Blue sky	Dr. S. E. Hoskins, F.R.S.
Helston	30.59	777.0	30.71	780.0	49	9.4		SW			3	3ck				0	0	Fine	M. P. Moyle.
Holyhead	30.45	773.4	30.51	774.9	43	6.1		SSW			2		0					Blue sky	John Tilston.
Jersey	30.30	769.6	30.60	777.2	41.0	5.0		SE			2		1					D. clouds	J. Fisher.
Kew (Observatory)	30.46	773.7	30.50	774.7	32.1	0.1		W	3	1.3			10					Foggy	The Met'g'l Office.
Leicester (Museum)	30.41	772.4	30.69	779.5	34.8	1.6		Calm			0		10					Misty	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	30.26	768.6	30.34	770.6	56	13.3		NE			2		3k					Blue sky	A. King.
Nairn	30.31	769.9	30.40	772.1	42	5.6		Calm			0		5					½ clouded	W. D. Penny.
Nassau, Bahamas			30.26	768.6	74.8	23.8		SE			1		4					D. clouds	C. S. Duncombe.
Nottingham (Observatory)	30.39	771.9	30.60	777.2	29.9	— 1.2		Calm			0		10s		Calm	0	0	Foggy	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	30.02	762.5	30.57	776.5	37.9	3.3		SE			1		10					Foggy	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)			30.57	776.5	31	— 0.6		Calm			0		10					Foggy	H. E. Bellamy.
Plymouth	30.44	773.2	30.52	775.2	44.2	6.8		SE			1		10					Foggy	John Merrifield.
*Roche's Point	30.37	771.4	30.46	773.7	47	8.3		SSE			3		8					¾ clouded	Wm. Kennedy.
St. Ann's Head	30.33	770.4	30.50	774.7	41	5.0		SE			2		10					Foggy	John C. Walker.
Sandwick Manse, Orkneys			30.36	771.1	43	6.1		WSW	13	5.8			1					Blue sky	Rev. C. Clouston, L.L.D.
Scutari Cemetery, Turkey	30.24	768.1	30.31	769.9	43.6	6.4		NNE			2		4					D. clouds	Serg't W. H. Lane.
Sheffield	30.30	769.6	30.59	777.0	42.1	5.6		SSE			1		1					Blue sky	W. F. Cooper.
Silloth Rectory	30.49	774.4	30.52	775.2	43.7	6.5	80	W			1		0			0	0	Blue sky	Francis Redford, A. M.
Stonyhurst (Observatory)			30.58	775.4	38.7	3.7		SSE	1	0.4						0	0	Misty	Rev. S. J. Perry.
Stratfield, Turgiss					35.3	1.8		Calm			0		10					Foggy	Rev. C. H. Griffith, F.M.S.
Truro (Royal Institution)	30.44	773.2	30.51	774.9	48	8.9		SE			6		8					Gloomy	W. Newcombe.
Valencia Observatory)	30.34	770.6	30.36	771.1	48.6	9.2		S	22	9.8			10					Showery	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)																			The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.44	646.2			92	33.3		W					0						Robert Burnet
Constable, Cape Colony	26.76	679.7			69	20.6		SW					0						Francis Abbott, F.R.A.S.
Hobart Town, Tasmania																			Andrew Gibb.
Leith (Restalrig Park) Sc'tl'd			30.49	774.4	43.2	6.2		W			1		7k			0	0	Fine	C. Meldrum.
Mauritius (Observatory)	29.67	753.6	29.86	758.4	80.8	27.1	67	ENE	17.0	7.6		1	4		ENE	0	0	Squally	R. L. J. Ellery.
Melbourne (Observatory)	29.65	753.1	29.74	755.4	64.0	17.8	68	SSW	2	0.9			2			0	0	Fine	J. Youngclause.
Monach Lt-house, Hebrides			30.28	769.1	47	8.3		SSW			4	10	5	SW		0	0		
North Unst, Shetland Is			30.26	768.6				W			6	8	6	SW		0	0		

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown.

BRITISH MARINE SERIES. VESSELS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. Alert, Latitude Cove, Patagonia			29.78‡	756.4‡	45.8	7.7		NNE			1		6					Drizzling	Capt. J. P. Maclear, R.N.
H. M. Sloop Gannet, S. 18° 28′, W. 70° 21′			29.96‡	761.0‡	69	20.6		SSW			1		2					Blue sky	Commander E. Bourke, R. N.
H. M. S. Magpie, House Island, near Shanghai, China			30.23‡	767.8‡	49.5	9.7		ENE			1		0					Blue sky	Capt. R. H. Napier, R.N.
Barque Belle-Isle, N. 35° 55′, W. 48° 05′			30.27	768.8	62	16.7		SSE			4		9			5	WNW	Overcast	Capt. A. J. Brown
City of Cashmere, S. 21° 54′, W. 131° 18′			29.96‡	761.0‡	73	22.8		S			3		10					Overcast	Capt. W. M. Grieve.
S. S. Ethiopia, N. 41° 15′, W. 66° 00′			29.84	757.9	44	6.7		WNW			3		10			3	WSW	Raining	Capt. Campbell.
Barque Commewyne, N. 7° 00′, W. 55° 40′			29.97‡	761.2‡	78.3	25.7		ENE			5		7					D. clouds	Capt. Jas. Buchan.
Barque Fedalma, N. 31° 30′, W. 64° 25′			30.33	770.4	69	20.6		SW			2		4			1	Confused	D. clouds	Capt. H. L. Fox.
S. S. German, N. 26° 40′, W. 17° 45′			30.05‡	763.3‡	70	21.1		SSE			3		3					Misty	Capt. O. D. Coxwell.
Iron Cross, N. 42° 40′, W. 41° 20′			30.06	763.5	51	10.6		W			4		6			6	NNW	Misty	Capt. W. Randall.
Barque Mertole, N. 47° 50′, W. 10° 40′			30.41‡	772.4‡	51.5	10.8		SE			5		3					D. clouds	Capt. Turner.
S. S. Peruvian, N. 41° 15′, W. 67° 15′			29.89	759.2	49	9.4		WNW			5		10			3	W	Overcast	Capt. W. H. Smith.
S. S. Strathleven, S. 11° 20′, E. 81° 30′			29.77‡	756.1‡	82.5	28.1		SE			3	ck	8k					D. clouds	Capt. C. W. Pearson.
S. S. Sunbeam, N. 41° 20′, W. 58° 00′			29.82	757.4	58	14.4		WNW			6		8			5	NW	D. clouds	Capt. C. M. Dobson.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected.
‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrumental error and temperature. Inches.	BAROMETER. Corrected for instrumental error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. L'w'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
San José	26.23	666.2	29.95	760.7	64.8	18.2	85	SE			2	2c;ck	7s		NE	0	0		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.04	762.9	30.08	764.1	39.0	3.9	85	WNW			6		2						
Faröe	30.32	770.1	30.34	770.6	36.9	2.7	91	W			4		1						
Godthaab (Greenland)																			
Stykkisholm (Iceland)	29.27	743.4	29.31	744.5	36.3	2.4	85	SE			8		10					Raining	
Thorshavn (Faröe)	30.15	765.9	30.19	766.8	40.3	4.6	86	SW			3		4						
Vestervig	30.11	764.8	30.22	767.6	39.9	4.4	80	WNW			7		1						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	30.10	764.4	30.05	778.4	29.3	— 1.5	92	E			1		0			0	0	Clear	Collignon, Director.
Amiens, Normal School	30.39	771.9	30.51	774.9	30.2	— 1	96	NE			1		10		Calm	0	0	Covered	Vaillant, Director.
Arras, Engin'r School																			Klein, Commandant.
Avignon, Normal School	30.41	772.3	30.48	774.3	41.0	5	25	NE			1		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.99	761.7	30.00	777.3	18.9	— 7.8		SE			1		0			0	0	Clear	C. Saillard, Director.
Beauvais, Normal School	30.34	770.7	30.03	778.0	27.5	— 2.5	96	ENE			1		10			0	0	Covered	Frère Eugene Marie.
Besançon, Normal School	29.66	753.3	30.05	778.4	16.9	— 8.4		E			1		0			0	0	Clear	A. Carré, Director.
Bourg-en-Bresse, N. School	29.68	753.8	30.00	777.1	21.2	— 6	79	SE			1		0			0	0	Clear	Marlot, Dirctor.
Bourges, Normal School	29.97	761.3	30.58	776 6	22.1	— 5.5	82	N			3		1		N	0	0	Clear	M. Gence, Director.
Brest, Naval Observatory	30.28	769.2	30.53	775.4	43.5	6.4	79	SE			1		2		SE	0	0		Ch. de Rermaree, Dir.
Caen, Normal School	30.48	774.2	30.56	776.2	37.0	2.8	86	S			2					0	0		M. Bletrin, Director.
Carcassonne, N. School	29.97	761.2	30.36	771.2	48.9	9.4	74	SE			1		0			0	0	Clear	September, Director.
Châlons-sur-Marne, N. Sch'	30.30	769.6	30.65	778.6	18.0	— 7.8		Calm			0		0					Clear	Jadot, Director
Chartres, Normal School	29.98	761.5	30.59	777.0	31.5	— 0.3	73	NNE			1		0			0	0	Clear	Vergier, Director.
Clermont-Fd, Puy de D. Obs	29.09	738.8	30.52	775.3	35.1	1.7	62	NW			1		0			0	0	Foggy	Alluard, Director.
Commercy, Normal School	29.71	754.6	30.67	779.0	10.2	—12.1		E			1		0			0	0	Clear	Dr. Coullet, Director.
Commune de Gréasque*	29.32	744.6	30.46	773.6	53.8	12.1	24	N			1		0			0	0		L. Kina, Director.
Grenoble, Normal School	29.76	755.7	30.59	777.0	23.0	— 5		E			1		0			0	0	Clear	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.35	771.0	30.58	776.8	37.8	3.2	83	N			1		0			0	0	Clear	Mouillot, Director.
Le Mans, Normal School	30.27	768.9	30.61	777.4	27.7	- 2.4	96	NNE			1		0			0	0	Clear	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.62	752.3	30.59	777.0	18.9	— 7.3	73	NW			1		0			0	0	Foggy	A. Baudry, Director
Lorient, Naval Observatory	30.47	773.9	30.58	776.7	32.7	0.4	96	NE			1		0			0	0	Clear	Lt. T. Carré, Director
Lyons Obs'y (Park Station)	29.91	759.6	30.58	776.7	23.4	— 4.8	86	E			1		0			0	0	Misty	Ch. André, Director
Mâcon, Normal School																			Galvin, Director.
Marseilles, Observatory	30.15	765.8	30.42	772.7	53.2	11.8	33	W			1		0			0	0	Clear	E. Stephan, Director.
Mirecourt, Normal School	29.43	747.5	30.58	776.7	16.9	— 8.4	88	N			1				N	0	0	Foggy	Barbier, Director.
Mont-Louis	25.11	637.9	30.43	772.9	40.6	4.8	43	SE	7.4	3.3			0			0	0		M. Cave.
Nice	30.41	772.4	30.45	773.3	53.2	11.8	56	W			2		1	W	W	0	0	Clear	M. Boissière, Director.
Nimes, Normal School	30.26	768.5	30.47	773.8	38.5	3.6	75	NE			1		0			0	0	Clear	M. Boyer, Director.
Paris, Montsouris Obs'y	30.32	770.2			24.8	— 4.0	95	NE			1		10			0	0	Foggy	Marié Davy, Director.
Perpignan	30.35	771.0	30.47	773.8	48.2	9.0	69	SE	3.8	1.7			1			0	0		Dr. Fines.
Pic du Midi (Plantade) H. P.	22.71	576.7			32.0	0.0									SSW	0	0		Gen'l de Nansouty.
Pic du Midi (Summit) H. P.																			M. Baylac.
Privas, Normal School	29.41	747.0	30.52	775.3	37.0	2.8	52	N			1		1	N	N	0	0	Clear	M. Tallieu
Puy de Dome (Summit) Obs	25.46	646.7			37.0	2.8	55	E			3		0			0	0	Clear	Alluard, Director.
Rochefort, Naval Obs'y	30.48	774.2	30.51	775.0	36.0	2.2	87	NE			1		0			0	0	Clear	Lt E. Decante, Director
Rouen, Normal School	30.52	775.2	30.61	777.4	29.5	— 1.4	98	SE			1		10		SE	0	0	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.52	775.2	30.54	775.8	29.8	— 1.2	96	SE			2		10			0	0	Foggy	Lt. Hercouet, Director
Saint Maur (near Paris)	30.45	773.3	30.01	777.5	20.7	— 6.3	94	N			2		10			0	0	Foggy	E. Renou, Director.
Tarbes, Normal School	29.29	744.0	30.39	771.8	55.4	13.	53	SE			1		0			0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.75	755.6	30.48	774.2	39.2	4.0	73	N			1		0			0	0	Clear	M. Julier Mercadier.
Tours	30.34	770.7	30.54	775.7	23.4	- 4.8		E			1		0			0	0	Clear	Cousin-Marquet.
Versailles, Observatory	30.08	764.0	30.58	776.6	27.3	— 2.6	83	ESE			1		0			0	0	Clear	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.79	756.6	30.56	776.2	25.7	— 3.5	89	NNW			1		0			0	0	Clear	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	30.02	762.5	30.05	763.2	75.2	24										0.55	14.		L'Abbé Marchési
Zi-Ka-Wei (near Shanghai	30.21	767.4	30.24	768.0	30.9	2.7	95	Calm	0	0			0			0	0	Clear	Marc Dechevrens.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m, and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:58 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Turbes 208.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,360 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.71	754.7	30.57	776.5	10.0	—12.2	93	E			2		8ks	W		0	0	Foggy	Prof. Dr. Hoh.
Berlin	30.22	767.5	30.40	772.1	34.7	1.5	86	SW			2		10			0	0		Prof. Dr. Arndt.
Breslau	29.89	759.3	30.43	773.0	31.3	— 0.4	83	WSW			3		10			0.011	0.27		Royal University Obs'y.
Carlsruhe	30.17	766.3	30.65	778.5	13.5	—10.3	84	NE			1		0			0	0		Albert Senz.
Cassel	29.91	759.8	30.53	775.5	23.9	— 4.5	83	S			4		10			0	0		Dr. H. Möhl.
Emden			30.50	774.8	34.2	1.2	100	W			0		0			0	0		Prof. Dr. Prestel.
Frankfort on the Main	30.34	770.6	30.73	780.6	14.9	— 9.5	69	W			0		10			0	0		Physical Society.
Friedrichshafen	29.09	738.8	30.66	778.7	18.3	— 7.6	100	E			2		10			0	0	Foggy	Chief Telegrapher Wilhelm.
Hamburg	30.38	771.6	30.45	773.4	35.2	1.8	98	W			4		10			0	0		Capt. P. F. A. Hegerman.
Kiel	30.34	770.7	30.36	771.1	38.5	3.6	92	W			3		1			0.019	0.47		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.94	760.4	30.02	762.6	37.4	3.0	81	W			7		8			0.024	0.6	Snowing	Prof. E. Luther.
Köslin			30.15	765.9	35.4	1.9		W			6		4			0.165	4.2		H. Müller.
Leipsic Observatory	30.10	764.5	30.55	775.9	30.7	— 0.7	94	WSW			2		7	WNW		0	0		Prof. Dr. Bruhns, Privy Counselo
Magdeburg	30.27	768.9	30.50	774.8	34.0	1.1	83	W			5		9ks			0	0		Dr. Assmann.
Memel	29.84	758.0	29.89	759.2	39.0	3.9	82	W			6		10k						Reinbrecht & Issermann
Munich (München)	28.67	728.1	30.56	776.3	18.9	— 7.3	82	Calm			0		1			0	0	Dense fog	Dr. C. Lang.
Neufahrwasser	30.04	763.0	30.06	763.4	36.9	2.7	80	W			5		7			0	0		A. Lothes.
Neustadt (Palatinate)	30.07	763.8	30.60	777.1	17.1	— 8.3		E			1		10			0	0		Reallehrer Dickmether
Posen	30.04	763.0	30.35	770.8	31.6	— 0.2	95	W			8		9			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	30.07	763.8	30.69	779.5	13.1	—10.6	97	Calm			0		2			0	0		Imp. University Observatory.
Stuttgart	29.61	752.2	30.65	778.4	17.2	— 8.2	82	E			0		0			0	0		Prof. Dr. Schoder.
Weissenburg (Bavaria)	29.01	736.8	30.60	777.2	14.9	— 9.5	85	Calm			0		0			0	0	Foggy	Reallehrer J. Hopfner
Wustrow	30.26	768.7	30.29	769.3	35.4	1.9	98	WSW			5		8s			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.93	760.1	30.32	770.2	50.4	10.2		NE			3.5		1k					Clear.	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.82	757.5	29.87	758.8	73.8	23.2	66	SW	11	4.9			2			0	0	D. clouds	
Deesa	29.40	746.8	29.89	759.1	73.0	22.8	58	WSW	8.2	3.7			1	WNW		0	0	D. clouds	
Bombay	29.85	758.1	29.89	759.1	72.4	22.4	78	NNW	15	6.7			0			0	0	Blue sky	
Poona (Yarrowda)	27.99	711.0	29.85	758.3	77.0	25.0	23	NW	13	5.8			0			0	0	Blue sky	
Belgaum	27.30	693.5	29.87	758.7	69.9	21.1	51	SSW	4	1.8			0			0	0	Blue sky	
Lahore	29.04	737.5	29.82	757.4	54.7	12.6	80	E	4.1	1.8			10			0.35	8.9	Overcast	
Roorkee	28.95	735.4	29.89	759.3	59.8	15.4	65	SE	3.8	1.7			10			0	0	D. clouds	
Agra	29.26	743.3	29.84	758.0	69.7	20.9	53	SE	5.3	2.4			5		E	0	0		
Nagpur	28.82	732.0	29.88	758.9	72.7	22.6	35	SE	1.7	0.8			0			0	0	Blue sky	
Jubbulpore	28.49	723.7	29.88	759.0	72.2	22.3	42	S	3.7	1.6			0			0	0	Blue sky	
Lucknow	29.51	749.5	29.90	759.5	61.3	16.3	42	ENE	2.2	1.0			0			0	0	Blue sky	
Allahabad	29.56	750.8	29.88	759.0	62.5	16.9	59	NE	0.8	0.4			0			0	0	Blue sky	
Patna	29.74	755.3	29.93	760.1	66.2	19.0	60	Calm	0.3	0.1			0			0	0	Blue sky	
Hazaribagh	27.84	707.2	29.92	760.0	61.8	16.6	47	NW	2.9	1.3			0			0	0	Blue sky	
Cuttack																			
Calcutta (Alipore)	29.87	758.7	29.89	759.3	62.1	16.7	80	Calm					0			0	0	Foggy	
Goalpara																			
Chittagong	29.79	756.7	29.89	759 1	65.4	18.6	84	WNW	1.2	0.5			0			0	0		
Sibsagar	29.58	751.3	29.93	760.2	59.9	15.5	88	NE	1.5	0.7			0			0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	30.01	762.2	30.45	773.4	45.1	7.3	29	N	1.3	0.6	.....	.....	0	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.91	759.8	30.47	773.8	33.4	0.8	77	W	.....	.....	2	.....	1	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	30.33	770.3	30.45	773.3	32.0	0.0	72	NNW	1.3	0.6	.....	.....	0	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.52	749.7	30.50	774.7	28.4	— 2.0	81	ENE	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	30.23	767.8	30.43	772.9	51.8	11.0	52	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.46	722.8	30.47	773 8	45.3	7.4	10	SW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.41	772.4	30.46	773.7	36.9	2.7	54	NW	6.3	2.8	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	30.17	766.4	30.45	773.3	39.2	4.0	39	E	.....	.....	4	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	30.35	770.8	30.43	773.0	48.0	8.9	78	NNE	1.3	0.6	.....	.....	0	.....	.....	0	0	.....	Prof. P. Monte.
Rome	30.19	766.9	30.38	771 6	49.3	9.6	40	N	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari
Lecce	30.07	763.8	30.34	770.5	51.6	10.9	76	W	12.5	5.6	.....	.....	0	.....	.....	0	0	.....	Prof. C. De Giorgi
Cosenza	29.45	747.9	30.38	771.7	48.2	9.0	67	NW	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	30.01	762.2	30.21	767.3	51.8	11.0	58	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	30.12	765.1	30.39	771.8	54.0	12.2	57	NE	3.8	1.7	.....	.....	1	.....	.....	0	0	.....	Prof. G. Ciacciatore.
Syracuse	30.27	768.7	30.34	770.5	54.3	12.4	63	NNE	11.2	5.0	.....	.....	3	NNE	.....	0	0	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.84	757.8	30.37	771.4	54.3	12.4	31	NE	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.98	761.5	29.99	761.7	45.9	7.7	70	NNW	17.1	7.6	.....	.....	5n	.....	.....	0.124	3.15	.....	K. Sasaki.
Nagasaki, I. M. Obs'y	29.89	759.2	30.10	764.5	47.1	8.4	63	N	1.7	0.7	.....	.....	0	.....	.....	0.005	0.13	Clear.	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.49	749.0	29.55	750.6	54.9	12.7	72	SSW	17.6	7.9	.....	7okjes	0	SW	.....	0	0	Fair	The Staff.
Wakayama	29.80	756.5	29.85	758.2	49.7	9.8	73	NNW	5.5	2.5	.....	.....	10s	.....	.....	0.080	2.03	Cloudy	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	25.16	639.1	30.38	771.6	41.9	5.5	56	Calm	.....	.....	0	.....	0	.....	.....	0	0	Fine	Prof. L. Perez.
Leon	24.58	624.2	30.41	772.5	50.0	10.0	80	SW	.....	.....	1	0	0	.....	.....	0	0	Hazy	Prof. M. Leal.
Mazatlan	29.83	757.6	30.09	764.3	60.4	15.8	89	NW	.....	.....	3	0	0	.....	.....	0	0	Hazy	I. Guerrero, C. E.
Mexico, Central Observatory	23.18	588.8	30.37	771.5	45.1	7.3	62	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	43.7	6.5	61	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.51	597.1	30.51	774.9	40.3	4.6	52	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.37	619.1	30.44	773.2	53.6	12.0	49	SE	.....	.....	1	.....	10	.....	E	0	0	Covered	G. Barroeta, M. D.
Tlacotalpam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. M. Chazaro.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell
Zacatecas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. Castrillon.

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column; the instrumental correction —0.86 mm., or —0.035 inch, has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.61	777.5	30.61	777.5	32.0	0.0	.....	SW	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Groningen	30.47	774.0	30.53	775.4	35.4	1.9	.....	W	.....	.....	2	.....	.....	.....	.....	0.055	1.4	.....	
Helder	30.54	775.6	30.54	775.6	37.8	3.2	.....	SW	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.58	776.7	30.58	776.7	31.6	— 0.3	98	SW	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	
Utrecht	30.54	775.7	30.59	776.9	32.5	0.3	96	SW	.....	.....	2	.....	.....	.....	.....	0	0	Misty	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.33	770.3	30.38	771.7	38.8	3.8	60	NNW	22.8	10.2			3			0.709	18.0		
Brönö	29.80	756.9	29.87	757.9	32.0	0.0	78	NNW	27	12			9			0.185	4.7		
Christiana	29.78	756.5	29.94	760.4	35.1	1.7	71	SE	2	1			0			0	0		
Tromsö	29.45	747.9	29.49	749.0	27.0	— 2.8	87	NE	27	12			10			0.236	6.0		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	29.85	758.3	30.05	763.2	59.0	15.0	87	N	7.4	3.3			10			0.157	4.0	Raining	Dr. J. A. Sampaio.
Campo Major	29.21	741.9	30.25	768.4	43.2	6.2	91	E	4.3	1.9			10			0.079	2.0		Dr. A. M. R. dos Santos.
Funchal (Maderia)	30.08	763.9	30.16	766.1	62.8	17.1	70	SE	3.8	1.7			10			0.023	0.7		Capt. D. A. de Cunha.
Lisbon Observatory	29.92	760.0	30.29	769.4	47.7	8.7	77	NE	16.1	7.2			9			0	0		The Staff.
Ponta Delgada (Azores)	29.98	761.6	30.06	763.4	63.7	17.6	90	SSE	11.9	5.3			10			0	0		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias				A. G. da Silva Costa, Com'd't.
D. Fernando				A. M. de Sande, Com'd't.
Duque da Terceira				J. C. M. Cabrate, 1st Lt.
Mindello				J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos				H. de C. C. e Athayde.
Rio Duro				J. T. d'Oliveria, Com'd't.
Rio Lima. Capt. S. C. da Silva Costa, Santiago, Cape Verd Ids			D. clouds	A. D. de Fonseca Sarurento
Sá da Bandeira				F. Teixeira da Silva, Comd't.
Sado, Capt. J. A de Brito Capello, St. Paul de Loando			D. clouds	F. de Assis Camillo, jun., Q. M.
Tejo, Capt. J. M. T. Guimaraes, Macao, China			Blue sky	J. G. Felgo, 2nd Lieut.

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sá da Bandeirà gives the barometer reduced tofreezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	28.84	732.4	28.85	732.9	25.5	— 3.6	98	NW	4	2			10						Capt. Sseliwerstow.
Astrakhan	30.29	769.3	30.21	767.2	27.9	— 2.3	87	WSW	13	6			10cp						Capt. Wisganow.
Barnaul	29.76	755.8	30.33	770.4	— 8.9	—22.7	98	SW	4	2			8					Light clouds	Meteorological Obs.
Dorpat	29.28	743.8	29.53	750.1	35.1	1.7	90	WSW	13	6			9kn						Prof. Dr. Weihrauch.
Ekaterinburg	28.36	720.4	29.39	746.4	11.3	—11.5	90	W	31	14			10						Meteorological Obs.
Irkutsk																			
Kasan	29.10	739.2	29.38	746.2	32.7	0.4	85	SW	16	7			10						Physical Cabinet.
Kertch																			Lagorio.
Kieff	29.28	743.8	29.95	760.8	30.4	— 0.9	67	W	11	5		c	1cs					Light clouds	Physical Cabinet.
Krotkowo*	29.10	739.0	29.59	751.5	26.8	— 2.9	80	SW	9	4			10						Cand. Fatjanow.
Lugan	29.81	757.1	30.02	762.5	31.3	— 0.4	83	SW	22	10			10			Blank	Blank		Meteorological Obs.
Moscow	28.98	736.0	29.54	750.4	32.0	0.0	78	N	13	6			8s						Meteorological Obs.
Nertchinsk	27.69	703.4	30.32	770.1	—15.0	—26.1	82	Calm	0	0			2					Light clouds	Meteorological Obs.
Nikolaiev	30.08	764.1	30.15	765.9	34.5	1.4	87	W	4	2			1ks						Kurdakof.
Nukuss	30.04	763.1	30.30	769.7	9.7	—12.4	80	NNE	4	2			2ks						
Orenberg																			
Pekin (China)	30.08	764.0	30.22	767.6	28.9	— 1.7	70	Calm	0	0			6k						Physical Observatory.
St. Petersburg	29.30	744.1	29.31	744.5	34.5	1.4	91	WNW	20	9			9n						Central Physical Obs.
Tashkend	28.57	725.7	30.25	768.4	25.5	— 3.6	100						0						Teich, A. M.
Tiflis	28.70	728.9	30.17	766.2	39.0	3.9	64	NW	4	2			7cs						Physical Observatory.
Vladivostock																			
Warsaw	29.80	756.8	30.25	768.3	27.3	— 2.6	96	W	20	9			10ks						Astronomical Obs.
Wilna	29.45	747.9	29.88	758.9	34.2	1.2	92	W	11	5			10					Heavy clouds	Astronomical Obs.
Yenisiesk	29.82	757.4	30.14	765.5	1.4	—17.0	78	S	2	1			0						Marks.

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	30.36	771.1	30.47	773.9	50.0	10	57	ENE	0.9	0.39			1			0	0	Light Mist	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.34	770.7	30.40	772.2	54.5	12.5	55	SE	2.9	1.30		0	0			0	0	Clear.	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.36	695.0			42.4	5.8	61	E	2.2	1.00		0	1			0	0	Almost clear	Domingo Martin y Perez.
Madrid, Royal Observatory	28.06	712.8	30.37	771.4	45.0	7.2	68	NE	9.7	4.34		0	10			0.067	1.7	Covered	The Staff.
Murcia, Met. Obs'y	30.17	766.3	30.32	770.2	49.8	9.9	88	W	3.8	1.69		5	5	WNW		0.063	1.59	Raining	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.39	746.5	30.30	769.7	48.0	8.9	68	N	2.5	1.1			0			0	0	Clear.	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.16	766.0	30.23	767.7	70.2	21.2	89	E	4.0	1.8		0	0			0	0	Clear.	Benito Vines S. J.
Manilla, Phillippine Islands																			Federico Faura, S. J.
San Fernando, Naval Obs'y	30.11	764.7	30.21	767.2	56.3	13.5	71	WSW	8.2	3.7		0	10		W	0.155	3.9		Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	30.04	763.1	30.13	765.4	76.3	24.6	86	SE	14.3	6.41		7kn	3kn	SE	SE	0.020	0.50	Cloudy	Enriquefiadez, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.32	744.6	29.36	745.6	18.0	— 7.8	.....	W	.....	.....	2	.....	7	.....	.....	0	0	.....	
Umea	29.48	748.9	29.54	750.2	29.1	— 1.6	60	N	.....	.....	2	.....	10	.....	.....	0	0	.....	
Hernosand	29.54	750.2	29.59	751.5	29.5	— 1.4	.....	NNE	.....	.....	2	.....	10	.....	.....	0	0	.....	
Stockholm	29.48	748.8	29.66	753.3	36.3	2.4	68	WNW	.....	.....	2	.....	0	.....	.....	0	0	.....	
Wisby	29.68	753.8	29.74	755.3	38.8	3.8	83	WNW	.....	.....	7	.....	5	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.54	750.8	29.63	752.5	35.4	1.9	71	W	6.7	3.0	.....	.....	2	.....	.....	0	0	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	29.10	739.0	30.02	777.8	21.9	— 5.6	99	WSW	.....	.....	0	.....	10	.....	.....	0	0	Misty	The Observatory.
Zurich	28.87	733.4	30.67	778.9	12.6	—10.8	100	W	.....	.....	1	.....	3	.....	.....	0	0	Clear.	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +11.4 mm.; Thermometer, —7.3 Cent.; Relative Humidity, +19 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.36	771.2	43.0	6.1	70	NNE	7	3.0	.....	.....	7	.....	N	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.24	768.2	53.4	11.9	.....	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.89	759.2	30.01	762.2	54.3	12.4	85	WSW	.....	.....	1	.....	7n	.....	E	0.49	12.4	D. clouds	Prof. C. V. A. van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	29.70	754.4	29.77	756.1	9.0	—12.8	78	W	8	3.6	.....	0	0	.....	.....	0.12	3.0	Clear.	G. A. Blair.
Charlottetown, P. E. Island	29.63	752.6	29.68	753.9	23.0	— 5.0	86	W	17	7.6	.....	c	6s	W	N	0.38	9.7	.....	H. J. Cundall, C. E.
Cornwall, Ontario	29.95	760.7	30.17	766.3	— 1.2	—18.4	100	NW	.....	.....	1	.....	10s	.....	.....	0.05	1.3	Overcast	James Smith, M. A.
Dalhousie, N. B	29.59	751.6	29.77	756.1	2.5	—16.4	.....	W	.....	.....	3	0	0	.....	.....	0.60	15.2	Clear.	H. A. Johnson.
Father Point, Quebec	29.87	758.7	29.89	759.2	— 2.0	—18.9	84	W	20	8.9	.....	0	2s	.....	.....	0.45	11.4	Clear.	J. McWilliams.
Fredericton, N. B	29.79	756.7	29.86	758.4	13.4	—10.3	93	W	1	0.4	.....	8cs	0	W	.....	0	0	Cloudy	Prof. Harrison.
Fort Garry, Manitoba	29.31	744.5	30.32	770.1	—37.7	—38.7	100	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear.	James Stewart.
Granton, Ontario	29.01	736.8	30.21	767.3	16	— 8.9	.....	E	.....	.....	1	.....	10n	.....	.....	Inap.	Inap.	Cloudy	James Grant.
Halifax, N. S	29.62	752.3	29.76	755.9	34.2	1.2	91	W	6	2.7	.....	.....	10n	.....	.....	0.46	11.7	Cloudy	A. Allison.
Hamilton, Ontario	29.84	757.9	30.26	768.6	17.3	— 8.2	95	N	.....	.....	1	10cs	0	E	.....	0	0	Cloudy	Geo. Dickson, B. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.82	757.4	30.20	767.1	6.2	—14.3	76	E	12	5.4	.....	.....	10ks	.....	.....	0.15	3.8	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	29.53	750.0	29.57	751.1	32.0	0.0	87	W	6	2.7	.....	7k	0	W	.....	0.40	10.2	Cloudy	C. H. Rigby.
Montreal, Quebec	29.91	759.7	30.14	765.5	1.5	—16.9	86	NW	6	2.7	.....	9cs	0	.....	.....	0	0	Cloudy	C. H. McLeod, C. E.
Moose Factory, Ontario	30.26	768.6	30.30	769.6	—41.0	—40.6	.....	SW	.....	.....	1	0	0	.....	.....	0	0	Clear.	J. R. Nelson.
Norwood	29.41	747.0	30.18	766.6	5.3	—14.8	100	N	4	1.8	.....	.....	10s	.....	.....	0.32	8.1	Cloudy	Rev. T. F. Fotheringham, M. A.
Parry Sound, Ontario	29.56	750.8	30.36	771.1	—10.3	—23.5	77	N	6	2.7	.....	0	2ks	.....	E	0	0	Fair	Rev. R. Mosley.
Peterboro, Ontario	29.43	747.5	30.22	767.6	27.4	— 2.6	88	NW	.....	.....	5	0	0	.....	.....	0	0	Clear.	J. F. Jeffers, M. A.
Port Dover, Ontario	29.45	748.0	30.20	767.1	17.1	— 8.3	83	N	8	3.6	.....	.....	Haze	.....	.....	0.01	0.3	Cloudy	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.40	749.0	30.19	766.8	18.2	— 7.7	84	N	6	2.7	.....	.....	10ks	.....	W	0.10	2.5	Cloudy	M. Payne.
Quebec, Quebec	29.69	754.1	30.05	763.3	— 5	—20.6	63	NW	.....	.....	1	0	0	.....	.....	0.50	12.7	Clear.	Capt. Ashe, R. N.
Rockliffe, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. McIntyre.
St. Andrews, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Gove.
St. John, N. B	29.63	752.6	29.80	756.9	2.6	—16.3	87	NW	15	6.7	.....	10k	0	.....	.....	0	0	Cloudy	G. Murdock, C. E.
Saugeen, Ontario	29.46	748.3	30.25	768.3	.....	.....	94	NE	13	5.8	.....	.....	10s	.....	.....	0.13	3.3	Overcast	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.81	731.8	30.22	767.6	11.1	—11.6	90	NE	3	1.3	.....	.....	10s	.....	.....	0	0	Cloudy	C. J. MacGregor, M. A.
Sydney, C. B	29.55	750.6	29.59	751.6	30.3	— 0.9	81	W	17	7.6	.....	9k	2s	W	.....	0.80	7.6	Clearing	T. C. Hill, C. E.
Toronto, Ontario	29.81	757.2	30.24	768.1	11.1	—11.6	86	N	7	3.1	.....	0	10n	.....	.....	Inap.	Inap.	Cloudy	Magnetic Observatory
Windsor, N. S	29.68	753.9	29.78	756.4	32.0	0.0	100	N	5	2.2	.....	.....	10n	.....	.....	0.10	2.5	Light rain	Prof. John E. Oram, M. A.
Woodstock, Ontario	29.04	737.6	30.20	767.1	13.7	—10.2	93	NW	9	4.0	.....	.....	10s	.....	.....	0	0	Overcast	Prof. J. Montgomery.
Yarmouth, N. S	29.70	755.9	29.82	757.4	37.6	3.1	96	W	5	2.2	.....	.....	Fog	.....	.....	0.39	9.9	Foggy	Lt. F. E. Wilmot, R. N
Sub-Series.																			
St. Johns, Newfoundland	29.30	744.2	29.56	750.8	30	— 1.1	100	S	.....	.....	.....	.....	10	.....	.....	0.40	10.2	Overcast	John Delany.
St. Pierre, N. F., Hôpital Maritime.	.....	.....	29.49	749.0	27.3	— 2.6	.....	SW	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	The Commandant.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer. U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0–10.	CLOUDS. Amount. Up'er 0–10.	Lo'er 0–10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.78	756.4	30.02	762.5	28	— 2.2	66	NW	12	5.4			10s		Calm	0.05	1.3	Cloudy	
Alpena, Michigan	29.56	750.8	30.28	769.1	7	—13.9	77	NW	5	2.2			10s		Calm	0	0	Cloudy	
Atcha, Aleutian Is., Alaska																			
Atlanta, Georgia	28.95	735.3	30.08	764.0	64	17.8	94	SW	17	7.6			10s		SW	0.15	3.8	Cloudy	
Atlantic City, New Jersey	29.91	759.7	29.92	760.0	47	8.3	100	SW	1	0.4			10n fog		Calm	0.67	17.0	Light rain	
Augusta, Georgia	30.02	762.5	30.22	767.6	65	18.3	89	SW	2	0.9			10s		SW	0	0	Cloudy	
Baltimore, Maryland	29.91	759.7	29.96	761.0	51	10.6	86	N	12	5.4			10s		NW	0.17	4.3	Cloudy	
Barnegat, New Jersey	29.91	759.7	29.93	760.2	45	7.2	100	N	3	1.3			Fog		Calm	0.23	5.8	Light rain	
Bismarck, Dakota	28.33	719.6	30.19	766.8	— 8	—22.2	100	NW	30	13.4		0	0			0	0	Clear.	
Boerne, Texas	29.07	738.4	30.55	776.0	16	— 8.9	100	N			2		10s		N	0.08	2.0	Cloudy	
Boise City, Idaho	27.95	709.9	30.91	785.1	9	—12.8	78	NW	4	1.8			10s		Calm	0	0	Cloudy	
Boston, Massachusetts	29.75	755.6	29.91	759.7	38	3.3	81	W	7	3.1			10s		Calm	0.53	13.5	Cloudy	
Brackettville, Texas	29.42	747.3	30.60	777.2	22	— 5.6	86	N	9	4.0			10s		Calm	0	0	Cloudy	
Breckenridge, Minnesota	29.14	740.1	30.34	770.6	—26	—32.2	100	S	11	4.9		0	5s		Calm	0	0	Fair	
Brownsville, Texas	30.38	771.6	30.43	772.9	31	— 0.6	100	N	16	7.2			10n		Calm	Inap.	Inap.	Light snow.	
Buffalo, New York	29.41	747.0	30.16	766 1	18	— 7.8	84	N	8	3.6			10n		NW	0.06	1.5	Light snow.	
Burkes, Arizona					26	— 3.3	28	N			1	0	0			0	0	Clear.	
Burlington, Vermont	29.82	757.4	30.14	765.5	5	—15.0	75	NE	17	7.6		2ck	8s	W	N	0.03	0.8	Cloudy	
Cairo, Illinois	30.10	764.5	30.54	775.7	14	—10.0	64	N	8	3.6			10s		N	0.66	16.8	Cloudy	
Campo, California																			
Cape Hatteras, N. Carolina	30.11	764.8	30.12	765.0	61	16.1	94	SW	15	6.7		Haze	Haze			0.05	1.3	Hazy	
Cape Henry, Virginia	29.96	761 0	29.97	761.2	65	18.3	94	S	18	8.0		5ck	0	SW		0	0	Fair	
Cape Lookout, N. Carolina	30.11	764.8	30.23	767.8	64	17.8	94	SW	20	8.9		2c	2ks	SW	SW	0	0	Fair	
Cape May, New Jersey	29.88	758.9	29.91	759.7	50	10.0	100	S	5	2.2			Fog		Calm	0.22	5.6	Foggy	
Castroville, Texas	29.78	756.4	30.57	776.5	22	— 5.6	72	NW	12	5.4			10s		NW	0	0	Cloudy	
Cedar Keys, Florida	30.26	768.6	30.28	769.1	67	19.4	95	SE	4	1.8		0	0			0	0	Clear.	
Charleston, South Carolina	30.15	765.8	30.20	767.1	62	16.7	88	SW	4	1.8		0	5s		SW	0	0	Fair	
Charlotte, North Carolina	29.19	741.4	29.98	761.5	63	17.2	94	SW	10	4.5			10s		SW	0	0	Cloudy	
Chattanooga, Tennessee	29.37	746.0	30.19	766.8	46	7.8	84	NW	6	2.7			10s		NW	0.32	8.1	Cloudy	
Cheyenne, Wyoming	24.17	613.9	30.11	764.8	6	—14.4	52	W	22	9.8		0	0			0.01	0.3	Clear	
Chicago, Illinois	29.56	750.8	30.33	770.4	9	—12.8	100	W	11	4.9			10n		Calm	0.30	7.6	Light snow.	
Cincinnati, Ohio	29.58	751.3	30.27	768.8	28	— 2.2	71	NW	6	2.7			10ks		NW	0.50	12.7	Cloudy	
Cleveland, Ohio	29.40	746.7	30.17	766.3	26	— 3.3	88	N	8	3.6			10n		N	0.05	1.3	Light snow.	
Coleman City, Texas	28.86	733.0	30.78	781.8	8	—13.3	33	N	24	10.7		0	0			0	0	Clear.	
Columbus, Ohio	29.31	744.5	30.20	767.1	27	— 2.8	76	NW	8	3.6			10ks		NW	0	0	Cloudy	
Concho, Texas	28.83	732.3	30.77	781.5	10	—12.2	79	NE			1	0	0			0	0	Clear.	
Corsicana, Texas	30.19	766.8	30.72	780.3	15	— 9.4	48	N	16	7.2			10s		Calm	0.04	1.0	Cloudy	
Davenport, Iowa	29.80	756.9	30.56	776.2	—11	—23.9	76	NW	8	3.6		0	0			0	0	Clear	
Dayton, Washington T'y					2	—16.7	72	Calm			0		10n		Calm	0.12	3.0	Heavy snow	
Deadwood, Dakota	25.47	646.7			14	—10.0	28	Calm	0	0			10n		Calm	0.01	0.3	Light snow	
Decatur, Texas	29.43	747.5	30.75	781.0	14	—10.0	46	NW	16	7.2		0	0			0	0	Clear.	
Denison, Texas	29.82	757.4	30.74	780.8	9	—12.8	79	N	11	4.9		5k	0	N		0.09	2.3	Fair	
Denver, Colorado	25.00	635.0	30.22	767.6	1	—17.2	71	S	8	3.6		0	0			0	0	Clear.	
Des Moines, Iowa	29.60	751.8	30.64	778.2	—13	—25.0	74	NW	5	2.2		0	0			0	0	Clear.	
Detroit, Michigan	29.48	748.8	30.20	767 1	17	— 8.3	83	N	3	1.3			10s		Calm	0.05	1.3	Cloudy	
Dodge City, Kansas	27.87	707.9	30.57	776.5	—10	—23.3	55	NW	13	5.8		0	0			Inap.	Inap.	Clear.	
Dubuque, Iowa	29.73	755.1	30.57	776.5	—18	—27.8	67	W	3	1.3		0.	1s		Calm	Inap.	Inap.	Clear.	
Duluth, Minnesota	29.64	752.8	30.47	773 9	—28	—33.3	45	SW	6	2.7		0	1s		Calm	0	0	Clear	
Eagle Pass, Texas	29.89	759.2	30.70	779.8	27	— 2.8	53	NW	17	7.6			10s		Calm	0	0	Cloudy	
Eastport, Maine	29.74	755.4	29.81	757.2	25	— 3.9	75	NW	12	5.4		10k	2ks	W	NW	0.53	13.5	Cloudy	
Edinburg, Texas					34	1.1	90	N			4		10s		N	0.01	0.3	Cloudy	
El Paso, Texas																			
Erie, Pennsylvania	29.43	747.5	30.19	766.8	26	— 3.3	75	N	10	4.5			10n		Calm	0.08	2.0	Light snow	
Escanaba, Michigan	29.56	750.8	30.30	769.6	— 3	—19.4	66	NW	7	3.1			10s		NW	0.05	1.3	Cloudy	
Florence, Arizona	28.94	735.1	30.54	775.7	20	— 6.7	70	Calm	0	0		0	0			0	0	Clear.	
Fort Assiniboine, Montana																			
Fort Buford, Dakota	28.23	717.0	30.34	770.6	— 7	—21.7	80	NW	11	4.9		5c	0	Calm		0	0	Fair	
Fort Custer, Montana	27.12	688.8			14	—10.0	82	W	12	5.4			10s		Calm	0.01	0.3	Cloudy	
Fort Davis, Texas	25.52	648.2	30.48	774.2	10	—12.2	58	NE	4	1.8		0	0			0	0	Clear	
Fort Gibson, Indian Ter	30.12	765.0	30.75	781.0	4	—15.6	74	N	12	5.4			10s		N	0.05	1.3	Cloudy	
Fort Grant, Arizona	25.44	646.2	30.24	768.1	24	— 4.4	74	SE	1	0.4		0	0			0	0	Clear.	
Fort Griffin, Texas	29.44	747.8	30.92	785.4	7	—13.9	77	N	14	6.3		0	5s		Calm	0	0	Fair	
Fort Keogh, Montana	27.49	698.2			10	—12.2	61	NW	2	0.9		0	8s		Calm	Inap.	Inap.	Clearing	
Fort McKavett, Texas	28.29	718.6	29.48	774.2	9	—12.8	78	NW	14	6.3		0	0			0	0	Clear.	
Fort St. Michael, Alaska																			
Fort Shaw, Montana																			
Fort Sill, Indian Territory	29.47	748.5	30.75	781.0	8	—13.3	33	N	3	1.3		0	0			0	0	Clear.	
Fort Stevenson, Dakota	28.43	722.1			—12	—24.4							10s		W	0	0	Cloudy	
Fort Verde, Arizona					8	—13.3	55	NW			2	0	0			0	0	Clear.	
Fort Yates, Dakota																			
Fredericksburg, Texas	28.70	729.0	30.44	773.2	20	— 6.7	70	N	13	5.8			10s		Calm	Inap	Inap.	Cloudy	
Galveston, Texas	30.41	772.4	30.46	773.7	31	— 0.6	100	NW	27	12.1			10n		Calm	0.07	1.8	Sleeting	
Graham, Texas	29.62	752.3	30.84	783.3	6	—14.4	76	N				0	0			0	0	Clear.	
Grand Haven, Michigan	29.62	749.8	30.22	767.6	18	— 7.8	84	E	4	1.8			10s		Calm	0.01	0.3	Cloudy	
Helena, Montana																			
Henrietta, Texas	29.71	754.6	30.80	782.3	6	—14.4	76	N	12	5.4		0	0			0	0	Clear.	
Indianapolis, Indiana	29.46	748.3	30.31	769.9	14	—10.0	64	W	8	3.6			10s		Calm	0.08	2.0	Cloudy	
Indianola, Texas	30.51	774 9	30.54	775.7	22	— 5.6	86	N	37	16.5			10s		N	0.06	1.5	Cloudy	
Jacksboro, Texas	29.52	749.8	30.85	783.6	7	—13.9	54	N	15	6.7		0	0			0	0	Clear	
Jacksonville, Florida	30.26	768.6	30.28	769.1	64	17.8	89	S	5	2.2		0	0			0	0	Clear	
Keokuk, Iowa	29.84	757.9	30.57	776.5	— 8	—22.2	58	NW	8	3.6		0	0			0	0	Clear	
Key West, Florida	30.20	767.1	30.23	767.8	73	22.8	90	E	3	1.3		0	8s		E	0.20	5.1	Cloudy	
Kittyhawk, North Carolina	30.06	763.5	30.09	764.3	60	15.6	94	SW	23	10.3		8c	Haze	W	Calm	0	0	Fair	
Knoxville, Tennessee	29.15	740.4	30.18	766.6	43	6.1	92	NW	4	1.8			10n		Calm	0.80	20.3	Light rain	
La Crosse, Wisconsin	29.68	753.9	30.58	776.7	—23	—30.6	100	NW	1	0.4		0	0			0	0	Clear.	
La Mesilla, New Mexico	26.45	671.8	30.60	777.2	20	— 6.7	41	NW	8	3.6		0	0			0	0	Clear	
Laredo, Texas	30.18	766.6	30.54	775.7	22	— 5.6	86	N	17	7.6			10ks		N	0	0	Cloudy	
Leavenworth, Kansas	29.73	755.1	30.73	780.5	— 7	—21.7	59	NW	5	2.2		0	0			0	0	Clear.	
Lewiston, Idaho																			
Little Rock, Arkansas	30.22	767.6	30.63	778.0	17	— 8.3	83	N	10	4.5		10k	0	W		1.32	33.5	Cloudy	
Los Angeles, California	30.08	764.0	30.45	773.4	31.0	— 0.6	69	N	3	1.3		0	0			0	0	Clear.	
Louisville, Kentucky	29.70	754.4	30.31	769.9	20	— 6.7	70	W	11	4.9			10s		Calm	0.99	25.1	Cloudy	
Lynchburg, Virginia	29.26	743.2	29.94	760.5	55	12.8	93	Calm	0	0			10n		Calm	Inap.	Inap.	Light rain	
Madison, Wisconsin	29.29	744.0	30.43	772.9	— 9	—22.8	56	W	10	4.5		8cs	0	W		Inap.	Inap.	Cloudy	
Marquette, Michigan	29.50	749.3	30.29	769.4	— 5	—20.6	63	NW	8	3.6		0	0			0.19	4.8	Clear	
Mason, Texas	28.93	734.8	30.94	785.9	13	—10.6	81	N	20	8.9			10s		W	0.25	6.3	Cloudy	
Memphis, Tennessee	30.06	763.5	30.44	773.2	17	— 8.3	67	W	8	3.6			10n		N	0.61	15.5	Light snow.	
Milwaukee, Wisconsin	29.51	749.5	30.34	770.6	— 3	—19.4	83	NW	20	8.9			10n		Calm	0.02	0.5	Light snow.	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mobile, Alabama	30.18	766.6	30.23	767.8	68	20.0	100	SW	3	1.3	.....	.....	10s	.....	SW	Inap.	Inap.	Cloudy	
Montgomery, Alabama	29.99	761.7	30.22	767.6	62	16.7	91	W	8	3.6	.....	.....	10s	.....	Calm	0.15	3.8	Cloudy	
Morgantown, West Virginia	29.07	738.4	30.10	764.5	37	2.8	81	NE	6	2.7	.....	.....	10s	.....	NE	1.30	33.0	Threatening	
Mt. Washington, N. H.	23.26	590.8	29.62	752.3	5	—15.0	87	NW	72	32.2	.....	8k	5ks	NW	NW	0.15	3.8	Cloudy	
Nashville, Tennessee	29.81	757.2	30.30	771.9	26	— 3.3	88	NW	6	2.7	.....	.....	10s	.....	Calm	0.92	23.4	Cloudy	
New Haven, Connecticut	29.84	757.9	29.96	761.0	38	3.3	91	N	8	3.6	.....	.....	10n	.....	Calm	0.55	14.0	Light rain	
New London, Connecticut	29.89	759.2	29.94	760.5	39	3.9	91	NW	6	2.7	.....	.....	10n	.....	Calm	0.27	6.9	Light rain	
New Orleans, Louisiana	30.00	767.1	30.26	768.6	62	16.7	77	NW	10	4.5	.....	.....	10s	.....	NW	0	0	Threatening	
Newport, Rhode Island	29.86	758.4	29.92	760.0	41	5.0	91	W	4	1.8	.....	.....	10n	.....	Calm	0.51	13.0	Light rain	
New River, North Carolina	.....	.....	.....	.....	50	10.0	100	SW	.....	.....	1	8c	0	W	.....	.....	.....	Cloudy	
New York, New York	29.80	756.9	29.98	761.5	40	4.4	100	N	4	1.8	.....	.....	10n	.....	Calm	0.20	5.1	Light rain	
Norfolk, Virginia	29.92	760.0	29.98	761.5	61	16.1	94	S	14	6.3	.....	0	8s	.....	Calm	0	0	Fair	
North Platte, Nebraska	27.38	695.4	30.35	770.9	— 8	—22.2	59	W	20	8.9	.....	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter.	30.55	776.0	30.60	777.2	29.0	— 1.7	94	S	10	4.5	.....	.....	10n	.....	Calm	0.03	0.8	Light snow	
Omaha, Nebraska	29.30	744.2	30.60	777.2	—13	—25.0	74	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Oswego, New York	29.81	757.2	30.15	765.8	18	— 7.8	84	NE	15	6.7	.....	.....	10n	.....	Calm	0.12	3.0	Light snow	
Pembina, Dakota	29.16	740.7	30.14	765.5	—30	—34.4	100	S	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
Pensacola, Florida	30.23	767.8	30.26	768.6	69	20.6	95	SW	8	3.6	.....	.....	9ks	.....	SW	0.15	3.8	Cloudy	
Philadelphia, Pennsylvania	29.91	759.7	29.96	761.0	41	5.0	100	NE	14	6.3	.....	.....	10n;fg	.....	Calm	0.35	8.9	Light rain	
Phœnix, Arizona	29.32	744.7	31.32	795.5	23	— 5.0	60	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.53	445.2	29.74	755.4	—17	—27.2	100	N	62	27.7	.....	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	29.64	752.8	30.55	776.0	25	— 3.9	16	N	.....	.....	.....	0	0	.....	.....	0	0	Clear	
Pioche, Nevada	.....	.....	.....	.....	1	—17.2	71	NW	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.28	743.7	30.13	765.3	32	0.0	79	W	8	3.6	.....	.....	10n	.....	Calm	0.28	7.1	Light snow	
Port Huron, Michigan	29.48	748.8	30 20	767.1	16	— 8.9	83	NW	6	2.7	.....	10cs	0	Calm	.....	0	0	Cloudy	
Portland, Maine	29.81	757.2	29.86	758.4	33	0.6	70	N	8	3.6	.....	.....	10s	.....	Calm	0.35	8.9	Cloudy	
Portland, Oregon	30.67	779.0	30.75	781.0	20.5	— 6.4	70	N	2	0.9	.....	.....	10s	.....	.....	Inap.	Inap.	Cloudy	
Portsmouth, North Carolina	.....	.....	.....	.....	64	17.8	100	SW	20	8.9	.....	5cs	0	Calm	.....	0.03	0.8	Fair	
Prescott, Arizona	26.10	637.5	30.46	773.7	— 8	—22.2	.....	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.25	768.3	30.27	768.8	68	20.0	90	E	6	2.7	.....	1cs	0	Calm	.....	0	0	Clear	
Red Bluff, California	30.28	769 1	30.67	779.0	32	0.0	69	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.30	746.5	29.63	752.6	32	0.0	80	N	16	7.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Rochester, New York	29.47	748.5	30.13	765.3	20	— 6.7	85	N	10	4.5	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
Roseburg, Oregon	30.14	765.5	30.78	781.8	16	— 8.9	91	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sacramento, California	30.56	776.2	30.64	778.2	30	— 1.1	83	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.91	759.7	30.57	776.5	1	—17.2	71	W	17	7.6	.....	0	8ks;s	.....	SW	0.06	1.5	Fair	
St. Paul, Minnesota	29.51	749.5	30.53	775.4	—38	—38.9	.....	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Salt Lake City, Utah	26.31	668.3	30.64	778.2	— 3	—19.4	68	Calm	0	0	.....	5c	0	W	.....	0	0	Fair	
San Antonio, Texas	29.89	759.2	30.53	775.4	30	— 1.1	78	N	10	4.5	.....	.....	10s	.....	Calm	0.08	2.0	Cloudy	
San Diego, California	30.31	769.9	30.38	771.6	33	0.6	64	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Sandusky, Ohio	29.48	748.8	30.20	767.1	23	— 5.0	73	NW	12	5.4	.....	.....	10s	.....	NW	0.06	1.5	Cloudy	
Sandy Hook, New Jersey	29.91	759.7	29.95	760.7	49	4.4	100	NW	16	7.2	.....	.....	10n	.....	Calm	0.21	5.3	Light rain	
San Francisco, California	30.53	775.4	30.60	777.2	38	3.3	64	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Santa Fé, New Mexico	23.51	597.1	30.05	763.3	— 9	—22.8	56	Calm	0	0	.....	0	0	.....	.....	0.22	5.6	Clear	
Savannah, Georgia	30.14	765.5	30.23	767.8	64	17.8	94	SW	8	3.6	.....	0	8s	.....	SW	0	0	Fair	
Shreveport, Louisiana	30.31	769.9	30.56	776.2	22	— 5.6	72	NW	8	3.6	.....	.....	10s	.....	Calm	0.17	4.3	Cloudy	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.14	765.5	30.18	766.6	62	16.7	94	SW	10	4.5	.....	2c	Fog	Calm	.....	0.03	0.8	Fair	
Socorro, New Mexico	25.85	656.6	29.92	760.0	7	—13.9	31	N	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois	29.78	756.4	30.56	776.2	— 2	—18.9	67	NW	15	6.7	.....	0	8s	.....	W	Inap.	Inap.	Fair	
Springfield, Massachusetts	29.83	757.7	29.96	761.0	37	2.8	53	NW	10	4.5	.....	.....	10s	.....	Calm	0.31	7.9	Threatening	
Stockton, Texas	27.52	699.0	30.52	775.2	10	—12.2	18	NE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	29.87	758.7	29.93	760.2	37	2.8	90	NW	8	3.6	.....	.....	10s	.....	W	0.35	8.9	Cloudy	
Toledo, Ohio	29.47	748.5	30.21	767.3	21	— 6.1	71	NW	8	3.6	.....	.....	10n	.....	NW	0.01	0.3	Light snow	
Tucson, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon	30.40	772.1	30.98	786.9	6.5	—14.2	88	W	4	1.8	.....	.....	10s	.....	NW	0.03	0.8	Cloudy	
Uvalde, Texas	29.71	754.6	30.63	778.0	23	— 5.0	47	N	7	3.1	.....	.....	10s	.....	N	0	0	Cloudy	
Vicksburg, Mississippi	30.17	766.3	30.45	773.4	33	0.6	84	N	12	5.4	.....	.....	10s	.....	N	0.47	11.9	Cloudy	
Virginia City, Montana	24.56	623.8	30.04	763.0	0	—17.8	70	Calm	0	0	.....	5cs	8s	Calm	Calm	0	0	Cloudy	
Visalia, California	30.20	767.1	30.61	777.5	24.5	— 4.2	87	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.85	758.2	29.96	761.0	51	10.6	93	NW	8	3.6	.....	.....	10n	.....	NW	0.16	4.1	Light rain	
Wickenburg, Arizona	.....	.....	.....	.....	18	— 7.8	68	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, North Carolina	30.06	763.5	30.14	765.5	65	18.3	89	SW	14	6.3	.....	1c	0	W	.....	0	0	Clear	
Winnemucca, Nevada	26.27	667.2	30.63	778.0	— 4	—20.0	82	E	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Massachusetts	29.86	758.4	29.90	759.4	47	8.3	69	NW	6	2.7	.....	.....	10n	.....	.....	0.10	2.5	Light rain	
Yankton, Dakota	29.02	737.1	30.63	778.0	—34	—36.7	100	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Yuma, Arizona	30.44	773.2	30.60	777.2	29	— 1.7	34	N	14	6.3	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	30.14	765.5	30.19	766.8	73	22.8	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.19	766.8	30.20	767.1	75	23.9	82	Calm	0	0	.....	8c	2cs	Calm	.....	.....	.....	Fair	James Gall.
Navassa, W. I.	30.02	762.5	30.10	764.5	76	24.4	71	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.01	762.2	30.01	762.2	76	24.4	77	NE	.....	.....	2	5k	6ks	NE	.....	0.790	20.07	½ cloudy	C. J. Hering.
Santiago de Cuba, W. I.	30.14	765.5	30.17	766.3	73	22.8	81	NNE	9.6	4.3	.....	0	0	.....	.....	0	0	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	30.25	768.3	30.30	769.6	—44.0	—42.2	.....	NE	20	8.9	.....	0	0	.....	.....	0	0	Clear	J. Fortescue & W. Wood
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,067.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,289 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,776.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm., Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.33 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.24‡	768.1‡	.....	.....	66	20.0	100	SW	7	3.1	.....	.....	10	.....	SW	0.04	1.0.	.....	.....	Threatening	
Navy Yard, Portsmouth, N.H	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Adams, Mare I'd., Navy Yard, Cal.	30.56‡	776.7‡	.....	.....	31	1.1	82	N	.....	.....	4	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Alaska, Iquique, Peru .....*	29.97‡	761.2‡	.....	.....	69	20.6	85	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Blue sky.....	
Colorado, New York, . Y.....	29.93‡	760.2‡	.....	.....	40	4.4	100	N	3	1.3	.....	.....	10	.....	Calm	0.08	2.0	.....	.....	Raining.....	
Constitution, N. 16° 12′, W. 61° 29′.....	30.13‡	765.3‡	.....	.....	78	25.6	78	E	.....	.....	6	.....	4	.....	ENE	.....	.....	Mod'ate	ENE	Hazy.....	
Enterprise. Constantinople, Turkey	30.36‡	771.1‡	.....	.....	48	8.9	78	NE	.....	.....	2	.....	5	.....	NE	.....	.....	Mod'ate	.....	Clear?.....	
Franklin, Off Navy Yard, Norfolk, Va.	30.03‡	762.7‡	.....	.....	62	16.7	88	SSW	9.6	4.3	.....	.....	2	.....	S	0	0	.....	.....	Fair.....	
Independence, Mare I'd, Navy Yard, Cal.	30.60‡	777.2‡	.....	.....	42	5.6	75	ENE	2.4	1.1	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Kearsarge, N. 17° 30′, W. 84° 00′.....	30.11‡	764.8‡	.....	.....	80	26.7	78	ENE	.....	.....	4	.....	2	.....	ENE	0	0	Smooth	ENE	Fair...	
Lackawana, Honolulu, Sandwich Id's†	30.09‡	764.3‡	.....	.....	73	22.8	31	Calm	.....	.....	0	.....	8	.....	SE	.....	.....	Smooth	.....	Fair...	
Marion, N. 31° 35′, W. 48° 45′...	30.28‡	769.1‡	.....	.....	66	18.9	74	E	.....	.....	3	.....	2	.....	E	0	0	Long	E	Clear	
Michigan, Erie, Pa.....	30.12‡	765.0‡	.....	.....	25	— 3.9	75	W	.....	.....	2	.....	10	.....	N	.....	.....	.....	.....	Snowing	
Monocacy, Shanghai, China..	30.21‡	767.3‡	.....	.....	42	5.6	91	NE	.....	.....	0–1	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
New Hampshire, Port Royal, S. C.....	30.20‡	767.1‡	.....	.....	64	17.8	100	SW	13	5.8	.....	.....	1	.....	W	0	0	.....	.....	Clear	
Nipsic, Norfolk, Va.....	29.98‡	761.5‡	.....	.....	62	16.7	94	SSW	.....	.....	2	.....	8	.....	.....	.....	.....	.....	.....	D. clouds.....	
Onward, Callao, Peru ....†	29.96‡	761.0‡	.....	.....	67	19.4	95	SSE	.....	.....	2	.....	10	.....	.....	.....	.....	Mod'ate smooth	W	Foggy.....	
Palos, Tientsin, China.	30.24‡	768.1‡	.....	.....	35	1.7	90	SSE	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Overcast	
Passaic, Washington, D. C.....	29.93‡	760.2‡	.....	.....	40	4.4	91	SW	.....	.....	1	.....	5	.....	.....	.....	.....	.....	.....	Fair.....	
Pensacola, Callao, Peru	29.94‡	760.5‡	.....	.....	66	18.9	100	SE	.....	.....	0–1	.....	10	.....	.....	.....	.....	Smooth	.....	Foggy.....	
Powhatan, Navy Yard, Brooklyn, N.Y.	30.01‡	762.2‡	.....	.....	44	6.7	100	N	.....	.....	3	.....	10	.....	.....	Mod'ate	Mod'ate	.....	.....	Rainy.....	
Quinnebaug, Villafranca, France....	30.42‡	772.7‡	.....	.....	57	13.9	52	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Ranger, Honolulu, Sandwich Ids..	30.07‡	763.8‡	.....	.....	74	23.3	95	Calm	.....	.....	0	.....	6?	.....	.....	.....	.....	.....	.....	Cloudy?.....	
Richmond, Manila, Philippine Ids..	29.90‡	759.4‡	.....	.....	80	26.7	87	ESE	.....	.....	4	.....	0	.....	.....	.....	.....	Smooth	.....	Clear	
Rio Bravo, Brownsville, Texas... †.	30.65‡	778.5‡	.....	.....	31	- 0.6	100	NW	8	3.6	.....	.....	10	.....	NW	0	0	.....	.....	Cloudy.....	
Santee. Annapolis, Md	29.98‡	761.5‡	.....	.....	50	10.0	100	NW	.....	.....	1	.....	10	.....	W	0.09	2.3	.....	.....	Foggy.....	
Shenandoah, Montivideo, Uruguay.	29.68‡	753.9‡	.....	.....	77	25.0	52	NE	.....	.....	5	.....	10	.....	NE	.....	.....	Smooth	.....	Cloudy.....	
St. Louis, League Island, Pa.....	29.97‡	761.2‡	.....	.....	43	6.1	100	NE	12	5.4	.....	.....	10	.....	.....	0.2	5.	.....	.....	Raining	
Tennessee, Navy Yard, Brooklyn, N.Y.	29.95‡	760.7‡	.....	.....	41	5.0	100	NE	.....	.....	1–2	.....	10	.....	.....	.....	.....	.....	.....	Cloudy.....	
Tuscarora, N. 13° 54′ W. 91° 20′.....	29.94‡	760.5‡	.....	.....	72	22.2	90	ENE	.....	.....	2	.....	0	.....	.....	0	0	Smooth	.....	Clear.....	
Vandalia. Navy Yard, Brooklyn, N.Y	29.97‡	761.2‡	.....	.....	43	6.1	92	NW	.....	.....	2	.....	10	.....	W	.....	.....	.....	.....	Foggy.....	
Wabash, Boston, Mass.....	29.83‡	757.7‡	.....	.....	38	3.3	81	W	8	3.6	.....	.....	8	.....	.....	0.03	0.8	.....	.....	Cloudy	
Wachusett, S. 31°, W. 47°.. ... . †.	30.41‡	772.4‡	.....	.....	74	23.3	72	N	.....	.....	2	.....	2	.....	Calm	.....	.....	Mod'te long	SE	Fair.....	
Wyoming, Villafranca, France	30.40‡	772.1‡	.....	.....	67	19.4	17	SSE	.....	.....	0–1	.....	0	.....	.....	.....	.....	Smooth	S	Clear.	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		Character.	Direction from—		
S. S. Samaria																		Capt. T. Roberts.	

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																		Capt. Cobb.	
S. S. City of New York																		Capt. Seabury.	
S. S. City of Panama																		Capt. Berry.	
S. S. City of Peking																		Capt. Dearborn.	
S. S. City of Sydney																		L. B. Walls.	
S. S. City of Tokio, Capt. Maury																		Capt. R. Searle.	
S. S. Colima																		Capt. Whitebury.	
S. S. Costa Rica																		W. House & R. Lawless.	
S. S. Dakota, Capt. H. G. Morse																		Capt. Connolly.	
S. S. Georgia																		F. W. Hart, 1st Officer.	
S. S. Granada, Capt. Austin																		Capt. A. Fuller.	
S. S. Wilmington																		R. C. Ghest, 1st Officer.	
S. S. Zealandia, Sydney, N. S. W		29.90‡	759.4‡				E			0				SE			Fine		

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																		Capt. J. W. Kennedy.	
S. S. Baltic																		Capt. H. Perry.	
S. S. Britannic																		Capt. B. Gleadell	
S. S. Celtic																		Capt. C. W. Kennedy.	
S. S. Germanic																			

NOTE.—The orginals give the barometer as read off; wind-force by the scale 0 to to 12; for the Brittanic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer N. 41° 10′, W. 156° 32′		30.39‡	771.9‡	53	11.7	100	NE			4		10		NE		Light	NE	Overcast	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson N. 36° 10′, E. 154° 57′		30.08‡	764.0‡	59	15.0		SW			4		ks		SW	0	Smooth	SW	D. clouds	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																		Capt. H. Andressen.	
S. S. Berlin																		Capt. T. H. Lamke.	
S. S. Braunschweig																		Capt. C. Undutsch.	
S. S. Leipzig, Capt. F. Pfeiffer N. 49° 47′, W. 16° 15′		30.14‡	765.5‡	52.6	11.4	100	SW			6		10		SW		Long	SW	Sprinkling	S. Risius, 3rd Officer.
S. S. Nornberg																			Capt. A. Jaeger.
S. S. Ohio, N. 45° 00′, W. 45° 59′		29.96‡	761.0‡				SSW			3		10		SW		Heavy	NW; W	Sleeting	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness by the scale 0 to 4, do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD.	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO.—MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa		30.28‡	769.1‡	40	4.4		NE			6		9		NE	Heavy			Cloudy	Capt. R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer
S. S. Pennsylvania																			Capt. Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents.

S. S. Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland, N. 49° 53,′ W. 5° 48′†		30 48†	774 2‡	49	9.4		SSE	3	1.3			10		SSE		Smooth		Cloudy	Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

NOTE.—The originals give the barometer as read off; do not distinguish between upper and lower clouds; sea-swell in general terms, as published. ‡Corrections for temperature, instrumental error and elevation applied at this office.

ALLAN LINE MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian, N. 52° 09′, W. 32° 57′		29.53‡	750 0‡	43	6.1		WSW			7		5		WSW		Rough	WSW	Fair	J. Powell, 4th Officer.
S. S. Peruvian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. *The error of the barometer is not known. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES—Miscellaneous.

Furnished by the co-operation of the Observers named.

Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Barkentine "Carrie Heckle" N. 6° 10′, W. 29° 10′		29.81‡	757.2‡	82	27.8		E			4		2		E	0	Smooth	N	Fair	B. F. Woodbury.
Brigantine "George" of Halifax																			N. B. Foss.
Schooner Harry and Fred																			Capt. George Gardner.
Haytian																			
§ Iron Cross																			Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time. *Instrumental error not known.

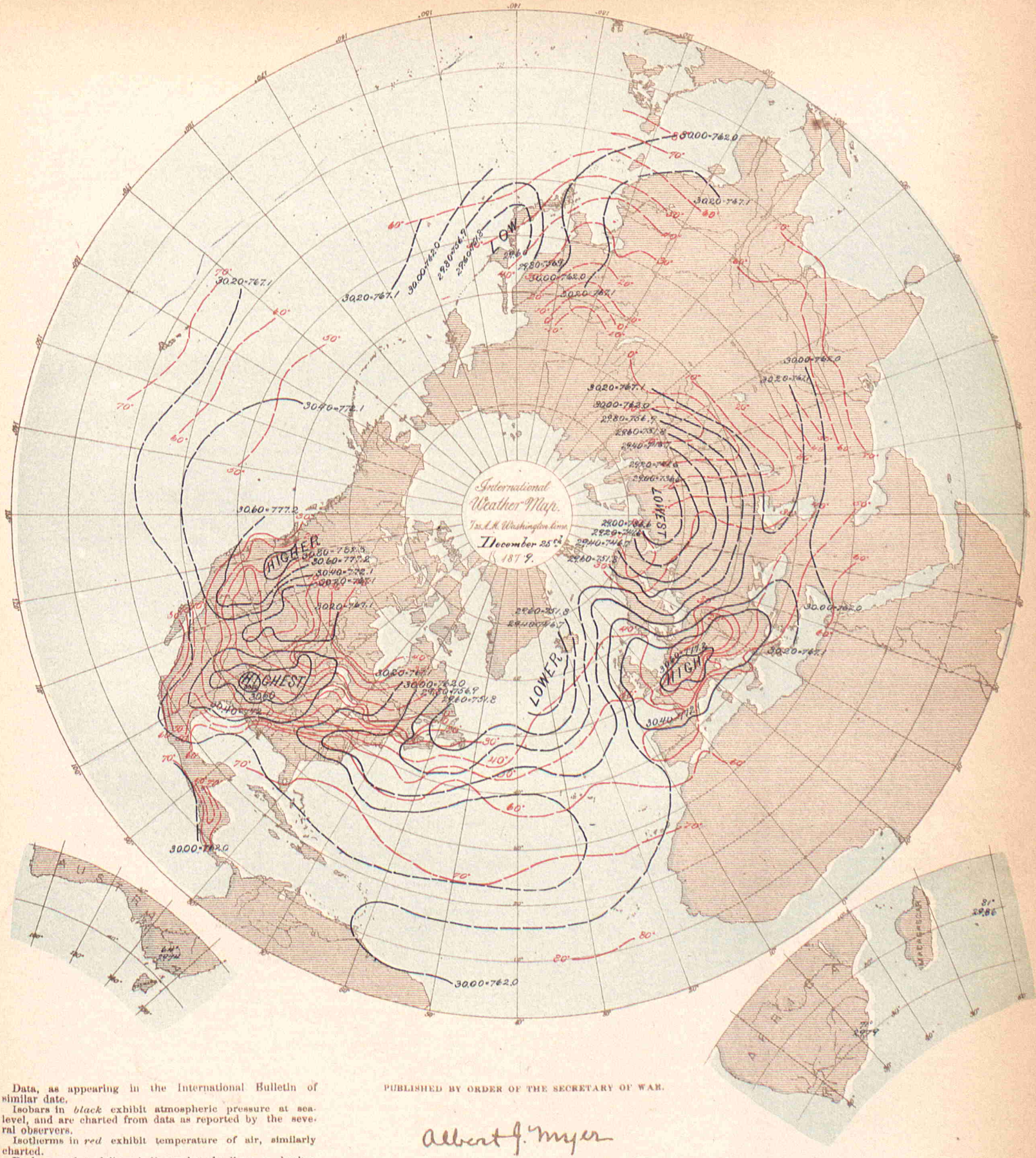
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 26, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE TOWN, C. G. H. mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.34	770.5	61.2	16.2	77	W	.....	.....	1	.....	2	.....	.....	0	0	Fair	
Nemours	.....	.....	30.31	769.9	61.2	16.2	70	WNW	.....	.....	2	.....	8	.....	.....	0	0	Very cloudy	Kesxuche.
Algiers	.....	.....	30.35	770.8	56.1	13.4	47	NNE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Touriliere.
La Calle	.....	.....	30.37	771.5	56.3	13.5	73	NE	.....	.....	3	.....	2	.....	.....	0	0	Fair	Foufrede.
Tunis	.....	.....							.....	.....		.....		.....	.....	.....	.....	.....	Jacques
Sfax	.....	.....	30 41	772.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....							.....	.....		.....		.....	.....	.....	.....	.....	Herbin.
Tebessa	.....	.....	30.43	772.8	48.0	8.9	68	SSW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Watrin.
Geriville	.....	.....	.....	.....	48.7	9.3	38	Calm	.....	.....	0	.....	0	.....	.....	0	0	Clear	Brugniuax
Laghouat	.....	.....	30.34	770.5	45.7	7.6	60	NE	.....	.....	2	.....	0	.....	.....	0	0	Clear.	Bertrand.
Biskra	.....	.....	30.41	772.3	67.9	14.4	50	WNW	.....	.....	4	.....	0	.....	.....	0	0	Clear.	Chanvaux
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount of cloudiness by the scale 0–4; no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.99	761.8	30.00	777.2	19.0	— 7.2	89	N	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. Ivan Stozir
Cracow, I. R. Observatory	29.70	754.3	30.52	775.1	30.2	— 1.0	86	NW	6.3	2.8	.....	.....	0	.....	.....	0	0	.....	Dr. Wierzbicki.
Eperies	29.46	748.3	30.44	773.1	12.9	—10.6	86	Calm	.....	.....	0	.....	1cs	.....	S	0.004	0.10	.....	Julius Mikolik.
Gratz	29.31	744.5	30.07	779.0	25.5	— 3.6	73	E	.....	.....	2	.....	0	.....	.....	"	"	.....	Andreas Rospini.
Hermannstadt	29.02	737.0	30.35	771.0	25.9	— 3.4	87	NW	.....	.....	5	.....	10	.....	.....	0.014	0.35	Snowing	Prof. A. Gottschling.
Kremsmünster	29.17	741.0	30.67	778.9	13.6	—10.2	97	Calm	.....	.....	0	.....	10	.....	.....	"	0	.....	Prof. O. Wagner.
Lemberg	29.13	740.0	30.18	766.5	30.7	— 0.7	96	NW	.....	.....	4	.....	7	.....	.....	0.071	1.8	.....	Dr. T. Stanecki.
Pola	30.27	768.8	30.39	771.8	47.1	8.4	42	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	I.R.Hydrographic Office
Szathmar	29.97	761.2	30.49	774.4	10.8	—11.8	93	W	.....	.....	2	.....	7	.....	.....	0	0	.....	Pet. Pancsics, S. J.
Szegedin	30.18	766.0	30.49	774.4	16.3	— 8.7	.....	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	Karl Stancel.
Trieste	30.30	769.5	30.40	772.1	45.3	7.4	32	E	.....	.....	2	.....	0	.....	.....	0	0,	.....	P. Busin.
Vienna	29.82	757.5	30.67	776.5	33.4	0.8	66	NW	.....	.....	3	.....	2	.....	.....	0	0	.....	I.R.Central Met. Ob'ay
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	30.21	767.3	30.31	769.9	37.4	3.0	.....	S	14	6.3	.....	.....	2	.....	.....	0	0	Misty	W. Boswell.
Ardrossan	30.27	768.8	30.29	769.4	43	6.1	.....	SSW	.....	.....	5	.....	7	.....	.....	.....	.....	D. clouds	Wm. McNeil & G. Carrick
Armagh, (Observatory)	29.98	761.5	30.22	767.6	43.0	6.1	.....	SSE	25	11.2	.....	.....	0	.....	.....	.....	.....	Squally	S. Call.
Bidston (Liverpool Obs)	.....	.....	30.38	771.6	36.5	2.3	.....	SE	22	9.8	.....	.....	0	.....	.....	.....	.....	Blue sky	John Hartnup.
Bolton (Sharples)	29.86	758.4	30.39	771.9	34.2	1.2	.....	SSE	6	2.7	.....	.....	10	.....	.....	.....	.....	Gloomy	Thomas M. ckereth.
Bradford, Yorkshire	30.00	762.0	30.39	771.9	35.9	2.2	.....	N	.....	.....	4	.....	10	.....	.....	0	0	Overcast	J McLandsborough.
Bridgetown, Barbadoes	29.96	761.0	29.99	761.7	80	26.7	.....	NE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds	Pvt. G. Surgener, A.H.C.
Cambridge (Observatory)	30.39	771.9	30.49	774.4	33.0	0.6	.....	SE	.....	.....	1	.....	1	.....	.....	.....	.....	D. clouds	H. Todd.
Cardington	.....	.....	30.47	773.9	31.0	— 0.6	.....	SW	.....	.....	0-1	.....	9	.....	.....	.....	.....	Foggy	John McLaren.
Chatham (School M. E.)	30.37	771.4	30.51	774.9	30.2	— 1.0	.....	E	.....	.....	1	.....	10	.....	.....	.....	.....	Foggy	J. Carmell, Sapper, R.E.
Dollar Glasdee	30.24	768.1	30.29	769.4	44	6.7	.....	SSW	.....	.....	4	.....	8	.....	.....	.....	.....	D. clouds	J. Mac Gowan.
Dover	30.46	773.7	30.49	774.4	31	— 0.6	.....	ESE	.....	.....	2	.....	5	.....	.....	.....	.....	Misty	J. Costello.
Falmouth (Observatory)	30.13	765.3	30.36	771.1	43.7	6.5	.....	SSE	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds	The Staff.
Fort Napier, Natal	27.66	702.6	29.87	758.7	78.0	25.6	.....	E	.....	.....	1	.....	8	.....	.....	.....	.....	Blue sky	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Galway (Queen's College)	.....	.....	30.07	763.8	46	7.8	.....	SSE	.....	.....	4	.....	10	.....	.....	.....	.....	Threatening	Prof. A. H. Curtis.
Gibraltar, Mediterranean	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Sergt. Wm. Allen, A. H.
Glasgow, (Observatory)	30.08	764.0	30.28	769.1	40.9	4.9	.....	SS	.....	.....	4	.....	7k	.....	.....	.....	.....	D. clouds	D. G. Maclean. [C.
Great Yarmouth	30.54	775.7	30.55	776.0	33	0.6	.....	SSE	.....	.....	3	.....	7	.....	.....	.....	.....	Misty	G. T. Watson.
Greenwich (Royal Obs'y)	30.32	770.1	30.51	774.9	30.9	— 0.6	.....	ESE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	The Staff, for G. B. Airy.
Guernsey	30.17	766.3	30.40	772.1	37.5	3.1	.....	SE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	Dr. S. E. Hoskins, F.R.S.
Helston	30.47	773.9	30.59	777.0	44	6.7	.....	SE	.....	.....	2	3ck	.....	.....	.....	0	0	Fine	M. P. Moyle.
Holyhead	30.29	769.4	30.33	770.4	42	5.6	.....	SSW	.....	.....	4	.....	0	.....	.....	.....	.....	Blue sky	John Tilston.
Jersey	30.14	765.5	30.45	773.4	36.5	2.3	.....	SE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	J. Fisher.
Kew (Observatory)	30.46	773.7	30.50	774.7	33.0	0.6	.....	E	8	3.6	.....	.....	10	.....	.....	.....	.....	Threatening	The Met'g'l Office.
Leicester (Museum)	30.22	767.6	30.49	774.4	32.5	0.3	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	30.15	765.8	30.23	767.8	57	13.9	.....	NE	.....	.....	2	.....	1k	.....	.....	.....	.....	Blue sky	A. King.
Nairn	30.06	763.5	30.16	766.1	42	5.6	.....	SW	.....	.....	3	.....	2	.....	.....	.....	.....	¼ clouded	W. D. Penny.
Nassau, Bahamas	.....	.....	30.14	765.5	69.0	20.6	.....	NE	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham (Observatory)	30.28	769.1	30.49	774.4	31.3	— 0.7	.....	S	.....	.....	1	.....	10	.....	.....	0	0	Overcast	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.91	759.7	30.47	773.9	32.0	0.0	.....	SSE	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)	.....	.....	30.47	773.9	33	0.6	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	H. E. Bellamy.
Plymouth	30.31	769.9	30.38	771.6	42.9	6.1	.....	SSE	.....	.....	2	.....	2	.....	.....	.....	.....	D. clouds	John Merrifield.
*Roche's Point	30.19	766.8	30.28	769.1	47	8.3	.....	SSW	.....	.....	6	.....	5	.....	.....	.....	.....	½ clouded	Wm. Kennedy.
St. Ann's Head	30.18	766.6	30.34	770.6	43	6.1	.....	SE	.....	.....	6	.....	2	.....	.....	.....	.....	Blue sky	John C. Walker.
Sandwick Manse, Orkneys	.....	.....	30.12	765.0	40.8	4.9	.....	S	26	11.6	.....	.....	1	.....	.....	.....	.....	Blue sky	Rev. C. Clouston, L.L.D.
Scutari Cemetery, Turkey	30.05	763.3	30.12	765.0	43.0	6.1	.....	NE	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds	Serg't W. H. Line.
Sheffield	30.19	766.8	30.49	774.4	34.0	1.1	.....	Calm	.....	.....	0	.....	10	.....	.....	0	0	Overcast	W. F. Cooper.
Silloth Rectory	30.32	770.1	30.35	770.9	42.8	6.0	88	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	Blue sky	Francis Redford, A. M.
Stonyhurst (Observatory)	.....	.....	30.40	772.1	35.5	1.9	.....	SE	9	4.0	.....	.....	3	.....	.....	.....	.....	Misty	Rev. S. J. Perry.
Straffield, Turgiss	.....	.....	.....	.....	35.7	2.1	.....	SE	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	Rev. C. H. Griffith, F.M.S.
Truro (Royal Institution)	30.30	769.6	30.38	771.6	48	8.9	.....	SE	.....	.....	6	.....	6	.....	.....	.....	.....	D. clouds	W. Newcombe.
Valencia Observatory)	30.05	763.3	30.08	764.0	49.6	9.8	.....	SSE	34	15.2	.....	.....	10	.....	.....	.....	.....	Raining	The Met'g'l Office.
Sub-Series.																			
Cape Town (C. G. H. Obs'y)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.52	648.2	.....	.....	94	34.4	.....	NW	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	Robert Burnet.
Constable, Cape Colony	26.78	680.2	.....	.....	74	23.3	.....	W	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Hobart Town, Tasmania	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Leith (Restalrig Park) Sc'tl'd	.....	.....	30.33	770.4	40.2	4.6	.....	SW	.....	.....	1	.....	0	.....	.....	0	0	Fine	C. Meldrum.
Mauritius (Observatory)	29.75	755.1	29.92	760.0	82.1	27.8	62	E	18.0	8.0	.....	1	2	.....	ESE	0	0	Squally	R. L. J. Ellery.
Melbourne (Observatory)	29.35	745.5	29.44	747.8	69.2	20.7	52	N	3	1.3	.....	.....	8	.....	.....	0.01	0.3	.....	J. Youngclause.
Monach Lt-house, Hebrides	.....	.....	.....	.....	47	8.3	.....	S	.....	.....	8	.....	10	.....	.....	0	0	.....	.....
North Unst, Shetland Is	.....	.....	30.19	766.8	.....	.....	.....	SW	.....	.....	7	5	8	SW	.....	0	0	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown.

BRITISH MARINE SERIES.

VESSELS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer
H. M. S. Alert, Gena Narrows, Patagonia	.....	.....	29.94‡	760.5‡	47	8.3	.....	WNW	.....	.....	3	.....	8	.....	.....	.....	.....	D. clouds	Capt. J. P. Maclear, R.N.
H. M. Sloop Gannet, S. 18° 28′, W. 70° 21′	.....	.....	29.93‡	760.2‡	69.5	20.8	.....	SW	.....	.....	1	.....	2	.....	.....	.....	.....	Blue sky	Commander E. Bourke, R. N.
H. M. S. Magpie, House Island, near Shanghai, China	.....	.....	30.07‡	763.8‡	52.0	11.1	.....	SE	.....	.....	4	.....	6	.....	.....	.....	.....	Misty	Capt. R. H. Napier, R.N.
Barque Belle-Isle, N. 37° 30′, W. 46° 10′	.....	.....	29.97	761.2	66	18.9	.....	SSW	.....	.....	6	.....	8	.....	.....	7	WNW	D. clouds	Capt. A. J. Brown
City of Cashmere, S. 22° 52′, W. 131° 48′	.....	.....	29.97	761.2‡	74.2	23.4	.....	E	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	Capt. W. M. Grieve.
Barque Commewyne, N. 8° 20′, W. 56° 15′	.....	.....	29.92‡	760.0‡	79.3	26.3	.....	ENE	.....	.....	5	.....	6	.....	.....	.....	.....	D. clouds	Capt. Jas. Buchan.
S. S. Ethiopia, Off Fire Island, New York	.....	.....	30.07	763.8	20	— 6.7	.....	NNW	.....	.....	5	.....	4	.....	.....	2	WSW	D. clouds	Capt. Campbell.
Barque Fedalma, N. 32° 40′, W. 62° 50′	.....	.....	29.95	760.7	71	21.7	.....	SW	.....	.....	6	.....	5	.....	.....	5	WSW;SW	D. clouds	Capt. H. L. Fox.
S. S. German, N. 21° 56′, W. 17° 47′	.....	.....	30.04‡	763.0‡	70	21.1	.....	S	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	Capt. O. D. Coxwell.
Iron Cross, N. 44° 45′, W. 38° 20′	.....	.....	29.43	747.5	56	13.3	.....	NW	.....	.....	5	.....	10	.....	.....	7	SW;WSW	Drizzling	Capt. W. Randall.
Barque Mertole, N. 50° 20′, W. 7° 45′	.....	.....	30.26‡	768.6‡	49.4	9.7	.....	SSE	.....	.....	6	.....	3	.....	.....	.....	.....	D. clouds	Capt. Turner.
S. S. Strathleven, S. 9° 05′, E. 78° 36′	.....	.....	29.75‡	755.6‡	79.5	26.4	.....	S	.....	.....	3	.....	4	.....	.....	.....	.....	D. clouds	Capt. C. W. Pearson.
S. S. Sunbeam, N. 41° 40′, W. 54° 10′	.....	.....	29.47	748.5	48	8.9	.....	NNE	.....	.....	4	.....	10	.....	.....	3	NNE;NW	Raining	Capt. C. M. Dobson.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	Corrected for instrum'tal error and temperature. Millimeters.	Reduced to sea-level. Inches.	Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. L'w'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
San José	26.21	665.7	29.93	760 2	63.5	17.5	81	NE	.....	.....	4	.....	3ks	.....	.....	0	0	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.58	776.6	30.62	777.8	31.0	— 0.2	81	NNW	.....	.....	2	.....	2	.....	.....	.....	.....	.....	.....
Faröe	30.60	777.2	30.62	777.7	33.6	0.8	96	SSE	.....	.....	2	.....	8	.....	.....	.....	.....	.....	.....
Godthaab (Greenland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stykkisholm (Iceland)	28.96	735.6	29.00	736.7	38.5	3.6	83	SW	.....	.....	6	.....	10	.....	.....	.....	.....	Snowing	.....
Thorshavn (Faröe)	29.73	755.2	29 77	756.1	47.1	8.4	87	SW	.....	.....	6	.....	6	.....	.....	.....	.....	Raining	.....
Vestervig	30.48	774.1	30.59	776.9	32.2	0.1	96	SE	.....	.....	2	.....	2	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.93	760.3	30.48	774.3	23.0	— 5	86	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Collignon, Director.
Amiens, Normal School	30.26	768.6	30.38	771.6	26.2	— 3.2	82	ENE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Vaillant, Director.
Arras, Englin'r School	30.25	768.4	30.52	775.3	24.4	— 4.2	91	SE	.....	.....	1	.....	.....	.....	.....	0	0	.....	Klein, Commandant.
Avignon, Normal School	30.32	770.0	30.39	772.0	42.4	5.8	17	NE	.....	.....	1	.....	0	.....	.....	0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.90	759.4	30.51	775.0	19.9	— 6.7	.....	SSW	.....	.....	1	.....	0	.....	.....	0	0	Clear	C. Saillard, Director.
Beauvais, Normal School	30.23	767.9	30.52	775.2	28.2	— 2.1	98	E	.....	.....	1	.....	10	.....	.....	0	0	Covered	Frère Eugene Marie.
Besançon, Normal School	29.57	751.1	30.56	776.1	16.0	— 8.9	.....	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Carré, Director.
Bourg-en-Bresse, N. School	29.67	751.9	30.51	775.0	19.8	— 6.8	89	SE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Marlot, Director.
Bourges, Normal School	29.82	757.3	30.41	772.4	22.1	— 5.6	86	NE	.....	.....	4	.....	1	.....	NE	0	0	Clear	M. Gence, Director.
Brest, Naval Observatory	30.19	766.9	30.43	773.0	34.9	1.6	81	S	.....	.....	1	.....	10	.....	S	0	0	Misty	Ch. de Rermaree, Dir.
Caen, Normal School	30.35	770.9	30.43	773.0	34.2	1.2	92	SE	.....	.....	4	.....	.....	.....	.....	0	0	.....	M. Bletrin, Director.
Carcassonne, N. School	29.91	759.7	30.34	770.7	43.5	6.4	74	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	September, Director.
Châlons-sur-Marne, N. Sch'l	30.23	767.7	30.57	776.5	28.9	— 1.7	.....	E	.....	.....	1	.....	0	.....	.....	.....	.....	Clear	Jadot, Director
Chartres, Normal School	29.82	757.3	30.43	772.8	26.2	— 3.2	69	E	.....	.....	1	.....	10	.....	.....	0	0	Foggy	Vergier, Director.
Clermont-Fd, Puy de D. Obs	28.98	736.0	30.41	772.4	34.5	1.4	85	NW	.....	.....	1	.....	0	.....	.....	0	0	Foggy	Alluard, Director.
Commercy, Normal School	29.63	752.5	30.56	776.1	24.1	— 4.4	.....	E	.....	.....	1	.....	10	.....	.....	0	0	Covered	Dr. Coullet, Director.
Commune de Gréasque*	29.23	742.4	30.37	771.4	55.4	13.0	16	N	.....	.....	1	.....	0	.....	.....	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.68	753.8	30.50	774.8	29.5	— 1.4	.....	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.24	768.2	30.48	774.1	33.3	0.7	92	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	Mouillot, Director.
Le Mans, Normal School	30.16	766.0	30.49	774.5	21.6	— 5.8	90	NNE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.53	750.1	30.51	774.9	21.4	— 5.9	69	NW	.....	.....	1	.....	0	.....	.....	0	0	Foggy	A. Baudry, Director
Lorient, Naval Observatory	30.32	770.2	30.43	773.0	32.0	0.0	86	S	.....	.....	1	.....	0	.....	.....	0	0	Clear	Lt. T. Carré, Director
Lyons Obs'y (Park Station)	29.84	757.8	30.51	775.0	19.0	— 7.2	100	E	.....	.....	1	.....	0	.....	.....	0	0	Misty	Ch. André, Director
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	30.05	763 3	30.32	770.2	55.2	12.9	74	Var.	.....	.....	0–1	.....	0	.....	.....	0	0	Clear	E. Stephan, Director.
Mirecourt, Normal School	29.38	746.3	30.52	775.2	20.5	— 6.4	84	NE	.....	.....	1	.....	.....	.....	NE	0	0	Foggy	Barbier, Director.
Mont-Louis	25.07	636.8	30.39	771.8	39.6	4.2	40	ESE	9.4	4.2	.....	.....	0	.....	.....	0	0	.....	M. Cave
Nice	30.31	769.9	30.35	770.8	53.2	11.8	67	SE	.....	.....	1	.....	1	S	SE	0	0	Clear	M. Boissière, Director.
Nismes, Normal School	30.23	767.7	30.43	772.8	46.0	7.8	55	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. Boyer, Director.
Paris, Montsouris Obs'y	30.21	767.2	.....	.....	26.6	— 3.0	96	E	.....	.....	1	.....	10	.....	.....	0	0	.....	Marié Davy, Director.
Perpignan	30.27	768.9	30.38	771.7	46.4	8.0	74	SW	1.8	0.8	.....	.....	0	.....	.....	0	0	.....	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.67	575.8	.....	.....	32.2	0.1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gen'l de Nansouty.
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W	0	0	.....	M. Baylac.
Privas, Normal School	29.35	745.5	30.49	774.4	32.0	0	100	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. Talliteu
Puy de Dome (Summit) Obs	25.41	645.4	.....	.....	44.2	6.8	58	ESE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Alluard, Director.
Rochefort, Naval Obs'y	30.38	771.6	30.41	772.4	30.7	2.6	94	NE	.....	.....	2	.....	0	.....	.....	0	0	Clear	Lt E. Decante, Director
Rouen, Normal School	30.41	772.3	30.49	774.5	31.1	— 0.5	96	SSE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.37	771.5	30.41	772.3	30.2	— 1.0	78	SSE	.....	.....	3	.....	0	.....	.....	0	0	Clear	Lt. Hercouet, Director
Saint Maur (near Paris)	30.33	770.4	30.50	774.6	27.9	— 2.3	96	E	.....	.....	2	.....	10	.....	.....	0	0	Foggy	E. Renou, Director.
Tarbes, Normal School	29.22	742.1	30.32	770.0	51.8	11	30	S	.....	.....	1	.....	0	.....	.....	0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.69	754.2	30.43	772 8	36.7	2.6	89	SE	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. Juher Mercadier.
Tours	30.23	767.9	30.43	772.9	19.4	— 7.0	.....	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	Cousin-Marquet.
Versailles, Observatory	29.96	760.9	30.45	773.4	25.9	— 3.4	100	ESE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.88	758.9	30.65	778.6	24.8	— 4	89	NNW	.....	.....	1	.....	.....	.....	.....	0	0	Light mist	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.98	761.4	30.00	762.1	77.0	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.16	4.	.....	L'Abbé Marchési
Zi-Ka-Wei (near Shanghai)	30.00	762.1	30.03	762.7	52.3	11.3	85	SE	15.4	6.9	.....	7ck	.....	W	.....	0	0	Very cloudy	Marc Decheyrens.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:58 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.316 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.72	754.8	30.58	776.7	20.5	— 6.4	95	E			2	8ck		E		0	0	Foggy	Prof. Dr. Hoh.
Berlin	30.43	772.9	30.61	777.6	32.9	0.5	84	W			1		3			0	0		Prof. Dr. Arndt.
Breslau	30.06	763.5	30.60	777.3	30.6	— 0.8	77	NW			1		0			0	0		Royal University Obs'y.
Carlsruhe	30.13	765.2	30.60	777.1	23.4	— 4.8	82	N			2		10	NE		0	0		Albert Senz.
Cassel	29.98	761.5	30.60	777.2	29.7	— 1.3	85	E			2		10			0	0		Dr. H. Möhl.
Emden			30.63	778.0	32.7	0.4	98	SSE			0		10			0	0		Prof. Dr. Prestel.
Frankfort on the Main	30.35	770.9	30.74	780.9	23.9	— 4.5	81	WNW			2		10			0	0		Physical Society.
Friedrichshafen	29.04	737.7	30.61	777.4	19.4	— 7.0	78	WSW			3		0			0	0		Chief Telegrapher Willhelm.
Hamburg	30.58	776.8	30.65	778.6	30.2	— 1.0	100	WSW			2		10			0	0		Capt. P. F. A. Hegerman.
Kiel	30.61	777.5	30.63	778.0	27.9	— 2.3	100	W			1		2			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.32	770.0	30.40	772.2	34.7	1.5	50	N			7		4			0.031	0.8	Rain & snow	Prof. E. Luther.
Köslin			30.67	776.5	31.8	— 0.1		NE			2		0			0	0		H. Müller.
Leipsic Observatory	30.22	767.6	30.67	779.0	32.4	0.2	96	NW			1		10			0	0	Foggy	Prof. Dr. Bruhns, Privy Councelo
Magdeburg	30.41	772.5	30.65	778.4	35.2	1.8	85	NW			1		10ks	NNW		0	0		Dr. Assmann.
Memel	30.28	769.2	30.33	770.4	34.0	1.1	65	NNW			7		6n						Reinbrecht & Issermann
Munich (München)	28.66	728.0	30.56	776.2	18.1	— 7.7	90	Calm			0		0			0	0	Dense fog	Dr. C. Lang.
Neufahrwasser	30.49	774.5	30.51	774.9	34.0	1.1	70	NNW			4		3			0	0		A. Lothes.
Neustadt (Palatinate)	30.06	763.5	30.60	777.1	22.5	— 5.3		NE			1		10			0	0		Reallehrer Dicknether
Posen	30.27	768.8	30.58	776.7	29.1	— 1.6	79	W			5		1			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	30.03	762.7	30.64	778.2	16.2	— 8.8	94	Calm			0		10			0	0		Imp. University Observatory.
Stuttgart	29.60	751.7	30.63	777.9	17.1	— 8.3	88	NE			0		0			0	0		Prof. Dr. Schoder.
Weissenburg (Bavaria)	29.02	737.2	30.61	777.5	23.5	— 4.7	95	ESE			1		10			0	0	Foggy	Reallehrer J. Hopfner.
Wustrow	30.63	778.1	30.66	778.7	32.0	0.0	98	NNE			1		3b			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,406.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.76	755.8	30.16	766.0	53.8	12.1		NE			1.0		0					Clear.	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.84	757.8	29.89	759.1	73.9	23.3	81	SSW	15	6.7			2			0	0	D. clouds	
Deesa	29.45	748.1	29.94	760.4	73.7	23.2	59	SW	7.7	3.4			0			0	0	Blue sky	
Bombay	29.90	759.6	29.94	760.5	72.7	22.6	78	NNW	14	6.3			0			0	0	Blue sky	
Poona (Yarrowda)	28.04	712.2	29.91	759.7	76.6	24.7	24	WNW	16	7.2			0			0	0	Blue sky	
Belgaum	27.36	694.8	29.91	759.8	72.4	22.4	53	W	3	1.3			0			0	0	Blue sky	
Lahore	29.16	740.7	29.94	760.4	61.6	16.4	67	NE	2.6	1.2			6			0	0	D. clouds	
Roorkee	29.00	736.6	29.94	760.4	61.8	16.6	51	Calm	1.7	0.8			3			0	0	D. clouds.	
Agra	29.33	744.9	29.91	759.7	67.8	19.9	58	Calm	1.1	0.5			8		E	0	0		
Nagpur	28.86	733.0	29.92	760.0	71.7	22.1	39	S	2.6	1.2			0			0	0	Blue sky	
Jubbulpore	28.51	724.0	29.90	759.6	68.3	20.2	52	Calm	1.8	0.8			0			0	0	Blue sky	
Lucknow	29.55	760.5	29.94	760.4	65.4	18.6	47	ENE	1.3	0.6			0			0	0	Blue sky	
Allahabad	29.60	752.0	29.93	760.3	62.4	17.9	68	Calm	0.8	0.4			0			0	0	Blue sky	
Patna	29.72	755.0	29.91	759.7	68.4	20.2	67	Calm	0.5	0.2			0			0	0	Blue sky	
Hazaribagh	27.86	707.7	29.94	760.6	61.8	16.6	51	Calm	3.4	1.5			0			0	0	Blue sky	
Cuttack	29.86	758.3	29.94	760.5	67.4	19.7	71	Calm	0.3	0.1			0			0	0	Blue sky	
Calcutta (Alipore)	29.90	759.5	29.92	760.0	62.5	16.9	75	Calm					0			0	0	Foggy	
Goalpara	29.50	749.4	29.91	759.6	66.7	19.3	60	Calm	1.8	0.8			0			0	0	Blue sky	
Chittagong	29.83	757.7	29.93	760.1	67.0	19.4	78	WNW	1.5	0.7			0			0	0		
Sibsagar	29.59	751.5	29.94	760.4	60.7	15.9	85	ESE	1.1	0.5			0			0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.99	761.7	30.43	772.9	41.5	5.3	43	NE	6.9	3.1	.....	.....	0	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.86	758.6	30.42	772.7	34.9	1.6	91	WSW	.....	.....	1	.....	1	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	30.28	769.2	30.40	772.2	39.4	4.1	44	N	6.9	3.1	.....	.....	0	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.47	748.4	30.45	773.4	29.1	— 1.6	69	ENE	1.3	0.6	.....	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	30.14	765.5	30.34	770.6	52.9	11.6	57	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.41	721.7	30.38	771.7	43.2	6.2	13	W	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.35	770.8	30.40	772.1	38.5	3.6	42	NW	6.3	2.8	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	30.08	763.9	30.35	770.9	38.3	3.5	63	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	30.26	768.7	30.35	771.0	47.5	8.6	43	NNE	4.9	2.2	.....	.....	0	.....	.....	0	0	.....	Prof. P. Monte.
Rome	30.12	765.0	30.30	769.7	50.7	10.4	40	N	1.3	0.6	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari
Lecce	29.99	761.8	30.22	767.5	52.0	11.1	75	NW	21.7	9.7	.....	.....	0	.....	.....	0	0	.....	Prof. C. De Giorgi
Cosenza	29.35	745.5	30.29	769.3	48.4	9.1	70	SE	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	30.09	764.2	30.29	769.3	50.4	10.2	55	NW	.....	.....	2	.....	6	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	30.01	762.3	30.28	769.1	54.0	12.2	64	NE	2.5	1.1	.....	.....	1	.....	.....	0	0	.....	Prof. G. Ciacciatore.
Syracuse	30.17	766.4	30.25	768.3	54.7	12.6	56	NNE	12.5	5.6	.....	.....	4	.....	.....	0	0	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R	29.73	755.2	30.26	768 6	55.6	13.1	29	NE	2.5	1.1	.....	.....	0	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.27	768.8	30.28	769.1	41.0	5.0	82	NNE	10.2	4.6	.....	6cs	.....	.....	.....	0	0	Fair	K. Sasaki.
Nagasaki, I. M. Obs'y	30.04	763.0	30.25	768.3	41.1	5.1	77	E	1.7	0.8	.....	.....	0	.....	.....	0	0	Clear	S. Takehayashi.
Tokei, (Yeddo) Observatory	30.06	763.5	30.13	765.3	39.1	3.9	60	NNE	6.8	3.0	.....	2ck;cs	0	.....	.....	0	0	Fair	The Staff.
Wakayama	30.25	768.3	30.30	769.6	37.3	2.9	78	N	3.2	1.4	.....	3ck	.....	.....	.....	0	0	Fair	

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	25.19	639.8	30.39	771.9	43.7	6.5	67	Calm	.....	.....	0	.....	0	.....	.....	0	0	Fine	Prof. L. Perez.
Leon	24.59	624.6	30.43	773.0	50.0	10.0	84	SW	.....	.....	1	0	0	.....	.....	0	0	Very clear	Prof. M. Leal.
Mazatlan	29.80	757.0	30.07	763.7	60.1	15.6	80	NW	.....	.....	2	0	0	.....	.....	0	0	Hazy	I. Guerrero, C. E.
Mexico, Central Observatory	23.19	589.1	30.35	770.9	47.3	8.5	83	NW	0.67	0 .3	.....	.....	10ks	.....	.....	0	0	Covered	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	48.6	9.2	75	NW	.....	.....	1	1s	0	.....	.....	0	0	Clear	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.55	598.2	30.50	774.7	44.2	6.8	51	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.34	618.2	30.47	773.9	48.7	9.3	63	E	.....	.....	1	5	0	W	.....	0	0	½ clouded	G. Barroeta, M. D.
Tlacotalpam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. M. Chazaro.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell
Zacatecas	22.49	571.2	30.36	771.1	44.2	6.8	79	NE	.....	.....	3	.....	10k	.....	ENE	0	0	Covered	J. C. Castrillon.

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column; the instrumental correction —0.88 mm., or —0.035 inch, has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.58	776.6	30.58	776.6	28.4	— 2.0	.....	ESE	.....	.....	3	.....	.....	.....	.....	0.016	0.4	.....	
Groningen	30.58	776.6	30.63	778.0	33.4	0.8	.....	S	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Helder	30.61	777.4	30.61	777.4	32.7	0.4	.....	ESE	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.60	777.1	30.60	777.1	27.7	— 2.4	100	E	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	
Utrecht	30.57	776.5	30.62	777.7	30.2	— 1.0	98	SE	.....	.....	2	.....	.....	.....	.....	0	0	Misty	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.53	775.5	30.59	776.9	38.5	3.6	63	SSE	18.6	8.3	.....	.....	8	.....	.....	0	0	.....	
Brönö	30.35	771.0	30.39	772.0	32.0	0.0	76	SW	9	4	.....	.....	10	.....	.....	0	0	.....	
Christiana	30.45	773.3	30.61	777.4	18.3	— 7.6	81	NE	0	0	.....	.....	2	.....	.....	0	0	.....	
Tromsö	30.25	768.4	30.30	769.5	24.4	— 4.2	73	SW	7	3	.....	.....	7	.....	.....	0.059	1.5	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	30.01	762.3	30.21	767.2	67.9	14.4	84	SE	1.3	0.6	.....	.....	3	.....	.....	0.394	10.0	.....	Dr. J. A. Sampaio.
Campo Major	29.28	743.8	30.32	770.1	47.8	8.8	78	ENE	3.1	1.4	.....	.....	8	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	30.11	764.9	30.20	767.1	64.8	18.2	69	SE	14.3	6.4	.....	.....	10	.....	.....	0.138	3.5	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.99	761.8	30.37	771.3	49.5	9.7	75	NE	8.7	3.9	.....	.....	8	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.13	765.3	30.20	767.1	64.0	17.8	82	Calm	0	0	.....	.....	4	.....	.....	0.409	10.4	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.															Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. S. e Sande, Com'd't.
Duque da Terceira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Rio Lima. Capt. S. C. da Silva Costa, Santiago, Cape Verd Ids	.....	.....	.....	.....	78.4	25.8	.....	E	.....	.....	2	.....	10	.....	E	2	E	Overcast	A. D. de Fonseca Sarurento
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Comd't.
Sado, Capt. J. A de Brito Capello, St. Paul de Loando	.....	.....	29.84	757.8	83.3	28.5	.....	NW	.....	.....	3	.....	4	.....	.....	.....	.....	D. clouds	F. de Assis Camillo, jun., Q. M.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	.....	.....	30.20	767.0	63.3	17.4	.....	NE	.....	.....	2	.....	0	.....	.....	1	.....	Blue sky	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sá da Bandeirá gives the barometer reduced tofreezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	30.07	763.6	30.08	764.1	—14.1	—25.6	66	NNE	4	2	.....	.....	0	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Astrakhan	29.99	761.8	29.91	759.7	29.8	— 1.2	84	SSW	11	5	.....	.....	10ks	.....	.....	.....	.....	.....	Capt. Wisganow.
Barnaul	29.66	753.4	30.23	767.8	12.6	—10.8	96	SW	18	8	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	29.84	757.8	30.09	764.3	26.1	— 3.3	82	WNW	11	5	.....	.....	10n	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	28.44	722.4	29.45	748.1	18.1	— 7.7	81	WSW	22	10	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	29.04	737.5	29.31	744.5	29.7	— 1.3	80	WSW	2	1	.....	.....	8	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.04	737.6	29.71	754.5	29.1	— 1.6	70	NW	18	8	.....	.....	9cks	.....	.....	.....	.....	.....	Physical Cabinet.
Krotkowo*	28.98	736.1	29.47	748.5	27.0	— 2.8	84	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	29.48	748.8	29.69	754.2	31.3	— 0.4	83	W	13	6	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Moscow	29.02	737.2	29.60	751.9	20.1	— 6.6	87	NW	7.8	3.5	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	27.99	710.9	30.58	776.7	— 4.9	—20.5	75	N	2	1	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	29.83	757.7	29.90	759.5	31.8	— 0.1	98	SW	9	4	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	29.97	761.1	30.22	767.6	11.3	—11.5	74	ENE	2	1	.....	.....	1s	.....	.....	.....	.....	.....	.....
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	29.95	760.6	30.09	764.2	32.4	0.2	80	Calm	0	0	.....	.....	7n	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	29.92	759.9	29.93	760.3	25.9	— 3.4	80	N	18	8	.....	.....	10n	.....	.....	.....	.....	Snow & sleet	Central Physical Obs.
Tashkend	28.67	725.7	30.25	768.4	24.4	— 4.2	100	.....	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.63	727.2	30.09	764.3	40.3	4.6	61	NW	9	4	.....	.....	7cs	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	29.94	760.5	30.39	771.9	29.5	— 1.4	72	NW	18	8	.....	.....	0	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.69	754.1	30.13	765.4	28.9	— 1.7	55	NNW	13	6	.....	.....	7	.....	.....	.....	.....	Heavy clouds	Astronomical Obs.
Yenisiesk	29.84	757.8	30.15	765.9	6.4	—14.2	85	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	30.29	769.4	30.40	772.1	50.0	10	55	WNW	0.7	0.33	.....	.....	1ck	.....	.....	0	0	Light mist	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.30	769.7	30.36	771.2	53.8	12.1	57	S	3.1	1.38	.....	0	0	.....	.....	0	0	Clear.	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.33	694.2	.....	.....	38.7	3.7	66	NE	1.2	0.55	.....	0	0	.....	.....	0	0	Clear.	Domingo Martin y Perez.
Madrid, Royal Observatory	28.07	713.0	30.39	771.9	43.7	6.5	97	N	7.4	3.33	.....	0	10	.....	.....	0.528	13.4	Raining	The Staff.
Murcia, Met. Obs'y	30.16	766.1	30.32	770.0	47.7	8.7	83	WSW	2.7	1.19	.....	5	5	NW	.....	0.344	8.72	Covered	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.40	746.7	30.31	769.9	52.3	11.3	61	SE	0	0	.....	1	0	.....	.....	0	0	Almost clear	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.09	764.3	30.16	766.0	67.3	19.6	91	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	Benito Vines S. J.
Manilla, Phillippine Islands	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.22	767.6	30.32	770.2	56.7	13.7	68	Calm	0	0	.....	0	5	.....	SW	0	0	.....	Capt. C. Pujason, R. N., Dir.
San Juan de Porto Rico, W. I.	30.00	761.9	30.09	764.2	71.6	22.0	94	SE	0	0	.....	7kn	5kn	SE	SE	0.226	5.75	Cloudy	Enrique Gadea, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.41	772.3	30.45	773.3	15.8	— 9.0	.....	NW	.....	.....	4	.....	0	.....	.....	0	0	.....	
Umea	30.39	772.0	30.45	773.3	21.6	— 5.8	69	N	.....	.....	4	.....	0	.....	.....	0	0	.....	
Hernosand	30.47	774.0	30.52	775.3	23.0	— 5.0	81	NW	.....	.....	2	.....	0	.....	.....	0.063	1.6	.....	
Stockholm	30.30	769.6	30.48	774.1	27.3	— 2.6	66	NNW	.....	.....	4	.....	1	.....	.....	0	0	.....	
Wisby	30.35	770.8	30.41	772.3	30.9	— 0.3	85	N	.....	.....	7	.....	3	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	30.39	771.9	30.48	774.1	25.5	— 3.6	77	NW	12.1	5.4	.....	.....	2	.....	.....	0.002	0.05	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	29.05	737.8	30.57	776.4	24.1	— 4.4	98	SSE	.....	.....	1	.....	10	.....	.....	0	0	Misty	The Observatory.
Zurich	28.84	732.6	30.62	777.7	16.2	— 8.8	100	NE	.....	.....	1	.....	10	.....	.....	0	0	Foggy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +10.2 mm.; Thermometer, —6.0 Cent.; Relative Humidity, +17 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.16	766.1	43.2	6.2	70	N	7	3.0	.....	.....	9	.....	WSW	0	0	Foggy	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.12	765.1	54.3	12.4	.....	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear.	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.92	760.0	30.04	763.0	67.0	19.9	55	NE	.....	.....	1	.....	0	.....	.....	6	0	Blue sky	Prof. C. V. A. van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B.	29.86	758.4	29.93	760.2	—28.3	—30.7	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	G. A. Blair.
Charlottetown, P. E. Island	29.78	756.4	29.82	757.4	— 6.7	—21.5	100	NW	11	4.9	.....	.....	9s	.....	.....	0	0	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.84	757.9	30.07	763.8	—22.5	—30.3	100	NW	.....	.....	1	.....	10s	.....	.....	0	0	Overcast	James Smith, M. A.
Dalhousie, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	Clear.	H. A. Johnson.
Father Point, Quebec	30.02	762.5	30.04	763.0	—29.8	—34.1	100	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear.	J. McWilliams.
Fredericton, N. B.	29.92	760.0	30.00	762.0	—17.9	—27.7	100	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear.	Prof. Harrison.
Fort Garry, Manitoba	29.05	737.9	30.02	762.5	—25.3	—31.8	100	S	16	7.2	.....	.....	10n	.....	.....	0	0	Cloudy	James Stewart.
Granton, Ontario	28.91	734.3	30.18	766.3	4	—15.6	.....	NW	.....	.....	8	.....	10n	.....	.....	0.10	2.5	Light snow.	James Grant.
Halifax, N. S.	29.74	755.4	29.88	758.9	— 4.0	—20.2	90	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear.	A. Allison.
Hamilton, Ontario	29.74	755.4	30.15	765.8	8.3	—13.2	80	W	.....	.....	2	0	0	.....	.....	0	0	Clear.	Geo. Dickson, B. A.
Heart's Content, N. F.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.66	753.4	30.03	762.7	5.2	—14.9	79	E	9	4.0	.....	.....	10n	.....	.....	Inap.	Inap.	Snowing	S. Woods, M. A.
Little Glace Bay, N. S.	29.70	754.4	29.74	755.4	11.1	—11.6	86	NW	6	2.7	.....	8k	0	NW	.....	0	0	Cloudy	C. H. Rigby.
Montreal, Quebec	29.88	758.9	30.12	765.0	13.6	—10.2	90	SE	6	2.7	.....	7cs	0	.....	.....	0.05	1.3	Cloudy	C. H. McLeod, C. E.
Moose Factory, Ontario	29.91	759.7	29.95	760.7	—23.2	—30.7	84	W	.....	.....	3	0	3	.....	.....	0	0	Fine	J. R. Nreson.
Norwood	29.23	742.4	30.00	762.0	— 0.5	—18.1	100	SE	1	0.4	.....	10ck	0	SE	.....	Inap.	Inap.	Snowing	Rev. T. F. Fotheringham, M. A.
Parry Sound, Ontario	29.19	741.4	29.95	760.7	7.3	—13.7	89	N	4	1.8	.....	.....	10n	.....	N	0.30	7.6	Cloudy	Rev. R. Mosley.
Peterboro, Ontario	29.19	741.4	30.02	762.5	5.8	—14.6	51	NW	.....	.....	3	6k	0	.....	.....	0.05	1.3	Fair	J. F. Jeffers, M. A.
Port Dover, Ontario	29.38	746.2	30.15	765.8	7.1	—13.8	100	SW	12	5.4	.....	10ck	0	NW	.....	0.08	2.0	Fair	H. Morgan.
Port Hastings, N. S.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.46	748.3	30.18	766.6	3.6	—15.8	95	W	22	9.8	.....	.....	10n	.....	W	0	0	Cloudy	M. Payne.
Quebec, Quebec	29.69	754.1	30.07	763.8	—25	—31.7	54	W	.....	.....	3	0	0	.....	.....	0	0	Clear.	Capt. Ashe, R. N.
Rockliffe, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. McIntyre.
St. Andrews, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Gove.
St. John, N. B.	29.80	756.9	29.98	761.5	—12	—24.4	100	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear.	G. Murdock, C. E.
Saugeen, Ontario	29.23	742.4	30.01	762.2	13.1	—10.5	83	W	32	14.3	.....	.....	10s	.....	.....	0.12	3.0	Snow-drift.	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.70	729.0	30.12	765.0	2.7	—16.3	95	SW	19	8.5	.....	.....	10s	.....	.....	.....	.....	.....	
Sydney, C. B.	29.08	753.9	29.73	755.1	10.0	—12.2	81	NW	6	2.7	.....	1c	1ks	NW	.....	0.12	3.0	Light snow.	C. J. MacGregor, M. A.
Toronto, Ontario	29.05	753.1	30.07	763.8	10.6	—11.9	65	W	15	6.7	.....	0	8ks	.....	W	0.01	0.3	Fine	T. C. Hill, C. E.
Windsor, N. S.	29.84	757.9	29.94	760.5	— 2.0	—18.9	100	W	12	5.4	.....	0	0	.....	.....	0.01	0.3	Cloudy	Magnetic Observatory
Woodstock, Ontario	29.05	737.9	30.23	767.8	4.6	—15.2	90	S	24	10.7	.....	0	0ks	.....	.....	0	0	Clear.	Prof. John E. Oram, M. A.
Yarmouth, N. S.	29.84	757.9	29.91	759.7	6.5	—14.2	91	N	14	6.3	.....	0	7ks	.....	NW	0	0	Fine	Prof. J. Montgomery.
Sub-Series.																0.01	0.3	Cloudy	Lt. F. E. Wilmot, R. N.
St. Johns, Newfoundland	29.32	744.7	29.70	754.4	11	—11.7	60	W	.....	.....	.....	.....	5k	8s	.....	.....	.....	.....	
St. Pierre, N. F., l'Hopital Maritime.	.....	.....	29.63	760.0	14.7	— 9.6	.....	N	.....	.....	2	.....	.....	.....	.....	Inap.	Inap.	Fair	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Commandant.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer. U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.88	758.9	30.14	765.5	0	—17.8	70	N	9	4.0		0	0			0.00	1.5	Clear.	
Alpena, Michigan	29.36	745.7	30.08	764.0	1	—17.2	71	W	9	4.0		0	0			0.02	0.5	Clear.	
Atcha, Aleutian Is., Alaska																			
Atlanta, Georgia	29.11	739.4	30.37	771.4	18	— 7.8	52	NW	16	7.2		0	0					Clear.	
Atlantic City, New Jersey	30.14	765.5	30.15	765.8	15	— 9.4	65	N	14	6.3		2k	0	NW		0.02	0.5	Clear.	
Augusta, Georgia	30.12	765.0	30.34	768.1	31	— 0.6	69	Calm	0	0			Fog		Calm	0.12	3.0	Foggy	
Baltimore, Maryland	30.17	766.3	30.22	767.6	24	— 4.4	74	NW	6	2.7		5k	0	W		0.27	6.9	Fair	
Barnegat, New Jersey	30.10	764.5	30.13	765.3	14	—10.0	82	N	16	7.2		0	0			0.58	14.7	Clear.	
Bismarck, Dakota	28.00	711.2	29.85	758.2	10	—12.2	89	Calm	0	0			10s		Calm	0	0	Cloudy	
Boerne, Texas	29.02	737.1	30.50	774.7	17	— 8.3	83	N	1	0.4		0	0			0	0	Clear	
Boise City, Idaho	27.47	697.7	30.43	772.9	14	—10.0	82	NW	3	1.3			10n		Calm	0.11	2.8	Light snow	
Boston, Massachusetts	29.93	760.2	30.11	764.8	3	—16.1	73	NW	13	5.8		0	0			0	0	Clear.	
Brackettville, Texas	29.36	745.7	30.54	775.7	20	— 6.7	70	N	1	0.4		0	0			0	0	Clear.	
Breckenridge, Minnesota	29.06	738.1	30.19	766.8	— 5	—20.6	100	S	15	6.7			10s		Calm	0	0	Cloudy	
Brownsville, Texas	30.55	776.0	30.60	777.2	33	0.6	70	NW	12	5.4		0	8s		NW	0	0	Clearing	
Buffalo, New York	29.32	744.7	30.08	764.0	11	—11.7	60	W	24	10.7		0	8s		SW	0.03	0.8	Fair	
Burkes, Arizona					34	1.1	43	Calm			0	2cs	5s	Calm	Calm	0	0		
Burlington, Vermont	29.78	756.4	30.12	765.0	— 7	—21.7	59	E	1	0.4		0	5ks		SW	Inap.	Inap.	Fair	
Cairo, Illinois	30.12	765.0	30.56	776.2	17	— 8.3	67	NW	3	1.3		0	0			0	0	Clear.	
Campo, California																			
Cape Hatteras, N. Carolina	30.08	764.0	30.09	764.3	41	5.0	91	NE	28	12.5			10s		NE	1.10	27.9	Cloudy	
Cape Henry, Virginia	30.15	765.8	30.17	766.3	33	0.6	61	NW	25	11.2			10s		NW	0	0	Cloudy	
Cape Lookout, N. Carolina	30.10	764.5	30.12	765.0	41	5.0	91	N	26	11.6			10s		N	0	0	Cloudy	
Cape May, New Jersey	30.13	765.3	30.16	766.1	20	— 6.7	56	N	27	12.1		0	2ks		NW	0.37	9.7	Clear.	
Castroville, Texas	29.76	755.9	30.55	776.0	21	— 6.1	71	Calm	0	0		0	0			0	0	Clear.	
Cedar Keys, Florida	30.19	766.8	30.22	767.6	52	11.1	79	N	22	9.8		0	2s		N	0	0	Fair	
Charleston, South Carolina	30.10	764.5	30.16	766.1	41	5.0	82	NW	12	5.4		0	0			0	0	Clear.	
Charlotte, North Carolina	29.85	745.5	30.22	767.6	28	— 2.2	66	NE	6	2.7		0	Sm'e		Calm	0	0	Clear.	
Chattanooga, Tennessee	29.60	751.8	30.49	774.4	13	—10.9	62	N	8	3.6		0	0			0.04	1.0	Clear.	
Cheyenne, Wyoming	24.04	610.6	29.98	761.5	37	2.8	45	W	10	4.5		0	2s		Calm	0	0	Clear.	
Chicago, Illinois	29.62	752.3	30.41	772.4	— 1	—18.3	68	W	8	3.6		0	0			0.04	1.0	Clear.	
Cincinnati, Ohio	29.71	754.6	30.44	773.2	12	—11.1	70	SW	6	2.7		1k	0	W		0.01	0.3	Clear.	
Cleveland, Ohio	29.48	748.8	30.30	769.6	0	—17.8	70	SW	14	6.3		5ck	2s	S	Calm	0.24	6.1	Fair	
Coleman City, Texas																			
Columbus, Ohio	29.44	747.8	30.38	771.6	9	—12.8	57	SW	7	3.1		10cs	0	W		0	0	Cloudy	
Concho, Texas	28.51	724.1	30.42	772.7	9	—12.8	57	N			1	0	0			0	0	Clear.	
Corsicana, Texas	30.06	763.5	30.59	777.0	18	— 7.8	68	Calm	0	0		0	0			0	0	Clear.	
Davenport, Iowa	29.75	755.6	30.49	774.4	— 4	—20.0	65	W	6	2.7		0	0			0	0	Clear.	
Dayton, Washington T'y					20	— 6.7	85	SW			1		10s		Calm	0.21	5.3	Cloudy	
Deadwood, Dakota	25.21	640.3			35	1.7	70	SW	4	1.8		5c	0	SW		Inap.	Inap.	Fair	
Decatur, Texas	29.50	749.3	30.85	783.6	9	—12.8	57	S	10	4.5		0	0			0	0	Clear.	
Denison, Texas	29.69	754.1	30.59	777.0	11	—11.7	80	SW	1	0.4		0	0			0	0	Clear.	
Denver, Colorado	24.82	630.4	30.04	763.0	29	— 1.7	56	S	10	4.5		0	2s		Calm	0	0	Fair	
Des Moines, Iowa	29.44	747.8	30.44	773.2	— 1	—17.2	71	Calm	0	0		0	Haze		Calm	0	0	Clear.	
Detroit, Michigan	29.47	748.5	30.23	767.8	— 1	—18.3	100	SW	11	4.9		0	2s		Calm	0.07	1.8	Clear.	
Dodge City, Kansas	27.61	701.3	30.12	765.0	12	—11.1	61	SW	8	3.6		0	0			0	0	Clear.	
Dubuque, Iowa	29.66	753.4	30.49	774.4	—14	—25.6	73	NW	8	3.6			10ks		W	0	0	Cloudy	
Duluth, Minnesota	29.53	750.0	30.33	770.4	—20	—28.9	64	Calm	0	0		0	0			0	0	Clear	
Eagle Pass, Texas	29.76	755.9	30.58	776.7	24	— 4.4	48	Calm	0	0		0	0			0	0	Clear.	
Eastport, Maine	29.90	759.4	29.98	761.5	— 8	—22.2	58	N	22	9.8		0	5s		N	0	0	Fair	
Edinburg, Texas					35	1.7	90	E			1	0	0			0	0	Clear.	
El Paso, Texas																			
Erie, Pennsylvania	29.40	746.7	30.18	766 6	9	—12.8	78	SW	12	5.4			10n		Calm	0.70	17.8	Light snow	
Escanaba, Michigan	29.49	749.0	30.24	768.1	—12	—24.4	50	W	12	5.4		0	0			0	0	Clear.	
Florence, Arizona	28.72	729.5	30.32	770.1	29	— 1.7	89	Calm	0	0		0	2ks		S	0	0	Fair	
Fort Assiniboine, Montana																			
Fort Buford, Dakota	27.66	702.6	29.57	751.1	17	— 8.3	83	SW	2	0.9		10cs	0	Calm		0	0	Cloudy	
Fort Custer, Montana	26.62	676.1			35	1.7	80	SW	4	1.8			10s		Calm	0	0	Cloudy	
Fort Davis, Texas	25.40	645.2	30.36	771.1	24	— 4.4	61	Calm	0	0		5cs	0	Calm		0	0	Fair	
Fort Gibson, Indian Ter	29.93	760.2	30.53	775.4	16	— 8.9	66	SE	4	1.8		0	0			0	0	Clear.	
Fort Grant, Arizona	25.42	645.7	30.22	767.6	32	0.0	48	NW	5	2.2		0	0			0	0	Clear.	
Fort Griffin, Texas	29.16	740.7	30.61	777.5	7	—13.9	77	Calm	0	0		0	0			0	0	Clear.	
Fort Keogh, Montana	27.09	688.1			15	— 9.4	52	SW	3	1.3		5cs	0	NW		0	0	Fair	
Fort McKavett, Texas	28.10	713.7	30.25	768.3	15	— 9.4	65	S	1	0.4		0	0			0	0	Clear	
Fort St. Michael, Alaska																			
Fort Shaw, Montana																			
Fort Sill, Indian Territory	29.21	741.9	30.46	773.7	12	—11.1	42	Calm	0	0		0	0			0	0	Clear.	
Fort Stevenson, Dakota																			
Fort Verde, Arizona																			
Fort Yates, Dakota					13	—10.6	81	NW			1		10s		W	0	0	Cloudy	
Fredericksburg, Texas	28.59	726.2	30.28	769.1	30	— 1.1	78	N	10	4.5		2cs	0	Calm		0	0	Fair	
Galveston, Texas	30.53	775.4	30.58	776.7	26	— 3.3	52	N	22	9.8		0	0			Inap.	Inap.	Clear.	
Graham, Texas	29.37	746.0	30.58	776.7	3	—16.1	73	Calm	0	0		0	0			0	0	Clear.	
Grand Haven, Michigan	29.50	749.3	30.22	767.6	9	—12.8	100	NW	12	5.4			10n		Calm	0.23	5.8	Light snow	
Helena, Montana																			
Henrietta, Texas					14	—10.0	82	S	5	2.2		0	0			0	0	Clear.	
Indianapolis, Indiana	29.50	749.3	30.37	771.4	8	—13.3	78	W	6	2.7		2k	0	W		0	0	Clear.	
Indianola, Texas	30.59	777.0	30.62	777.7	24	— 4.4	87	N	26	11.6		0	0			0	0	Clear.	
Jacksboro, Texas	29.34	745.2	30.61	777.5	16	— 8.9	66	SW	1	0.4		0	0			0	0	Clear	
Jacksonville, Florida	30.18	766.6	30.20	767.1	51	10.C	59	NW	12	5.4		0	0			0.03	0.8	Clear.	
Keokuk, Iowa	29.74	755.4	30.44	773.2	4	—15.6	74	NW	2	0.9		0	2s		Calm	0	0	Clear.	
Key West, Florida	30.11	764.8	30.15	765.8	71	21.7	85	E	1	0.4		0	0			0.14	3.6	Clear.	
Kittyhawk, North Carolina	30.12	765.0	30.15	765.8	37	2.8	71	N	40	17.9			10s		N	0.69	17.5	Cloudy	
Knoxville, Tennessee	29.39	746.5	30.50	774.7	14	—10.0	73	N	5	2.2		0	0			0.14	3.6	Clear.	
La Crosse, Wisconsin	29.56	750.8	30.42	772.7	—11	—23.9	52	Calm	0	0		0	0			0	0	Clear.	
La Mesilla, New Mexico	26.42	671.1	30.57	776.5	17	— 8.3	35	N	2	0.9		0	0			0	0	Clear.	
Laredo, Texas	30.20	767.1	30.56	776.2	27	— 2.8	88	S	4	1.8		0	0			0	0	Clear.	
Leavenworth, Kansas	29.49	749.0	30.43	772.9	11	—11.7	60	S	5	2.2		0	0			0	0	Clear	
Lewiston, Idaho																			
Little Rock, Arkansas	30.22	767.6	30.62	777.7	18	— 7.8	84	W	2	0.9		0	0			0	0	Clear.	
Los Angeles, California	29.86	758.4	30.22	767.6	47.0	8.3	28	N	8	3.6			10s		S	0	0	Cloudy	
Louisville, Kentucky	29.82	757.4	30.44	773.2	16	— 8.9	49	S	7	3.1		0	0			Inap	Inap.	Clear.	
Lynchburg, Virginia	29.54	750.3	30.27	768.8	24	— 4.4	86	NW	4	1.8		0	0			0.10	2.5	Clear.	
Madison, Wisconsin	29.25	742.9	30.39	771.9	— 9	—22.8	56	SW	7	3.1		0	0			0	0	Clear	
Marquette, Michigan	29.41	747.0	30.21	767.3	— 4	—20.0	65	W	8	3.6		0	0			0	0	Clear.	
Mason, Texas	28.82	732.0	30.79	782.1	17	— 8.3	83	Calm	0	0		0	0			0	0	Clear.	
Memphis, Tennessee	30.20	767.1	30.57	776.5	17	— 8.3	67	W	4	1.8		0	0			0	0	Clear.	
Milwaukee, Wisconsin	29.53	750.0	30.38	771.6	—11	—23.9	52	W	15	6.7		0	1s		Calm	Inap.	Inap.	Clear.	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mobile, Alabama	30.43	772.9	30.48	774.2	24.5	— 4.2	55	N	12	5.4	.....	0	1s	.....	Calm	0.14	3.6	Clear.	
Montgomery, Alabama	30.23	767.8	30.49	774.4	22	— 5.6	72	NW	14	6.3	.....	0	0	.....	.....	0.04	1.0	Clear.	
Morgantown, West Virginia	29.23	742.4	30.30	769.6	20	— 6.7	56	NW	13	5.8	.....	2ck	5ks	NW	NW	0.20	5.1	Cloudy.....	
Mt. Washington, N. H.	23.12	587.2	29.48	748.8	—17	—27.2	36	NW	60	26.8	.....	0	0	.....	.....	0	0	Clear.	
Nashville, Tennessee	29.96	761.0	30.56	776.2	16	— 8.9	66	Calm	0	0	.....	0	Sm'e	.....	Calm	0.02	0.5	Cloudy.....	
New Haven, Connecticut	30.00	762.0	30.18	765.8	9	—12.8	78	N	8	3.6	.....	0	0	.....	.....	0.12	3.0	Clear	
New London, Connecticut	30.06	763.5	30.11	764.8	10	—12.2	69	N	7	3.1	.....	0	0	.....	.....	0.21	5.3	Clear	
New Orleans, Louisiana	30.43	772.9	30.50	774.7	33	0.6	61	N	12	5.4	.....	0	5ks	.....	N	0.09	2.3	Fair.....	
Newport, Rhode Island	30.03	762.7	30.08	764.0	11	—11.7	80	NW	16	7.2	.....	0	0	.....	.....	0.31	7.9	Clear.	
New River, North Carolina	.....	.....	.....	.....	39	3.9	56	N	.....	.....	4	.....	10s	.....	N	.....	.....	Cloudy.....	
New York, New York	29.90	761.0	30.15	765.8	14	—10.0	64	NW	5	2.2	.....	0	0	.....	.....	0.28	7.1	Clear.	
Norfolk, Virginia	30.13	765.3	30.19	766.8	30	— 1.1	68	SW	18	8.0	.....	0	5ks	.....	W	0.95	24.1	Fair	
North Platte, Nebraska	27.26	692.4	30.07	764.8	12	—11.1	61	W	5	2.2	.....	0	0	.....	.....	0	0	Clear.	
Olympia, Washington Ter	29.87	758.7	29.91	759.7	35.0	1.7	95	S	17	7.6	.....	.....	10n	.....	Calm	0.14	3.6	Light rain..	
Omaha, Nebraska	29.09	738.9	30.32	770.1	3	—16.1	73	SE	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Oswego, New York	29.73	755.1	30.08	764.0	10	—12.2	79	S	9	4.0	.....	2c	2s	Calm	W	0.06	1.5	Fair	
Pembina, Dakota	29.08	738.6	30.04	763.0	—14	—25.6	100	S	16	7.2	.....	.....	10s	.....	Calm	0	0	Cloudy.	
Pensacola, Florida	30.43	772.9	30.46	773.7	28	— 2.2	77	N	12	5.4	.....	1k	0	N	.....	0.03	0.8	Clear.	
Philadelphia, Pennsylvania	30.12	765.0	30.18	766.6	16	— 8.9	66	NW	4	1.8	.....	0	0	.....	.....	0.23	5.8	Clear.	
Phœnix, Arizona	29.13	739.9	31.08	789.4	30	— 1.1	57	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Pike's Peak, Colorado	17.78	451.7	29.99	761.7	18	— 7.8	53	W	32	14.3	.....	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	29.74	755.4	30.65	778.5	25	— 3.9	88	S	.....	.....	.....	0	0	.....	.....	0	0	Clear.....	
Pioche, Nevada	.....	.....	.....	.....	17	— 8.3	51	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Pittsburg, Pennsylvania	29.43	747.5	30.34	770.6	6.5	—14.2	65	W	12	5.4	.....	0	0	.....	.....	0.27	6.9	Clear.....	
Port Huron, Michigan	29.42	747.3	30.17	766.3	0	—17.8	70	SW	15	6.7	.....	.....	10ks	.....	SW	0.25	6.3	Cloudy.....	
Portland, Maine	29.98	761.5	30.04	763.0	7	—13.9	54	Calm	0	0	.....	0	0	.....	.....	0.01	0.3	Clear	
Portland, Oregon	30.09	764.3	30.17	766.3	28	— 2.2	89	SE	5	2.2	.....	.....	10n	.....	Calm	0.01	0.3	Sleeting.....	
Portsmouth, North Carolina	.....	.....	.....	.....	41	5.0	74	NE	33	14.8	.....	5k	5s	NE	Calm	0.15	3.8	Cloudy.....	
Prescott, Arizona	25.00	635.0	30.36	771.1	4	—15.6	48	W	.....	.....	1	5cs	0	W	.....	0	0	Fair.....	
Punta Rassa, Florida	30.18	765.3	30.15	765.8	69	20.6	90	N	5	2.2	.....	.....	8ks	.....	NW	0.25	6.3	Clearing.....	
Red Bluff, California	30.00	762.0	30.39	771.9	30	— 1.1	78	N	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Rio Grande City, Texas	30.46	773.7	30.70	779.8	27	— 2.8	58	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Rochester, New York	29.37	746.0	30.04	763.0	13	—10.6	62	W	12	5.4	.....	2k	2s	W	Calm	0.23	5.8	Fair.....	
Roseburg, Oregon	29.67	753.6	30.28	769.1	27	— 2.8	88	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Sacramento, California	30.27	768.8	30.36	771.1	30	— 1.1	89	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
St. Louis, Missouri	29.85	758.2	30.50	774.7	7	—13.9	77	NW	7	3.1	.....	0	Sm'e	.....	.....	Inap.	Inap.	Clear.....	
St. Paul, Minnesota	29.38	746.2	30.35	770.9	—17	—27.2	69	S	2	0.9	.....	.....	10ks	.....	SW	0	0	Cloudy.....	
Salt Lake City, Utah	26.01	660.6	30.34	770.6	12	—11.1	42	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.90	759.4	30.55	776.0	25	— 3.9	62	N	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
San Diego, California	30.15	765.8	30.22	767.6	49	9.4	57	N	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Sandusky, Ohio	29.55	750.6	30.30	769.6	7	—13.9	77	SW	18	8.0	.....	2cs	0	Calm	.....	0.08	2.0	Cloudy.....	
Sandy Hook, New Jersey	30.10	764.5	30.13	765.3	15	— 9.4	65	NW	20	8.9	.....	0	0	.....	.....	0.31	7.9	Clear	
San Francisco, California	30.25	768.5	30.32	770.1	37	2.8	71	N	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Santa Fé, New Mexico	28.43	595.1	29.97	761.2	7	—13.9	77	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear.	
Savannah, Georgia	30.14	765.5	30.24	768.1	36	2.2	53	NW	13	5.8	.....	0	0	.....	.....	0.11	2.8	Clear	
Shreveport, Louisiana	30.37	771.4	30.61	777.5	20	— 6.7	56	NW	2	0.9	.....	0	0	.....	.....	Inap.	Inap.	Clear.	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.11	764.8	30.15	765.8	42	5.6	50	N	15	6.7	.....	10k	0	W	.....	0.01	0.3	Cloudy.....	
Socorro, New Mexico	25.76	654.3	29.82	757.4	9	—12.8	57	N	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Springfield, Illinois	29.75	755.6	30.52	775.2	6	—14.4	76	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Springfield, Massachusetts	30.00	762.0	30.14	765.5	4	—15.6	74	W	3	1.3	.....	0	0	.....	.....	0.03	0.8	Clear.	
Stockton, Texas	27.34	694.4	30.34	770.6	20	— 6.7	27	E	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	30.03	762.7	30.09	764.3	8	—13.3	100	NW	22	9.8	.....	.....	10s	.....	NW	0.14	3.6	Cloudy.....	
Toledo, Ohio	29.50	749.3	30.27	768.8	5	—15.0	75	SW	12	5.4	.....	1c	0	SW	.....	0.05	1.3	Clear.	
Tucson, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon	29.88	758.9	30.43	772.9	13.0	—10.6	90	SE	5	2.2	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy.. ...	
Uvalde, Texas	29.63	752.6	30.55	776.0	23	— 5.0	60	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	30.31	769.9	30.60	777.2	20	— 6.7	85	NE	6	2.7	.....	0	0	.....	.....	0.02	0.5	Clear	
Virginia City, Montana	24.32	617.7	29.80	756.9	18	— 7.8	84	N	13	5.8	.....	...	10s	.....	Calm	0.01	0.3	Cloudy.....	
Visalia, California	29.90	759.4	30.31	769.9	25	— 3.9	87	Calm	0	0	.....	1c	0	Calm	.....	0	0	Clear.	
Washington, D. C.	30.11	764.8	30.23	767.8	22	— 5.6	58	NW	10	4.5	.....	0	2s	.....	NW	0.29	7.4	Fair	
Wickenburg, Arizona	.....	.....	.....	.....	25	— 3.9	62	W	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Wilmington, North Carolina	30.08	764.0	30.16	766.1	37	2.8	53	N	14	6.3	.....	2k	0	N	.....	0	0	Fair...	
Winnemucca, Nevada	25.95	659.1	30.31	769.9	5	—15.0	73	E	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Wood's Holl, Massachusetts	29.99	761.7	30.03	762.7	10	—12.2	70	NW	22	9.8	.....	.....	10s	.....	.....	0.53	13.5	Cloudy.....	
Yankton, Dakota	28.86	733.0	30.32	770.1	— 2	—18.9	67	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Yuma, Arizona	30.21	767.3	30.36	771.1	41	5.0	35	N	14	6.3	.....	8cs	0	Calm	.....	0	0	Fair..	
Sub-Series.																			
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	30.08	764.0	30.16	765.3	73	22.8	76	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.19	766.8	30.20	767.1	73	22.8	82	Calm	0	0	.....	0	0	.....	.....	.....	.....	Fair.....	James Gall.
Navassa, W. I.	29.97	761.2	30.05	763.3	75	23.9	69	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.00	762.0	30.00	762.0	78	25.6	82	NE	.....	.....	2	3c	4k	E	.....	0.140	3.56	Fair.....	C. J. Hering.
Santiago de Cuba, W. I.	30.02	762.5	30.04	763.0	74	23.3	81	Calm	0	0	.....	0	0	.....	.....	0	0	....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	30.29	769.4	30.34	770.6	—43.0	—41.7	.....	E	9	4.0	.....	4k	4s	NE	NE	0	0	Cloudy.....	J. Fortescue & W. Wood

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,888.2 ft., or 865.4 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm., Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.37 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	BAROMETER. As read off. Inches.	BAROMETER. As read off. Millimeters.	BAROMETER. Attached Thermometer. Fahrenheit.	BAROMETER. Attached Thermometer. Centigrade.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Up'er From—	CLOUDS. Direction. Lo'er From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	SEA-SWELL. CHARACTER.	SEA-SWELL. DIRECTION FROM—	WEATHER.	OBSERVER.
Navy Yard, Pensacola, Fla.†	30.39‡	771.9‡	.....	.....	28	— 2.2	77	NNW	15	6.7	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Navy Yard, Portsmouth, N.H	29.86‡	758.4‡	.....	.....	4	—15.6	74	W	1	0.4	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Adams, Mare I'd., Navy Yard, Cal.	30.37‡	771.4‡	.....	.....	37	2.8	90	NE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Alaska, Iquique, Peru .....*	29.93‡	760.2‡	.....	.....	71	21.7	80	Calm	.....	.....	0	.....	2	.....	NE	.....	.....	.....	.....	D. clouds.....	
Colorado, New York, . Y.....	30.05‡	763.3‡	.....	.....	14	—10.0	100	NNW	3	1.3	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Constitution, N. 14° 42′, W. 61° 33′.....	30.04‡	763.0‡	.....	.....	79	26.1	70	ENE	.....	.....	5	.....	1	.....	Calm	.....	.....	Mod'ate	ENE	Hazy.....	
Enterprise, Constantinople, Turk	30.19‡	766.8‡	.....	.....	48	8.9	78	SW	.....	.....	2	.....	2	.....	SW	.....	.....	Smooth	.....	Clear.....	
Franklin, Off Navy Yard, Norfolk, Va.	30.18‡	766.6‡	.....	.....	32	0.0	69	NNW	15.6	7.0	.....	.....	2	.....	NW	1.	25.	.....	.....	Fair.....	
Independence, Mare I'd, Navy Yard, Cal.	30.33‡	770.4‡	.....	.....	44	6.7	76	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Kearsarge, N. 16° 3′, W. 86° 10′.....	30.09‡	764.3‡	.....	.....	79	26.1	78	NNE	.....	.....	2–3	.....	8	.....	NE	0	0	Smooth	NE	Cloudy.....	
Lackawana, Honolulu, Sandwich Id's†	30.07‡	763.8‡	.....	.....	73	22.8	85	Calm	.....	.....	0	.....	8	.....	NE	.....	.....	Smooth	.....	Fair.....	
Marion, N. 31° 10′, W. 48° 00′....	30.27‡	768.8‡	.....	.....	66	18.9	84	WNW	.....	.....	1	.....	5	.....	Var.	0	0	Long	NE	Fair.....	
Michigan, Erie, Pa.....	30.14‡	765.5‡	.....	.....	10	—12.2	58	SW	.....	.....	4	.....	10	.....	SW	.....	.....	.....	.....	Snowing.....	
Monocacy, Shanghai, China..	30.07‡	763.8‡	.....	.....	58	11.7	86	SSE	.....	.....	1	.....	8	.....	S	.....	.....	.....	.....	Fair.....	
New Hampshire, Port Royal, S. C.....	30.23‡	767.8‡	.....	.....	39	3.9	67	NNW	30	13.4	.....	.....	2	.....	NNW	0.03	0.8	.....	.....	Clear.....	
Nipsic, Norfolk, Va.....	30.18‡	766.6‡	.....	.....	34	1.1	74	NW	.....	.....	3–5	.....	2	.....	.....	.....	.....	.....	.....	Squally.....	
Onward, Callao, Peru ....†	29.93‡	760.2‡	.....	.....	67	19.4	95	S	.....	.....	2	.....	10	.....	.....	.....	.....	Mod'te smooth	W	Hazy.....	
Palos, Tientsin, China.	30.06‡	763.5‡	.....	.....	36	2.2	90	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....	Overcast	
Passaic, Washington, D. C.....	30.21‡	767.3‡	.....	.....	25	— 3.9	100	NW	.....	.....	3	.....	2	.....	.....	.....	.....	.....	.....	Clear.....	
Pensacola, Callao, Peru	29.92‡	760.0‡	.....	.....	69	20.6	90	ESE	.....	.....	1	.....	10	.....	.....	.....	.....	Smoot'	.....	Foggy	
Powhatan, Navy Yard, Brooklyn, N.Y.	30.14‡	765.5‡	.....	.....	22	— 5.6	72	NNW	.....	.....	3–4	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Quinnebaug, Villafranca, France....	30.32‡	770.1‡	.....	.....	58	14.4	64	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Ranger, Honolulu, Sandwich Ids..	30.07‡	763.8‡	.....	.....	74	23.3	100	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....	Cloudy.....	
Richmond, Manila, Philippine Ids..	29.94‡	760.1‡	.....	.....	80	26.7	70	NE	.....	.....	3	.....	0	.....	.....	.....	.....	Smooth	.....	Clear.....	
Rio Bravo, Brownsville, Texas... †.	29.71‡	754.6‡	.....	.....	32	0.0	90	NNW	3	1.3	.....	.....	10	.....	NNW	0	0	.....	.....	Cloudy.....	
Santee, Annapolis, Md	30.22‡	767.6‡	.....	.....	25	— 3.9	.....	NW	.....	.....	4	.....	8	.....	NW	.....	.....	.....	.....	Light snow.	
Shenandoah, Montivideo, Uruguay.	29.83‡	757.7‡	.....	.....	71	21.7	71	SE	.....	.....	2	.....	0	.....	.....	.....	.....	Smoo'h	.....	Clear.....	
St. Louis, League Island, Pa.....	30.20‡	767.1‡	.....	.....	15	— 9.4	.....	NNW	2	0.9	.....	.....	0	.....	.....	0.01	0.3	.....	.....	Clear.....	
Tennessee, Navy Yard, Brooklyn, N.Y.	30.13‡	765.‡	.....	.....	15	— 9.4	65	NE	.....	.....	0–1	.....	2	.....	Calm	.....	.....	.....	.....	Fair.....	
Tuscarora, N. 13° 55′ W. 91° 25′.....	29.90‡	759.4‡	.....	.....	75	23.9	86	NE	.....	.....	2	.....	0	.....	.....	0	0	Smooth	.....	Clear.....	
Vandalia, Navy Yard, Brooklyn, N.Y	30.11‡	764.8‡	.....	.....	15	— 9.4	65	N	.....	.....	4	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Wabash, Boston, Mass.....	30.02‡	762.5‡	.....	.....	4	—15.6	100	NW	17	7.6	.....	.....	2	.....	.....	0.04	1.0	.....	.....	Fair.....	
Wachusett, S. 32°, W. 48°.. .. .. †.	30.24‡	768.1‡	.....	.....	73	22.8	95	NW	.....	.....	5	.....	2	.....	W	.....	.....	Long Mod'ate	Con-fused	Fair.....	
Wyoming, Villafranca, France	30.33‡	770.4‡	.....	.....	64	17.8	62	S	.....	.....	0–1	.....	0	.....	.....	.....	.....	Smooth	S	Clear.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		CHARACTER.	DIRECTION FROM—		
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S. S. Samaria																			Capt. T. Roberts.
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitebury.
S. S. Costa Rica																			W. House & R. Lawless.
S. S. Dakota, Capt. H. G. Morse																			Capt. Connolly.
S. S. Georgia																			F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin																			Capt. A. Fuller.
S. S. Wilmington																			
S. S. Zealandia, Sydney, N. S. W.		29.66‡	753.4‡				E			0				SE				Fine	R. C. Ghest, 1st Officer.
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer N. 41° 10′, W. 150° 22′		30.22‡	767.6‡	55	12.8	74	NW			4		10		NW		Light	NW	Overcast	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson N. 35° 50′, E. 150° 24′		29.35‡	745.5‡	69	20.6		SSW			7		8		SW	Heavy	Rough	SW	Showery	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undutsch.
S. S. Leipzig, Capt. F. Pfeiffer N. 40° 39′, W. 21° 41′		29.78‡	756.4‡	53.6	11.9	97	WNW			6		10		W	1 hour	Long	WSW	Sprinkling	S. Risius, 3rd Officer.
S. S. Nurnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 45° 50′, W. 40° 16′		29.39‡	746.6‡				W			6		10		SW		Heavy	NW; W	Light rain	Capt. G. Meyer

NOTE.—†Aneroid. *The error of the barometer is not known.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The orginals give the barometer as read off, wind-force by the scale 0 to to 12; for the Brittanic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa		30.49‡	774.4‡	20	— 6.7		N			6	5?			N	Mod'ate			Clear	Capt. R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.
RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents.																			
S. S. Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland, N. 50° 40,' E. 0° 19'†		30 45‡	773.4‡	37	2.8		E	3	1.3			10		ESE		Smooth		Cloudy	Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian, N. 51° 26', W. 36° 42'		28.81‡	731 8‡	37	2.8		WSW			10		8		WSW		Very Heavy	WSW	Cloudy	J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES—Miscellaneous.																			
Furnished by the co-operation of the Observers named.																			
Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Barkentine "Carrie Heckle" N. 4° 00', W. 29° 01'....*		29.80‡	756.9‡	79	26.1		E			3		10		E	Heavy	Smooth	N	Threatening	B. F. Woodbury.
Brigantine "George" of Halifax																			N. B. Foss.
Schooner Harry and Fred																			Capt. George Gardner.
Haytian																			
§ Iron Cross																			Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; do not distinguish between upper and lower clouds; sea-swell in general terms, as published. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. *The error of the barometer is not known. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time. *Instrumental error not known.

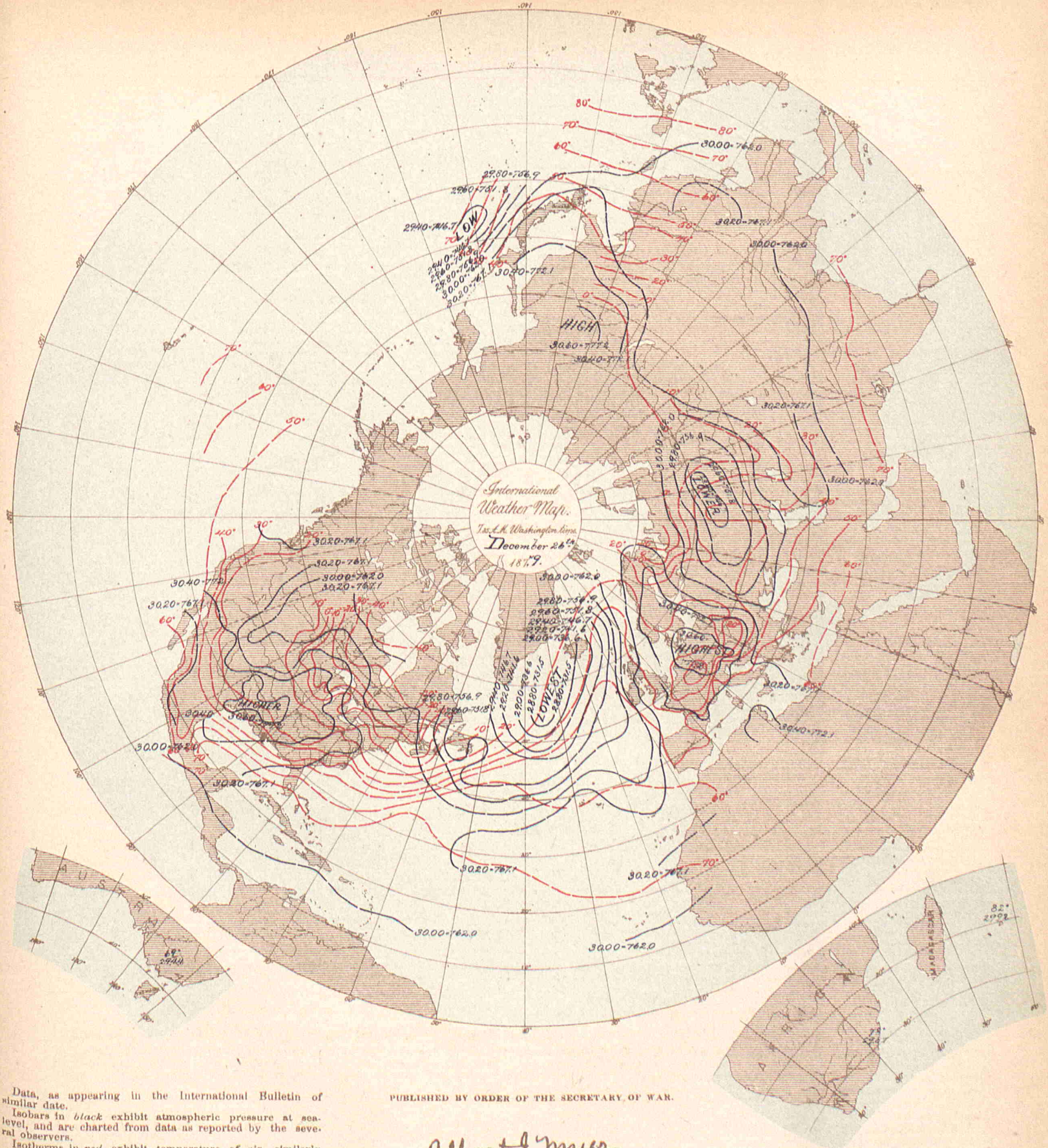
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 27, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time
1:57 P. M. CAPE TOWN, C. G. H. mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.43	772.8	60.1	15.6	73	NE			2		5			0	0	Cloudy	
Nemours			30.34	770.5	59.4	15.2	96	NNW			1		2			0.063	1.6	Fair	Kesxuche.
Algiers			30.48	774.1	54.3	12.4	43	NE			1		0			0	0	Clear	Tourilliere.
La Calle			30.48	774.3	57.6	14.2	65	WNW			1		8			0	0	Very cloudy	Foufrede.
Tunis																			Jacques
Sfax			30.47	774.0															Gau.
Saida																			Herbin.
Tebessa			30.51	775.0	50.0	10.0	39	SSW			1		0			0	0	Clear	Watrin.
Geriville					45.5	7.5	46	Calm			0		8			0	0	Very cloudy	Brugniuax.
Laghouat			30.51	774.9	47.5	8.6	55	E			2		2			0	0	Fair	Bertrand.
Biskra			30.49	774.4	52.7	14.0	58	WNW			1		0			0	0	Clear	Chanvaux.

NOTE.—The originals give the amount of cloudiness by the scale 0–4; no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	30.10	764.6	30.71	779.9	23.4	— 4.8	86	W			1		0			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.91	759.8	30.75	781.0	24.1	— 4.4	88	W	4.0	1.8			10			0	0		Dr. Wierzbicki.
Eperies	29.65	753.0	30.60	777.2	26.1	— 3.3	76	N			2		10ks		S	0	0		Julius Mikolik.
Gratz	29.36	745.6	30.72	780.2	22.5	— 5.3	72	S			2		0			0	0		Andreas Rospini.
Hermannstadt	28.97	735.7	30.53	775.4	19.8	— 6.8	89	NNW			3		10			Inap.	Inap.		Prof. A. Gottschling.
Kremsmünster	29.23	742.4	30.74	780.9	7.9	—13.4	88	Calm			0		0			0	0		Prof. C. Wagner.
Lemberg	29.44	747.8	30.51	775.0	24.4	— 4.2	93	W			3		10			0.020	0.5		Dr. T. Stanecki.
Pola	30.42	772.7	30.54	775.7	41.5	5.3	23	NE			3		0			0	0		I.R.Hydrographic Office
Szathmar	30.11	764.7	30.62	777.8	12.6	—10.8	76	SW			2		10			0.160	3.8		Pet. Pancsics, S. J.
Szegedin	30.33	770.3	30.64	778.2	14.7	— 9.6		Calm			0		0			0	0		Karl Stancel.
Trieste	30.48	774.1	30.68	779.7	40.1	4.5	80	ENE			2		0			0	0		P. Busin.
Vienna	29.97	761.1	30.73	780.5	24.3	— 4.3	95	NNW			1		0			0	0		I.R.Central Met. Ob'sy

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.																			
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower Force—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.75	755.6	29.85	758.2	41.4	5.2		S	34	15.2			10			0.260	6.60	Squally	W. Boswell.
Ardrossan	29.81	757.2	29.83	757.7	48	8.9		SSW			6		8					Squally	Wm. McNeil & G. Carrick
Armagh, (Observatory)	29.58	751.3	29.81	757.2	49.0	9.4		SSW	25	11.2			10					Raining	S. Call.
Bidston (Liverpool Obs)			30.13	765.3	37	2.8		SE	26	11.6			10					Overcast	John Hartnup.
Bolton (Sharples)	29.63	752.6	30.16	766.1	35.7	2.1		SSE	24	10.7			10					Gloomy	Thomas Mackereth.
Bradford, Yorkshire	29.80	756.9	30.19	766.8	39.5	4.2		W			2		7			0	0	D. clouds	J McLandsborough.
Bridgetown, Barbadoes	29.95	760.7	29.98	761.5	83	28.5		NE			2		3					D. clouds	Pvt. G. Surgener, A.H.C.
Cambridge (Observatory)	30.28	769.1	30.38	771.6	28.0	— 2.2		S			1		10					Overcast	H. Todd.
Cardington			30.37	771.4	31.0	— 0.6		S			0–1		10					Foggy	John McLaren.
Chatham (School M. E.)	30.32	770.1	30.46	773.7	29.2	— 1.6		Calm			0		9					Foggy	J. Carmell, Sapper, R.E.
Donaghadee	29.90	759.4	29.94	760.5	49	9.4		SSW			4		8					D. clouds	J. Mac Gowan.
Dover	30.37	771.4	30.40	772.1	33	0.6		SW			3		7					Misty	J. Costello.
Falmouth (Observatory)	30.04	763.0	30.27	768.8	48.7	9.3		S			5		10					Squally	The Staff.
Fort Napier, Natal	27.72	704.1	29.94	760.5	74.5	23.6		NE			1		6					Blue sky	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone																			
Galway (Queen's College)			29.63	752.6	49	9.4		SSW			6		10					Overcast	Prof. A. H. Curtis.
Gibraltar, Mediterranean																			Sergt. Wm. Allen, A. H.
Glasgow, (Observatory)	29.64	752.8	29.84	757.9	44.3	6.8		SSE			6		10			Blank	Blank	Squally	D. G. Maclean. [C.
Great Yarmouth	30.39	771.9	30.40	772.1	29	— 1.7		SSW			4		8					Gloomy	G. T. Watson.
Greenwich (Royal Obs'y)	30.25	768.3	30.43	772.9	29.8	— 1.2		S			1		10					Overcast	The Staff, for G. B. Airy.
Guernsey	30.17	766.3	30.40	772.1	40	4.4		SE			2		3					D. clouds	Dr. S. E Hoskins, F.R.S.
Helston	30.38	771.6	30.50	774.7	49	9.4		SE			3	3c				0	0	Fine	M. P. Moyle.
Holyhead	29.92	760.0	29.98	761.5	46	7.8		S			6		10					Drizzling	John Tilston.
Jersey	30.16	766.1	30.47	773.9	36.1	2.3		SSE			2		7					Misty	J. Fisher.
Kew (Observatory)	30.37	771.4	30.41	772.4	32.5	0.3		S	11	4.9			10					Misty	The Met'g'l Office.
Leicester (Museum)	30.05	763.3	30.32	770.1	32.0	0.0		SW			2		10					Overcast	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	30.21	767.3	30.29	769.4	61.2	16.2		NW			1		1					Blue sky	A. King.
Nairn	29.54	750.3	29.63	752.6	52	11.1		SSW			4		5					¼ clouded	W. D. Penny.
Nassau, Bahamas			30.11	764.8	72.5	22.5		NE			1		6					D. clouds	C. S. Duncombe.
Nottingham (Observatory)	30.12	765.0	30.32	770.1	31.8	— 0.1		S			3		10			0	0	Overcast	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.74	755.4	30.29	769.4	34.0	1.1		S			4		10					Overcast	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)			30.36	771.1	33	0.6		S			2		10					Threatening	H. E. Bellamy.
Plymouth	30.24	768.1	30.31	769.9	46.9	8.3		SSE			3		10					Overcast	John Merrifield.
*Roche's Point	29.90	759.4	29.99	761.7	50	10.0		SSW			7		10					Raining	Wm. Kennedy.
St. Ann's Head	29.98	761.5	30.15	765.8	48	8.9		S			6		10					Misty	John C. Walker.
Sandwick Manse, Orkneys			29.57	751.1	43.1	6.2		S	45	20.1			10					Misty	Rev. C. Clouston, L.L.D.
Scutari Cemetery, Turkey	30.20	767.1	30.27	768.8	32.4	0.2		NNW			2		9					Snowing	Serg't W. H. Lane.
Sheffield	29.98	761.5	30.28	769.1	35.3	1.8		SW			2		10			0.12	3.0	Overcast	W. F. Cooper.
Silloth Rectory	29.94	760.5	29.97	761.2	46.7	8.2	83	SW			8		8			1.180	29.61	D. clouds	Francis Redford, A. M.
Stonyhurst (Observatory)			30.15	765.8	36.2	2.3		SSW	11	4.9			10					Misty	Rev. S. J. Perry.
Straffield, Turgiss					34.2	1.2		SW			2		9					D. clouds	Rev. C. H. Griffith, F.M.S.
Truro (Royal Institution)	30.20	767.1	30.28	769.1	51	10.6		S			7		7					Gloomy	W. Newcombe.
Valencia Observatory)	29.75	755.6	29.78	756.4	51.5	10.8		S	51	22.8			10					Raining	The Met'g'l Office.
Sub-Series.																			
Cape Town (C. G. H. Obs'y)																			The Staff, for D. Gill.
Colesberg Bridge, Cape Col.																			Robert Burnet.
Constable, Cape Colony	26.72	678.7			78	25.6		E			0								Francis Abbott, F.R.A.S.
Hobart Town, Tasmania																			Andrew Gibb.
Leith (Restalrig Park) Sc'tl'd			29.84	757.9	46.3	7.9		SW			7		10ks			0.32	8.1	Overcast	C. Meldrum.
Mauritius (Observatory)	29.75	755.6	29.94	760.4	82.1	27.8	66	NE	8	3.6		4	2	WSW	NNE	0	0	Cloudy	R. L. J. Ellery.
Melbourne (Observatory)	29.32	744.7	29.41	747.0	61.1	16.2	73	NW	10	4.5			10			0.18	4.6	Dull	J. Youngclause.
Monach Lt-house, Hebrides					49	9.4		S			8		10			0	0		
North Unst, Shetland Is			29.58	751.3				SW			8	10	10	SW		0	0		

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown.

BRITISH MARINE SERIES. VESSELS.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather	Observer
H. M. S. Alert, Conception Channel, Patagonia			Overcast	Capt. J. P. Maclear, R.N.
H. M. Sloop Gannet, S. 18° 28′, W. 70° 21′			Blue sky	Commander E. Bourke, R. N.
H. M. S. Magpie, House Island, near Shanghai, China			Blue sky	Capt. R. H. Napier, R.N.
Barque Belle-Isle, N. 39° 30′, W. 42° 55′	7	WNW	Overcast	Capt. A. J. Brown
City of Cashmere, S. 24° 44′, W. 132° 16′			D. clouds	Capt. W. M. Grieve.
Barque Commewyne, N. 10° 00′, W. 56° 25′			Raining	Capt. Jas. Buchan.
Barque Fedalma, N. 33° 50′, W. 60° 20′	4	NW	D. clouds	Capt. H. L. Fox.
S. S. German, N. 17° 03′, W. 17° 42′			Overcast	Capt. O. D. Coxwell.
Iron Cross, N. 44° 50′, W. 35° 30′	6	WNW	Drizzling	Capt. W. Randall.
Barque Mertole, N. 53° 10′, W. 5° 00′			Drizzling	Capt. Turner.
S. S. Strathleven, S. 7° 00′, E. 76° 00′			Overcast	Capt. C. W. Pearson.
S. S. Sunbeam, N. 41° 40′, W. 50° 50′	4	NNE	Squally	Capt. C. M. Dobson.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected.
‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. L'w'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
San José	26.18	665.0	29.90	759.4	66.6	19.2	70	SE			4		8os		E	0	0		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.61	777.5	30.66	778.7	32.0	0.0	90	SSE			4		2						
Fanöe	30.52	775.1	30.54	775.6	27.5	— 2.5	94	S			4		10						
Godthaab (Greenland)																			
Stykkisholm (Iceland)	27.94	709.6	27.98	710.7	36.1	2.3	93	Calm			0		8						
Thorshavn (Faröe)	29.04	737.5	29.07	738.4	46.0	7.8	79	S			6		4						Raining
Vestervig	30.39	771.8	30.50	774.6	23.9	— 4.5	100	SSE			4		9						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.98	761.5	30.53	775.5	17.6	— 8	94	NE			1		10			0	0	Foggy	Collignon, Director.
Amiens, Normal School	30.27	768.8	30.39	771.9	18.7	— 7.4	73	E			1		0			0	0	Clear.	Vaillant, Director.
Arras, Engin'r School	30.22	767.6	30.49	774.4	19.2	— 7.1	94	SE			1					0	0		Klein, Commandant.
Avignon, Normal School	30.40	772.1	30.48	774.1	40.1	4.5	82	NE			1		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.95	760.7	30.56	776.2	20.3	— 6.5	93	S			1		0			0	0	Clear	C. Saillard, Director.
Beauvais, Normal School	30.25	768.3	30.54	775.8	16.0	— 8.9	97	E			2		0			0	0	Clear	Frère Eugene Marie.
Besançon, Normal School	29.63	752.5	30.61	777.4	19.0	— 7.2		E			1		0			0	0	Clear.	A. Carré, Director.
Bourg-en-Bresse, N. School	29.68	753.8	30.59	777.0	14.7	— 9.6	100	N			1		0			0	0	Clear	Marlot, Director.
Bourges, Normal School	29.92	760.0	30.53	775.4	18.5	— 7.5	89	N			2		1		N	0	0	Clear.	M. Gence, Director.
Brest, Naval Observatory	30.17	766.2	30.41	772.3	41.4	5.2	87	SSE			2		10		SE	0	0	Misty	Ch. de Rermaree, Dir.
Caen, Normal School	30.36	771.1	30.44	773.1	37.8	3.2	96	S			1					0	0		M. Bietrin, Director.
Carcassonne, N. School	30.02	762.4	30.45	773.3	45.1	7.3	42	W			1		0			0	0	Clear	September, Director.
Châlons-sur-Marne, N. Sch'l	30.23	767.9	30.58	776.8	19.6	— 6.9		Calm			0		0					Clear.	Jadot, Director
Chartres, Normal School	29.87	758.6	30.49	774.4	18.3	— 7.6	66	ENE			1		0			0	0	Clear.	Vergier, Director.
Clermont-Fd, Puy de D. Obs	29.07	738.4	30.49	774.4	37.0	2.8	47	NW			1		0			0	0	Foggy	Alluard, Director.
Commercy, Normal School	29.66	753.4	30.60	777.2	22.1	— 5.5		E			1		10			0	0	Covered	Dr. Coullet, Director.
Commune de Gréasque*	29.32	744.6	30.46	773.6	52.7	11.5	18	SE			1		0			0	0		L. Kina, Director.
Grenoble, Normal School	29.79	756.6	30.63	777.9	23.0	— 5		E			1		0			0	0	Clear	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.31	769.9	30.54	775.7	34.2	1.2	93	NE			1		0			0	0	Clear	Mouillot, Director.
Le Mans, Normal School	30.24	768.1	30.58	776.8	16.5	— 8.6	88	SSE			1		10			0	0	Covered	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.61	752.0	30.58	776.8	13.1	—10.5	80	N			1		0			0	0	Foggy	A. Baudry, Director
Lorient, Naval Observatory	30.42	772.7	30.53	775.5	29.1	— 1.6	70	E			1		0			0	0	Clear.	Lt. T. Carré, Director
Lyons Obs'y (Park Station)	29.91	759.6	30.58	776.8	21.0	— 6.1	79	ESE			1		0			0	0	Misty	Ch. André, Director
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	30.13	765.3	30.40	772.2	55.2	12.9	44	SW			1		0			0	0	Clear	E. Stephan, Director.
Mirecourt, Normal School	29.45	747.9	30.60	777.1	18.3	— 7.6	69	NE			1				NE	0	0	Foggy	Barbier, Director.
Mont-Louis	26.16	639.0	30.47	774.0	42.4	5.8	89	ESE	7.4	3.3			0			0	0		M. Cave
Nice	30.41	772.3	30.44	773.2	53.2	11.8	65	Calm			0		1	Calm	Calm	0	0	Clear.	M. Boissière, Director.
Nismes, Normal School	30.26	768.5	30.47	773.8	47.8	8.8	54	NE			1		0			0	0	Clear	M. Boyer, Director.
Paris, Montsouris Obs'y	30.22	767.6			15.3	— 9.3	84	SE			1		0			0	0		Marié Davy, Director.
Perpignan	30.38	770.4	30.44	773.2	50.4	10.2	24	SE	5.6	2.5			0			0	0		Dr. Fines.
Pic du Midi (Plantade) H. P.	22.78	578.3			32.0	0.0									W	0	0		Gen'l de Nansouty.
Pic du Midi (Summit) H. P.																			M. Baylac.
Privas, Normal School	29.37	746.1	30.61	775.0	32.0	0	100	N			1		0			0	0	Clear	M. Tallieu
Puy de Dome (Summit) Obs	25.47	647.0			42.1	5.6	54	NNE			1		0			0	0	Clear	Alluard, Director.
Rochefort, Naval Obs'y	30.50	774.6	30.53	775.4	37.0	2.8	94	ENE			1		0			0	0	Clear	Lt E. Decante, Director
Rouen, Normal School	30.41	772.3	30.49	774.5	21.2	— 6.0	87	SSE			2		0			0	0	Clear	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.41	772.4	30.44	773.2	29.3	— 1.5	70	SSE			3		0			0	0	Clear	Lt. Hercouet, Director
Saint Maur (near Paris)	30.35	770.9	30.52	775.1	16.9	— 8.4	90	S			2		0			0	0	Solar halo	E. Renou, Director.
Tarbes, Normal School	29.40	746.7	30.50	774.7	54.5	12.5	29	S			1		0			0	0	Clear.	T. Huguet, Director.
Toulouse, Observatory	29.81	757.1	30.54	775.8	32.2	0.1	99	NW			1		0			0	0	Clear	M. Juher Mercadier.
Tours	30.32	770.2	30.52	775.2	14.4	— 9.8		SE			1		0			0	0	Clear.	Cousin-Marquet.
Versailles, Observatory	30.01	762.3	30.50	774.8	18.7	— 7.4	83	SE			1		0			0	0	Clear.	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.83	757.6	30.61	777.4	28.0	— 5	88	NNW			1					0	0	Light mist	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.96	761.0	29.99	761.7	75.2	24										0.47	12.		L'Abbé Marchési
Zi-Ka-Wei (near Shanghai)	29.89	759.2	29.91	759.8	52.0	11.1	93	NW	8.5	3.8			0			0	0	Clear	Marc Dechevrens.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m, and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 306.41 m., or 1,032.07 ft.; Mont-Louis, 1,686.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 186.0 millimeters, or 5,315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.76	755.9	30.62	777.8	9.7	—12.4	100	NE			4		6ks			Inap.	Inap.	Snow-flakes.	Prof. Dr. Hoh.
Berlin	30.53	775.4	30.72	780.2	26.4	— 3.1	84	SE			1		3			0	0		Prof. Dr. Arndt.
Breslau	30.23	767.9	30.78	781.8	16.2	— 8.8	100	NNE			1		4			0	0		Royal University Obs'y.
Carlsruhe	30.13	765.4	30.61	777.5	16.9	— 8.4	100	SW			1		0			0	0		Albert Senz.
Cassel	29.98	761.6	30.60	777.3	26.1	— 3.3	84	SSE			2		0			0	0		Dr. H. Möhl.
Emden			30.53	775.4	29.3	— 1.5	85	SE			0		0			0	0		Prof. Dr. Prestel
Frankfort on the Main	30.32	770.1	30.71	780.1	24.3	— 4.3	77	NE			2		2			0	0		Physical Society.
Friedrichshafen	29.09	738.9	30.67	779.1	13.5	—10.3	80	E			4		4	E		0	0	Hazy.	Chief Telegrapher Wilhelm.
Hamburg	30.57	776.5	30.64	778.3	25.5	— 3.6	95	SE			4		10			0	0		Capt. P. F. A. Hegerman.
Kiel	30.61	777.5	30.63	777.9	25.3	— 3.4	89	SSE			3		10			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.66	778.8	30.75	781.1	27.0	— 2.8	73	NE			2		1			0.012	0.3	Snowing.	Prof. E. Luther.
Köslin			30.75	781.0	18.7	— 7.4		S			2		1			0	0		H. Müller.
Leipsic Observatory	30.29	769.3	30.75	781.0	22.3	— 5.4	100	E			1		1			0	0		Prof. Dr. Bruhns, Privy Councelo
Magdeburg	30.49	774.4	30.72	780.3	24.6	— 4.1	89	ESE			4		10ks	SE		0	0		Dr. Assmann.
Memel	30.65	778.4	29.69	779.6	23.0	— 5.0	76	NE			2		1s						Reinbrecht & Issermann.
Munich (München)	28.69	728.7	30.59	776.9	7.3	—13.7	85	N			2		2			0	0		Dr. C. Lang.
Neufahrwasser	30.75	781.0	30.76	781.4	34.9	1.6	66	NE			1		7			0	0		A. Lothes.
Neustadt (Palatinate)	30.07	763.6	30.60	777.1	24.8	— 4.0		E			1					0	0		Reallehrer Dicknether
Posen	30.45	773.4	30.77	781.5	21.6	— 5.8	87	N			4		9			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	30.05	763.3	30.66	778.8	17.6	— 8.0	97	Calm			0		10					Snowing.	Imp. University Observatory.
Stuttgart	29.59	751.6	30.62	777.8	19.4	— 7.0	86	NE					0			0	0		Prof. Dr. Schoder.
Weissenburg (Bavaria)	29.04	737.7	30.64	778.2	22.1	— 5.5	78	N			1		0			0	0		Reallehrer J. Hopfner.
Wustrow	30.71	779.9	30.73	780.5	21.9	— 5.6	100	SE			3		4s			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.93	760.2	30.34	770.6	42.1	5.6		NE			3.0		10					Covered	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.82	757.4	29.87	758.7	74.3	23.5	69	WSW	22	9.8			0			0	0	Blue sky.	
Deesa	29.42	747.4	29.91	759.6	73.7	23.2	55	SW	10.3	4.6			0			0	0	Blue sky.	
Bombay	29.89	759.3	29.93	760.4	74.6	23.7	79	NW	14	6.3			0			0	0	Blue sky.	
Poona (Yarrowda)	28.04	712.3	29.91	759.8	76.3	24.6	18	NW	9	4.0			0			0	0	Blue sky.	
Belgaum	27.36	695.0	29.91	759.6	75.3	24.1	29	NNE	5	2.2			0			0	0	Blue sky.	
Lahore	29.08	738.7	29.86	758.5	58.6	14.8	82	E	4.4	2.0			8			0.10	2.5	D. clouds	
Roorkee	28.98	736.0	29.93	760.2	54.4	12.4	80	SE	2.3	1.0			10			0.05	1.3	D. clouds	
Agra	29.26	743.1	29.84	758.0	64.8	18.2	68	E	4.4	2.0			8		E	0	0		
Nagpur	28.84	732.6	29.90	759.4	72.5	22.5	43	Calm	2.1	0.9			0			0	0	Blue sky.	
Jubbulpore	28.49	723.7	29.89	759.1	70.2	21.2	54	Calm	2.4	1.1			0			0	0	Blue sky.	
Lucknow	29.52	749.9	29.92	760.0	60.3	15.7	63	ENE	1.8	0.8			10			0	0	Overcast.	
Allahabad	29.57	751.1	29.89	759.3	66.7	19.3	64	Calm	0.7	0.3			0			0	0	Blue sky.	
Patna	29.73	755.1	29.92	759.8	69.5	20.8	64	Calm	0.3	0.1			4	NW	NW	0	0	D. clouds	
Hazaribagh	27.85	707.5	29.91	759.7	67.3	19.6	40	NE	2.7	1.2			0			0	0	Blue sky.	
Cuttack	29.85	758.2	29.94	760.4	69.2	20.7	68	Calm	0.3	0.1			0			0	0	Blue sky.	
Calcutta (Alipore)	29.91	759.7	29.93	760.3	65.1	18.4	78	WSW	4.0	1.8			0			0	0	Blue sky.	
Goalpara	29.56	750.9	29.96	761.1	67.8	19.9	47	Calm	1.5	0.7			0			0	0	Blue sky.	
Chittagong	29.85	758.3	29.95	760.6	66.8	19.3	71	WNW	1.2	0.5			0			0	0		
Sibsagar	29.63	752.5	29.98	761.5	61.0	16.1	85	ESE	1.7	0.8			0			0	0	Blue sky.	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,846.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,361 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	30.16	766.1	30.60	777.3	36.3	2.4	54	E	4.9	2.2	.....	.....	0	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	30.02	762.5	30.58	776.6	33.1	0.6	60	N	.....	.....	1	.....	1	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	30.49	774.4	30.61	777.4	35.6	2.0	61	N	9.8	4.4	.....	.....	0	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.61	752.0	30.59	777.0	26.4	— 3.1	72	ENE	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	30.27	768.8	30.47	773.9	46.9	8.3	34	NE	12.5	5.6	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.56	725.5	30.54	775 6	34.2	1.2	20	W	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.51	775.0	30.56	777.3	33.4	0.8	90	NW	14.3	6.4	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	30.19	766.7	30.46	773.7	49.1	9.5	32	NE	.....	.....	4	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	30.36	771.1	30.45	773.4	52.3	11.3	21	E	13.7	6.1	.....	.....	0	.....	.....	0	0	.....	Prof. P. Monte.
Rome	30.21	767.3	30.39	772.0	49.6	9.8	39	N	3.1	1.4	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari
Lecce	30.08	763.9	30.34	770.6	47.7	8.7	45	N	20.6	9.2	.....	.....	0	.....	.....	0	0	.....	Prof. C. De Giorgi
Cosenza	29.43	747.5	30.36	771.2	46.4	8.0	70	SE	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	30.15	765.9	30.35	771.0	50.0	10.0	65	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	30.09	764.2	30.35	770.9	55.2	12.9	51	NE	3.8	1.7	.....	.....	1	.....	.....	0	0	.....	Prof. G. Ciaccia'ore.
Syracuse	30.23	767.9	30.31	769.8	53.8	12.1	60	E	3.8	1.7	.....	.....	2	NNE	.....	0	0	.....	Prof. V.G. Guiliano.
SUB-SERIES.																			
Naples, S. R.	29.84	757.9	30.38	771.7	49.6	9.8	38	ENE	7.4	3.3	.....	.....	0	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.17	766.3	30.19	766.8	40.6	4.8	86	NNE	5.7	2.6	.....	1cs	s	.....	.....	0.037	0.94	Clear.	K. Sasaki.
Nagasaki, I. M. Obs'y	29.89	759.2	30.09	764.3	58.2	14.6	72	SE	10.1	4.5	.....	.....	10s	.....	.....	0.160	4.06	Cloudy	S. Takehayashi.
Tokei, (Yeddo) Observatory	30.15	765.8	30.22	767.6	35.2	1.8	78	ESE	5.4	2.4	.....	0	0	.....	.....	0	0	Misty	The Staff.
Wakayama	30.15	765.8	30.20	767.1	37.5	3.1	87	NNW	2.6	1.2	.....	ck	6cs	.....	.....	0	0	Fair	

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima																			R. Banda, C. E.
Guadalajara	25.18	638.4	30.34	770.5	42.8	6.0	56	SW	.....	.....	1	.....	1	.....	Calm	0	0	Clear	Prof. L. Perez.
Leon	24.54	623.4	30.40	772.2	48.9	8.9	84	N	.....	.....	1	0	0	.....	.....	0	0	Fine	Prof. M. Leal.
Mazatlan	29.76	755.9	30.02	762.6	61.2	16.2	96	E	.....	.....	2	0	0	.....	.....	0	0	Dense fog	I. Guerrero, C. E.
Mexico, Central Observatory	23.14	587.7	30.36	771.1	42.0	5.9	80	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	45.7	7.6	70	NW	.....	.....	1	0	0	.....	.....	0	0	Very clear	M. Y. de Leon, M. E.
Puebla (Catholic Institute)	23.48	596.5	30.50	774.6	39.2	4.0	34	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.32	617.6	30.46	773.7	47.1	8.4	48	E	.....	.....	1	0	0	.....	.....	0	0	Clear	G. Barroeta, M. D.
Tlacotalpam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. M. Chazaro.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell
Zacatecas	22.61	574.4	30.39	771.9	43.2	6.2	80	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	J. C. Castrillon.

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.0 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column; the instrumental correction —0.86 mm., or —0.035 inch, has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.51	774.9	30.51	774.9	24.1	— 4.4	.....	S	.....	.....	2	.....	.....	.....	.....	0.016	0.4	.....	
Groningen	30.49	774.4	30.54	775.8	28.9	— 1.7	.....	S	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Helder	30.46	773.7	30.46	773.7	28.4	— 2.0	.....	SSE	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.51	774.9	30.51	774.9	23.2	— 4.9	93	SW	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	
Utrecht	30.48	774.2	30.53	775.4	26.1	— 3.3	83	SE	.....	.....	2	.....	0	.....	.....	0	0	Clear	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.27	768.8	30.32	770.2	38.1	3.4	70	S	38.0	17.0	.....	.....	6	.....	.....	0	0	.....	.....
Brönö	29.95	760.7	29.99	761.7	37.0	2.8	52	S	18	8	.....	.....	3	.....	.....	0	0	.....	.....
Christiana	30.28	769.1	30.44	773.1	31.1	— 0.5	81	S	13	6	.....	.....	5	.....	.....	0	0	.....	.....
Tromsö	29.78	756.4	29.82	757.5	38.1	3.4	76	SW	20	9	.....	.....	10	.....	.....	0.031	0.8	.....	.....

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	30.20	767.1	30.39	772.0	60.8	16.0	89	W	1.8	0.8	.....	.....	6	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.41	747.0	30.44	773.2	50.7	10.4	65	ENE	3.1	1.4	.....	.....	2	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	30.33	770.3	30.42	772.6	65.7	18.7	65	ESE	4.9	2.2	.....	.....	1	.....	.....	0.079	2.0	.....	Capt. D. A. de Cunha.
Lisbon Observatory	30.12	765.1	30.50	774.6	50.0	10.0	63	NNE	15.0	6.7	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.36	771.1	30.43	772.9	65.5	18.6	84	S	1.8	0.8	.....	.....	3	.....	.....	0	0	.....	.....

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.																Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. [illegible] Sande, Com'd't.
Duque da Terceira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Rio Lima. Capt. S. C. da Silva Costa, Santiago, Cape Verd Ids	.....	.....	.....	.....	79.5	26.4	.....	ESE	.....	.....	5	.....	10	.....	ESE	3	ESE	Overcast	A. D. de Fonseca Sarurento
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sado, Capt. J. A de Brito Capello, St. Paul de Loando	.....	.....	29.91	759.6	81.9	27.7	.....	NW	.....	.....	3	.....	6	.....	.....	.....	.....	D. clouds	F. Teixeira da Silva, Comd't.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	.....	.....	30.14	765.5	71.6	22.0	.....	ENE	.....	.....	2	.....	10	.....	.....	1	.....	Overcast	F. de Assis Camillo, jun., Q. M.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	30.47	773.8	30.48	774.3	9.0	—12.8	96	WNW	13	6	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sselliwerstow.
Astrakhan	29.87	758.8	29.79	756.7	31.5	— 0.3	94	NE	9	4	.....	.....	10cp	.....	.....	.....	.....	.....	Capt. Wisganow.
Barnaul	29.89	759.3	30.44	773.2	14.9	— 9.5	93	SW	4	2	.....	.....	10	.....	.....	.....	.....	Snowing	Meteorological Obs.
Dorpat	30.52	775.2	30.79	782.1	6.3	—14.3	83	N	4	2	.....	.....	0	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	28.93	734.9	30.01	762.2	— 5.3	—20.7	82	NNE	4	2	.....	.....	10	.....	.....	.....	.....	Snowing	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	29.75	755.6	30.06	763.5	—15.3	—26.3	70	NNW	9	4	.....	.....	7	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.59	751.6	30.30	769.5	9.3	—12.6	77	N	27	12	.....	.....	10cks	.....	.....	.....	.....	.....	Physical Cabinet.
Krotkowo*	29.46	748.3	29.98	761.6	4.6	—15.2	89	N	9	4	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	29.61	752.2	29.83	757.7	19.2	— 7.1	87	ENE	22	10	.....	.....	10	.....	.....	Blank	Blank	.....	Meteorological Obs.
Moscow	29.77	756.1	30.40	772.2	—11.0	—23.9	82	NNW	7.8	3.5	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	28.20	716.2	30.85	783.6	—11.9	—24.4	79	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	30.06	763.5	30.13	765.3	21.6	— 5.8	72	NNE	45	20	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	29.85	758.3	30.11	764.8	14.9	— 9.5	79	ENE	4	2	.....	.....	0	.....	.....	.....	.....	.....	.....
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	30.18	766.5	30.32	770.1	31.3	— 0.4	42	NW	38	17	.....	.....	4k	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	30.72	780.3	30.74	780.7	3.4	—15.9	66	SSW	7	3	.....	.....	3s	.....	.....	.....	.....	Light clouds	Central Physical Obs.
Tashkend	29.60	726.4	30.27	768.8	29.8	— 1.2	100	.....	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.47	723.0	29.93	760.2	37.9	3.3	58	NW	4	2	.....	.....	3k	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	30.23	767.8	30.69	779.4	26.6	— 3.0	59	NNE	7	3	.....	.....	0	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	30.25	768.4	30.72	780.2	12.7	—10.7	52	N	7	3	.....	.....	0	.....	.....	.....	.....	.....	Astronomical Obs.
Yenisiesk	29.94	760.5	30.25	768.4	17.8	— 7.9	85	SSW	4	2	.....	.....	10	.....	.....	.....	.....	Snowing	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	30.35	770.8	30.46	773.6	49.5	9.7	50	SSE	0.9	0.39	.....	.....	0	.....	.....	0	0	Light Mist	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.45	773.5	30.51	775.0	51.1	10.6	66	SE	2.4	1.06	.....	0	0	.....	.....	0	0	Clear.	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.45	697.3	.....	.....	45.0	7.2	55	NE	0.3	0.12	.....	0	0	.....	.....	0	0	Clear.	Domingo Martin y Perez.
Madrid, Royal Observatory	28.19	715.9	30.51	774.9	43.5	6.4	75	NE	4.5	2.00	.....	0	0	.....	.....	0	0	Clear.	The Staff.
Murcia, Met. Obs'y	30.26	768.6	30.41	772.5	49.6	9.8	93	SW	2.1	0.92	.....	5	5	NW	.....	0.879	22.32	Raining	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.53	750.0	30.44	773.2	52.7	11.5	66	SE	1.8	0.8	.....	4	0	.....	.....	0.004	0.1	Light clouds	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.07	763.9	30.14	765.6	71.6	22.0	75	N	10.3	4.6	.....	.....	10k;n	.....	N	0	0	Cloudy	Benito Vines S. J.
Manilla, Phillippine Islands	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.31	770.0	30.42	772.6	53.6	12.1	75	Calm	0	0	.....	0	3	.....	N	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.99	761.8	30.08	764.1	71.2	21.8	83	SE	0	0	.....	6ck	3kn	SE	SE	0	0	Cloudy	Enrique Gadea, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rabenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildeorandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature.		Barometer. Reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind. Direction.	Wind. Velocity		Wind. Force.	Clouds. Amount.		Clouds. Direction.		Rain-fall or melted snow in the past 24 hours.		Weather.	Observer.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0–10.	Up'er 0–10.	Lo'er 0–10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
Haparanda	30.33	770.4	30.37	771.4	24.1	— 4.4	.....	SW	.....	.....	4	.....	10	.....	.....	0	0	.....	
Umea	30.31	769.8	30.36	771.1	28.4	— 2.0	92	SW	.....	.....	4	.....	10	.....	.....	0	0	.....	
Hernosand	30.32	770.1	30.37	771.4	27.3	— 2.6	87	SSW	.....	.....	6	.....	10	.....	.....	0	0	.....	
Stockholm	30.46	773.7	30.64	778.2	23.0	— 5.0	90	SSW	.....	.....	2	.....	2	.....	.....	0	0	Foggy	
Wisby	30.56	776.3	30.62	777.8	31.3	— 0.4	89	SW	.....	.....	4	.....	7	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	30.50	774.6	30.58	776.8	22.3	— 5.4	83	S	11.6	5.2	.....	.....	1	W	.....	0	0	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	29.10	739.0	30.62	777.8	21.6	— 5.8	96	ESE	.....	.....	2	.....	10	.....	.....	0	0	Misty	The Observatory.
Zurich	28.87	733.4	30.65	778.5	16.3	— 8.7	100	E	.....	.....	1	.....	10	.....	.....	0	0	Foggy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +11.4 mm.; Thermometer, —7.4 Cent.; Relative Humidity, +15 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.33	770.3	32.7	0.4	85	NW	7	3.0	.....	.....	10	.....	N	.....	.....	Snowing	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.21	767.2	48.7	9.3	.....	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.80	756.9	29.92	760.0	54.9	12.7	85	SE	.....	.....	1	.....	8n	.....	SW	1.24	31.5	D. clouds	Prof. C. V. A. van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	30.10	764.5	30.18	766.6	—29.1	—33.9	80	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	G. A. Blair.
Charlottetown, P. E. Island	30.07	763.8	30.12	765.0	— 8.2	—22.3	100	W	5	2.2	.....	0	0	.....	.....	0	0	Clear.	H. J. Cundall, C. E
Cornwall, Ontario	29.93	760.2	30.15	765.8	— 7.0	—21.7	100	NE	.....	.....	1	3cs	2s	.....	.....	0	0	Fair	James Smith, M. A.
Dalhousie, N. B	29.94	760.5	30.14	765.5	—26.0	—31.7	.....	W	.....	.....	1	0	0	.....	.....	0	0	Clear.	H. A. Johnson.
Father Point, Quebec	30.12	765.0	30.15	765.8	—14.7	—26.9	72	SW	15	6.7	.....	2cs	5n	W	.....	.....	.....	Light snow.	J. McWilliams.
Fredericton, N. B	30.17	766.3	30.24	768.1	—26.9	—32.7	100	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	Prof. Harrison.
Fort Garry, Manitoba	29.15	740.4	30.10	764.5	—13.9	—25.5	95	NW	3	1.3	.....	2c	4ks	W	.....	0.11	2.8	Fair	James Stewart.
Granton, Ontario	28.86	733.0	30.05	763.3	15	— 9.4	.....	SW	.....	.....	3	.....	10n	.....	.....	Inap.	Inap.	Cloudy	James Grant.
Halifax, N. S	30.06	763.5	30.20	767.1	0	—17.8	82	W	2	0.9	.....	3cs	0	.....	.....	0	0	Fair	A. Allison.
Hamilton, Ontario	29.70	754.4	30.10	764.5	18.5	— 7.5	95	NW	.....	.....	3	0	0	.....	.....	0	0	Clear.	Geo. Dickson, B. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.74	755.4	30.10	764.5	11.9	—11.2	82	S	13	5.8	.....	.....	10n	.....	.....	0.25	6.3	Light snow.	S. Woods, M. A.
Little Glace Bay, N. S	30.02	762.5	30.06	763.5	6.3	—14.3	81	W	3	1.3	.....	4k	0	W	.....	0	0	Fair	C. H. Rigby.
Montreal, Quebec	29.99	761.7	30.22	767.6	— 7.1	—21.7	92	Calm	0	0	.....	.....	Haze	.....	.....	0.06	1.5	Hazy.	C. H. McLeod, C. E.
Moose Factory, Ontario	29.64	752.8	29.67	753.6	—12.5	—24.7	85	S	.....	.....	2	.....	10	.....	.....	0	0	Cloudy	J. R. Nelson.
Norwood	29.28	743.7	30.04	763.0	6.3	—14.3	100	SE	2	0.9	.....	.....	10s	.....	.....	0.30	7.6	Snowing	Rev. T. F. Fotheringham, M. A.
Parry Sound, Ontario	29.14	740.1	29.90	759.4	8.8	—12.9	89	S	11	4.9	.....	.....	10n	.....	S	0.50	12.7	Heavy snow	Rev. R. Mosley.
Peterboro, Ontario	29.22	742.2	30.02	762.5	15.6	— 9.1	39	SE	.....	.....	2	.....	10n	.....	.....	0.05	1.3	Snowing	J. F. Jeffers, M. A.
Port Dover, Ontario	29.32	744.7	30.06	763.5	21.1	— 6.1	85	SW	31	13.9	.....	10k	0	W	.....	0.05	1.3	Fair	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.38	746.2	30.07	763.8	24.7	— 4.1	80	SW	25	11.2	.....	.....	10n	.....	SW	0	0	Cloudy	M. Payne.
Quebec, Quebec	29.85	758.2	30.23	767.8	—15	—26.1	44	NW	.....	.....	3	0	0	.....	.....	0	0	Clear.	Capt. Ashe, R. N.
Rockliffe, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. McIntyre.
St. Andrews, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Gove.
St. John, N. B	30.03	762.7	30.22	767.6	—13	—25.0	100	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear.	G. Murdock, C. E.
Saugeen, Ontario	29.10	740.7	29.93	760.2	13	—10.6	83	S	15	6.7	.....	.....	10s	.....	.....	0.34	8.6	Snowing.	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.68	727.2	30.02	762.5	15.2	— 9.3	63	SW	18	8.0	.....	.....	10s	.....	.....	0.20	5.1	Cloudy	C. J. MacGregor, M. A
Sydney, C. B	30.00	762.0	30.04	763.0	6.4	—14.2	83	W	9	4.0	.....	0	1ks	.....	.....	0	0	Clear.	T. C. Hill, C. E.
Toronto, Ontario	29.62	752.3	30.03	762.7	20.0	— 6.7	87	SW	28	12.5	.....	0	8ks	.....	SW	0.02	0.5	Light snow.	Magnetic Observatory
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	NW	4	1.8	.....	.....	.....	.....	.....	.....	.....	.....	Prof. John E. Oram, M.A.
Woodstock, Ontario	28.89	733.8	30.03	762.7	19.3	— 7.1	91	SW	25	11.2	.....	4k	8s	W	.....	0	0	Fine	Prof. J. Montgomery.
Yarmouth, N. S	29.12	739.6	29.19	741.4	9.3	—12.6	83	E	5	2.2	.....	.....	10n	.....	.....	0.09	2.3	Snowing	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.46	748.3	29.73	755.1	15	— 9.4	65	W	.....	.....	.....	0	8s	.....	.....	0	0	Fair	John Delany.
St. Pierre, N. F., l'Hopital Maritime	.....	.....	29.80	757.0	14.7	— 9.6	.....	NW	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	The Commandant.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0–10.	CLOUDS. Amount. Up'er 0–10.	CLOUDS. Amount. Lo'er 0–10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	30.05	763.3	30.31	769.9	10	—12.2	79	S	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Alpena, Michigan	29.14	740.1	29.84	757.9	10	—12.2	79	SW	8	3.6	.....	.....	8s	.....	W	0.05	1.3	Cloudy	
Atcha, Aleutian Is., Alaska																			
Atlanta, Georgia	29.14	740.1	30.38	771.6	27	— 2.8	54	E	11	4.9	.....	0	Sm'e	.....	Calm	0	0	Clear	
Atlantic City, New Jersey	30.40	772.1	30.42	772.7	14	—10.0	82	NW	8	3.6	.....	8c;k	0	W	.....	0	0	Fair	
Augusta, Georgia	30.23	767.8	30.45	773.4	31	— 0.6	69	Calm	0	0	.....	0	Haze	.....	Calm	0	0	Hazy	
Baltimore, Maryland	30.39	771.9	30.45	773.4	18	— 7.8	57	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Barnegat, New Jersey	30.37	771.4	30.40	772.1	13	—10.6	81	NW	13	5.8	.....	8ck	0	W	.....	0	0	Fair	
Bismarck, Dakota	27.95	709.9	29.80	756.9	9	—12.8	78	E	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Boerne, Texas	28.71	729.2	30.12	765.0	28	— 2.2	77	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Boise City, Idaho	26.98	685.3	29.94	760.5	25	— 3.9	87	NW	2	0.9	.....	.....	10s	.....	Calm	0.21	5.3	Cloudy	
Boston, Massachusetts	30.12	765.0	30.29	769.4	14	—10.0	64	W	9	4.0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Brackettville, Texas	29.04	737.6	30.18	766.6	29	— 1.7	67	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	28.84	732.5	29.95	760.7	— 4	—20.0	100	N	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Brownsville, Texas	30.23	767.8	30.28	769.1	38	3.3	81	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Buffalo, New York	29.34	745.2	30.10	764 5	15	— 9.4	65	SW	15	6.7	.....	.....	10s	.....	SW	0	0	Cloudy	
Burkes, Arizona	.....	.....	.....	.....	43	6.1	21	W	.....	.....	1	.....	10s	.....	Calm	0	0	Cloudy	
Burlington, Vermont	29.91	759.7	30.23	767.8	4	—15.6	74	SE	1	0.4	.....	.....	10n	.....	NW	Inap.	Inap.	Light snow	
Cairo, Illinois	29.91	759.7	30.33	770.4	28	— 2.2	77	S	8	3.6	.....	10c	0	W	.....	0	0	Cloudy	
Campo, California	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Cape Hatteras, N. Carolina	30.41	772.4	30.42	772.7	36	2.2	71	NE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Cape Henry, Virginia	30.44	773 2	30.46	773.7	26	— 3.3	63	N	10	4.5	.....	0	5ks	.....	Calm	0	0	Fair	
Cape Lookout, N. Carolina	30.37	771.4	30.39	771.9	35	1.7	61	N	23	10.3	.....	0	2ks	.....	N	0	0	Fair	
Cape May, New Jersey	30.40	772.1	30.44	773.2	18	— 7.8	53	NW	27	12.1	.....	0	0	.....	.....	0	0	Clear	
Castroville, Texas	29.44	747.8	30.21	767.3	27	— 2.8	53	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Cedar Keys, Florida	30.25	768.3	30.27	768.8	37	2.8	63	NE	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Charleston, South Carolina	30.33	770.6	30.39	771.9	35	1.7	53	NE	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Charlotte, North Carolina	29.52	749.8	30.40	772.1	24	— 4.4	74	NE	3	1.3	.....	0	Sm'e	.....	Calm	0	0	Clear	
Chattanooga, Tennessee	29.58	751.3	30.45	773.4	23	— 5.0	73	NE	8	3.6	.....	2cs	0	N	.....	0	0	Fair	
Cheyenne, Wyoming	23.72	602.5	29.66	753.4	40	4.4	39	W	42	18.8	.....	5c	0	W	.....	0	0	Fair	
Chicago, Illinois	29.25	742.9	29.97	761.2	28	— 2.2	66	SW	10	4.5	.....	.....	10s	.....	SW	0	0	Cloudy	
Cincinnati, Ohio	29.63	752.6	30.34	770.6	23	— 5.0	73	S	7	3.1	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Cleveland, Ohio	29.35	745.5	30.13	765.3	19	— 7.2	69	SE	19	8.5	.....	5c	5s	Calm	Calm	Inap.	Inap.	Cloudy	
Coleman City, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Columbus, Ohio	29.38	746.2	30.30	769.6	16	— 8.9	66	S	7	3.1	.....	0	2s	.....	Calm	0	0	Fair	
Concho, Texas	28.19	716.0	29.95	760.7	32	0.0	79	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.74	755.4	30.25	768.3	28	— 2.2	66	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Davenport, Iowa	29.27	743.4	29.94	760.5	27	— 2.8	76	SW	12	5.4	.....	0	5s	.....	W	0	0	Fair	
Dayton, Washington T'y	.....	.....	.....	.....	35	1.7	90	SW	.....	.....	1	.....	10s	.....	W	0.29	7.4	Cloudy	
Deadwood, Dakota	25.00	635.0	.....	.....	30	— 1.1	57	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Decatur, Texas	28.90	734.0	30.12	765.0	36	2.2	61	S	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Denison, Texas	29.31	744.5	30.15	765.8	28	— 2.2	77	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Denver, Colorado	24.55	623.6	29.77	756.1	53	11.7	14	SW	14	6.3	.....	2ck	0	W	.....	0	0	Fair	
Des Moines, Iowa	28.94	735.1	29.84	757.9	31	— 0.6	58	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Detroit, Michigan	29.31	744.5	30.02	762.5	19	— 7.2	85	SW	16	7.2	.....	0	2s	.....	SW	0.02	0.5	Clear	
Dodge City, Kansas	27.17	690.1	29.53	750.0	26	— 3.3	75	Calm	0	0	.....	0	5s	.....	Calm	0	0	Fair	
Dubuque, Iowa	29.21	741.9	29.95	760 7	24	— 4.4	74	S	2	0.9	.....	.....	10ks	.....	SW	0	0	Cloudy	
Duluth, Minnesota	29.13	739.9	29.87	758.7	3	—16.1	73	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Eagle Pass, Texas	29.45	748.0	30.23	767.8	33	0.6	70	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	30.13	765.3	30.21	767.3	— 1	—18.3	68	NW	9	4.0	.....	5c	0	Calm	.....	0	0	Fair	
Edinburg, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.35	745.5	30.11	764.8	18	— 7.8	68	S	13	5.8	.....	.....	10s	.....	Calm	0.36	9.1	Cloudy	
Escanaba, Michigan	29.18	741.1	29.90	759.4	0	—17.8	70	SW	3	1.3	.....	.....	10s	.....	SW	0.05	1.3	Cloudy	
Florence, Arizona	28.44	722.4	30.04	763.0	40	4.4	91	NW	1	0.4	.....	.....	10s	.....	SW	0	0	Cloudy	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.72	704.1	29.71	754.6	2	—16.7	100	NE	10	4.5	.....	.....	10n	.....	Calm	Inap.	Inap.	Light snow	
Fort Custer, Montana	26.48	672.6	.....	.....	32	0.0	79	SE	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Davis, Texas	25.24	641.1	30.20	767.1	46	7.8	26	SW	1	0.4	.....	5cs	0	Calm	.....	0	0	Fair	
Fort Gibson, Indian Ter	29.53	750.0	30.10	764.5	29	— 1.7	67	S	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Fort Grant, Arizona	25.23	640.8	30.03	762.7	43	6.1	43	SE	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Griffin, Texas	28.74	730.0	30.08	764.0	50	— 1.1	47	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	26.90	683.2	.....	.....	31	— 0.6	69	SW	3	1.3	.....	0	5s	.....	W	0	0	Fair	
Fort McKavett, Texas	27.80	706.1	29.82	757.4	29	— 1.7	67	SW	4	1.8	.....	1c	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.75	730.2	29.93	760.2	23	— 5.0	73	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Verde, Arizona	.....	.....	.....	.....	36	1.7	90	S	.....	.....	1	.....	10n	.....	S	0.02	0.5	Light rain	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.30	718.8	29.90	759.4	40	4.4	19	SW	7	3.1	.....	5cs	0	Calm	.....	0	0	Fair	
Galveston, Texas	30.25	768.3	30.30	769.6	41	5.0	82	NE	4	1.8	.....	0	8ks	.....	SW	0	0	Cloudy	
Graham, Texas	28.94	735.1	30.05	763.3	29	— 1.7	56	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.24	742.7	29.91	759.7	32	0.0	79	W	16	7.2	.....	.....	10s	.....	Calm	0.38	9.7	Cloudy	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	.....	.....	.....	.....	28	— 2.2	77	SE	16	7.2	.....	2c	0	W	.....	0	0	Clear	
Indianapolis, Indiana	29.37	746.0	30.21	767.3	21.5	— 5.8	71	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Indianola, Texas	29.25	742 9	30.28	769.1	40	4.4	73	NE	15	6.7	.....	0	0	.....	.....	0	0	Clear	
Jacksboro, Texas	28.88	733.5	30.07	763.8	30	— 1.1	57	SW	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.26	768.6	30.29	769.4	38	3.3	63	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Keokuk, Iowa	29.29	744.0	29.93	760.2	29	— 1.7	78	SW	15	6.7	.....	0	5s	.....	SW	0	0	Fair	
Key West, Florida	30.11	764.8	30.14	765.5	68	20.0	79	N	8	3.6	.....	8k	0	N	.....	0	0	Cloudy	
Kittyhawk, North Carolina	30.40	772.1	30.43	772.9	34	1.1	70	N	7	3.1	.....	2k	0	N	.....	0	0	Fair	
Knoxville, Tennessee	29.37	746.0	30.47	773.9	20	— 6.7	93	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
La Crosse, Wisconsin	29.05	737.9	29.82	757.4	22	— 5.6	72	S	1	0.4	.....	5k	0	Calm	.....	0	0	Fair	
La Mesilla, New Mexico	26.17	664.7	30.32	770.1	27	— 2.8	53	Calm	0	0	.....	2c	1s	Calm	Calm	0	0	Fair	
Laredo, Texas	29.87	758.7	30.24	768.1	29	— 1.7	89	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.06	738.1	29.93	760.2	32	0.0	59	S	10	4.5	.....	5ck	5s	W	Calm	0	0	Cloudy	
Lewiston, Idaho	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Little Rock, Arkansas	29.95	760.7	30.34	770.6	26	— 3.3	88	Calm	0	0	.....	5ck	0	NW	.....	0	0	Fair	
Los Angeles, California	29.57	751.1	29.91	759.7	51.5	10.8	66	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Louisville, Kentucky	29.70	754.4	30.30	769.6	26	— 3.3	75	S	8	3.6	.....	2c	0	Calm	.....	Inap.	Inap.	Clear	
Lynchburg, Virginia	29.71	754.6	30.46	773.7	21	— 6.1	71	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Madison, Wisconsin	28.80	731.5	29.82	757.4	27	— 2.8	76	S	15	6.7	.....	5cs	0	Calm	.....	0	0	Fair	
Marquette, Michigan	29.07	738.4	29.83	757.7	6	—14.4	100	SW	12	5.4	.....	.....	10n	.....	Calm	0.26	6.6	Light snow	
Mason, Texas	28.50	723.9	30.37	771.4	32	0.0	50	SW	4	1.8	.....	1cs	0	W	.....	0	0	Clear	
Memphis, Tennessee	29.98	761.5	30.35	770.9	26	— 3.3	75	SE	8	3.6	.....	0	Sm'e	.....	.....	0	0	Clear	
Milwaukee, Wisconsin	29.11	739.4	29.87	758.7	27	— 2.8	88	SW	12	5.4	.....	0	5s	.....	Calm	0	0	Fair	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mobile, Alabama	30.35	770.9	30.39	771.9	30.5	— 0.8	73	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Montgomery, Alabama	30.16	766.1	30.42	772.7	27	— 2.8	77	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Morgantown, West Virginia	29.29	744.0	30.36	771.1	24	— 4.4	61	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Mt. Washington, N. H.	28.36	693.3	29.72	754.9	—16	—26.7	70	NW	48	21.5	.....	10k	2ks	Ca m	NW	0	0	Cloudy	
Nashville, Tennessee	29.82	757.4	30.40	772.1	26	— 3.3	75	Calm	0	0	.....	1cs	0	Calm	.....	0	0	Clear.	
New Haven, Connecticut	30.21	767.3	30.34	770.6	18	— 7.8	84	NW	4	1.8	.....	.....	10s	.....	N	0	0	Cloudy	
New London, Connecticut	30.29	769.4	30.35	770.9	12	—11.1	61	NW	2	0.9	.....	.....	9s	.....	Calm	0	0	Cloudy	
New Orleans, Louisiana	30.31	769.9	30.38	771.6	38	3.3	54	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Newport, Rhode Island	30.25	768.3	30.31	769.9	20	— 6.7	70	W	14	6.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
New River, North Carolina	.....	.....	.....	.....	25	— 3.9	60	N	.....	.....	4	0	2s	.....	Calm	.....	.....	Fair	
New York, New York	30.18	766.6	30.38	771.6	13	—10.6	81	NW	3	1.3	.....	10cs	0	Calm	.....	0	0	Cloudy	
Norfolk, Virginia	30.39	771.9	30.46	773.7	30	— 1.1	47	E	5	2.2	.....	0	0	.....	.....	0	0	Clear	
North Platte, Nebraska	26.83	681.5	29.52	749.8	19	— 7.2	77	NW	8	3.6	.....	5c	0	W	.....	0	0	Fair	
Olympia, Washington Ter.	29.52	749.8	29.56	750.8	39.0	3.9	91	S	7	3.1	.....	2ck	8n	S	S	0.49	12.4	Light rain	
Omaha, Nebraska	28.65	727.7	29.78	756.4	28	— 2.2	77	S	7	3.1	.....	0	0	.....	.....	0	0	Clear.	
Oswego, New York	29.84	757.9	30.19	766.8	18	— 7.8	68	S	11	4.9	.....	2c	5s	Calm	Calm	0.98	24.9	Fair	
Pembina, Dakota	28.98	736.1	29.94	760.5	—16	—26.7	100	N	4	1.8	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Pensacola, Florida	30.38	771.6	30.42	772.7	29	— 1.7	67	N	6	2.7	.....	Haze	0	Calm	.....	0	0	Clear	
Philadelphia, Pennsylvania	30.35	770.9	30.41	772.4	15	— 9.4	48	W	10	4.5	.....	0	2ks	.....	Calm	0	0	Fair	
Phœnix, Arizona	28.80	731.5	30.03	778.0	47	8.3	55	N	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Pike's Peak, Colorado	17.57	446.3	29.78	756.4	10	—12.2	58	SW	54	24.1	.....	2cs	0	Calm	.....	0	0	Clear	
Pilot Point, Texas	29.30	744.2	30.18	766.6	31	— 0.6	68	S	.....	.....	.....	0	0	.....	.....	0	0	Clear.	
Pioche, Nevada	.....	.....	.....	.....	30	— 1.1	47	S	7	3.1	.....	10c	0	Calm	.....	0	0	Cloudy	
Pittsburg, Pennsylvania	29.45	748.0	30.34	770.6	14	—10.0	82	SW	12	5.4	.....	.....	10s	.....	W	0	0	Cloudy	
Port Huron, Michigan	29.30	744.2	30.00	762.0	19	— 7.2	85	SW	22	9.8	.....	10cs	0	Calm	.....	0	0	Cloudy	
Portland, Maine	30.17	766.3	30.22	767.6	13	—10.6	62	W	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Portland, Oregon	29.61	752.1	29.69	754.1	39.5	4.2	91	S	8	3.6	.....	.....	10n	.....	S	0.17	4.3	Light rain	
Portsmouth, North Carolina	.....	.....	.....	.....	36	2.2	61	N	15	6.7	.....	1cs	0	Calm	.....	0	0	Clear.	
Prescott, Arizona	24.72	627.9	30.08	764.0	38	3.3	81	W	.....	.....	1	.....	10s	.....	W	Inap.	Inap.	Cloudy	
Punta Rassa, Florida	30.18	766.6	30.19	766.8	57	13.9	69	N	11	4.9	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Red Bluff, California	29.61	752 1	29.98	761.5	38	3.3	81	Calm	0	0	.....	.....	10ks	.....	W	0	0	Cloudy	
Rio Grande City, Texas	30.00	762.5	30.29	769.4	32	0.0	69	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Rochester, New York	29.48	748.8	30.15	765.8	13	—10.6	62	SW	11	4.9	.....	.....	10s	.....	SW	0	0	Cloudy	
Roseburg, Oregon	29.21	741.9	29.79	756.7	36	2.2	90	Calm	0	0	.....	.....	10n	.....	SW	0.11	2.8	Light rain	
Sacramento, California	29.89	759.2	29.97	761.2	30	— 1.1	89	NE	4	1.8	.....	.....	10s	.....	W	0	0	Cloudy	
St. Louis, Missouri	29.54	750.3	30.14	765.5	29	— 1.7	89	S	14	6.3	.....	.....	10s	.....	.....	0	0	Cloudy	
St. Paul, Minnesota	28.92	734.6	29.80	756.9	10	—12.2	79	SE	1	0.4	.....	.....	Sm'e	.....	SE	0	0	Smoky	
Salt Lake City, Utah	25.55	649.0	29.88	758.9	9	—12.8	57	Calm	0	0	.....	5c	0	W	.....	0	0	Fair	
San Antonio, Texas	29.56	750.8	30.19	766.8	30	— 1.1	57	N	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
San Diego, California	29.87	758.7	29.94	760.5	55	12.8	68	SE	5	2.2	.....	5c	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.40	746.7	30.11	764.8	22	— 5.6	72	SW	28	12.5	.....	.....	2s	NW	Calm	0	0	Fair	
Sandy Hook, New Jersey	30.34	770.6	30.37	771.4	14	—10.0	82	W	14	6.3	.....	10cs	0	NW	.....	0	0	Cloudy	
San Francisco, California	29.89	759.2	29.95	760.7	39	3.9	82	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Santa Fé, New Mexico	23.30	591.8	29.84	757.9	13	—10.6	44	N	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.27	768.8	30.37	771.4	34	1.1	61	N	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Shreveport, Louisiana	30.07	763.8	30.30	769.6	28	— 2.2	66	S	5	2.2	.....	0	0	.....	.....	0	0	Clear.	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.38	771.6	30.42	772.7	27	— 2.8	76	N	10	4.5	.....	1k	0	Calm	.....	0	0	Clear.	
Socorro, New Mexico	25.50	647.7	29.56	750.8	26	— 3.3	52	N	1	0.4	.....	0	5s	.....	Calm	0	0	Fair	
Springfield, Illinois	29.39	746.5	30.10	764.5	27	— 2.8	76	S	11	4.9	.....	1c	1s	W	W	0	0	Clear.	
Springfield, Massachusetts	30.17	766.3	30.32	770.1	18	—10.6	62	S	2	0.9	.....	.....	10s	.....	Calm	0	0	Threatening	
Stockton, Texas	27.12	688.8	30.12	765.0	32	0.0	30	SE	7	3.1	.....	0	0	.....	.....	0	0	Clear.	
Thatcher's Island, Mass.	30.20	767.1	30.25	768.3	14	—10.0	64	W	10	4.5	.....	.....	10s	.....	NW	0.01	0.3	Cloudy	
Toledo, Ohio	29.34	745.2	30.07	763.8	20	— 6.7	70	S	20	8.9	.....	5cs	0	W	.....	0	0	Fair	
Tucson, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon	29.24	742.7	29.76	755.9	19.0	— 7.2	92	W	2	0.9	.....	.....	10s	.....	W	Inap.	Inap.	Cloudy	
Uvalde, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Vicksburg, Mississippi	30.09	764.3	30.38	771.6	27	— 2.8	76	SE	7	3.1	.....	0	0	.....	.....	0	0	Clear.	
Virginia City, Montana	28.92	607.6	29.40	746.7	26	— 3.3	75	Calm	0	0	.....	5cs	0	Calm	.....	0	0	Fair	
Visalia, California	29.56	750.8	29.94	760.5	38	3.3	81	NE	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Washington, D. C.	30.34	770.6	30.46	773.7	15	— 9.4	65	S	4	1.8	.....	1c	0	.....	.....	0	0	Clear.	
Wickenburg, Arizona	.....	.....	.....	.....	41	5.0	74	W	.....	.....	1	.....	10s	.....	NW	Inap.	Inap.	Cloudy	
Wilmington, North Carolina	30.30	771.1	30.44	773.2	27	— 2.8	53	N	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Winnemucca, Nevada	25.48	647.2	29.84	757.9	20	— 6.7	70	SW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Wood's Holl, Massachusetts	30.26	768.6	30.30	769.6	21	— 6.1	71	N	16	7.2	.....	.....	10s	.....	.....	0	0	Cloudy	
Yankton, Dakota	28.45	722.6	29.80	756.9	23	— 5.0	73	NW	3	1.3	.....	5c	0	W	.....	0	0	Fair	
Yuma, Arizona	29.88	758.9	30.04	763.0	45	7.2	53	N	8	3.6	.....	.....	10s	.....	N	0	0	Cloudy	
SUB-SERIES.																			
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	30.05	763.3	30.10	764.5	73	22.8	76	N	6.0	2.7	.....	0	8ks	.....	N	0.02	0.5	Cloudy	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.13	765.3	30.14	765.5	73	22.8	86	Calm	0	0	.....	.....	2cs	.....	.....	.....	.....	Fair	James Gall.
Navassa, W. I.	29.95	760.7	30.03	762.7	76	24.4	73	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.00	762.0	30.00	762.0	79	26.1	82	NE	.....	.....	3	3c	5k	NE	.....	0.010	0.25	Fair	C. J. Hering.
Santiago de Cuba, W. I.	30.05	763.3	30.08	764.0	73	22.8	81	NNE	4.8	2.1	.....	0	0	.....	.....	Blank	Blank	.....	Robert Mason
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	30.13	765.3	30.19	766.8	—40.0	—40.0	.....	NE	16	7.2	.....	4k	3s	SE	NE	0.13	3.3	Cloudy	J. Fortescue & W. Wood
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,383 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,209 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,828 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,395.8 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm., Cheyenne, 5.04 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.33 in., or 110.7 mm.; Yirginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.34‡	770.6‡	.....	.....	30	-- 1.1	78	NNW	9	4.0	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Navy Yard, Portsmouth, N.H.	30.17‡	766.3‡	.....	.....	10	—12.2	79	WSW	2	0.9	.....	.....	0?	.....	.....	0	0	.....	.....	Overcast?...	
Adams, Mare I'd., Navy Yard, Cal.	30.07‡	763.8‡	.....	.....	40	4.4	100	SE	.....	.....	1	.....	8	.....	SE	.....	.....	.....	.....	Fair...	
Alaska, S. 18° 25′, W. 70° 25′.....	29.89‡	759.2‡	.....	.....	72	22.2	76	ESE	.....	.....	1	.....	0	.....	.....	.....	.....	Smooth	.....	Hazy.....	
Colorado, New York, . Y.....	30.32‡	770.1‡	.....	.....	14	—10.0	100	WSW	4	1.8	.....	.....	10	.....	.....	0	0	.....	.....	Cloudy.....	
Constitution, N. 14° 34′, W. 61° 06′.....	30.02‡	762.5‡	.....	.....	77	25.0	82	NE	.....	.....	5	.....	6	.....	NE	.....	.....	Smooth	NE	Pleasant.....	
Enterprise. Constantinople, Turkey	30.36‡	771.1‡	.....	.....	36	2.2	31	NNW	.....	.....	3	.....	10	.....	NW	.....	.....	Smooth	.....	Snowy	
Franklin, Off Navy Yard, Norfolk, Va.	30.47‡	773.9‡	.....	.....	29	— 1.7	89	ENE	3.6	1.6	.....	.....	2	.....	NW	0	0	.....	.....	Fair...	
Independence, Mare I'd, Navy Yard, Cal.	29.99‡	761.7‡	.....	.....	45	7.2	76	Calm	0	0	.....	.....	6	.....	NW	0	0	.....	.....	Cloudy?.....	
Kearsarge, Ruatan, Bay Islands, Honduras..	30.08‡	764.0‡	.....	.....	77	25.0	77	N	.....	.....	0-3	.....	2	.....	N	0	0	Smooth	.....	Fair	
Lackawana, Honolulu, Sandwich Id's†	30.03‡	762.7‡	.....	.....	72	22.2	85	NE	.....	.....	1-2	.....	5	.....	NE	.....	.....	Smooth	.....	Fair.....	
Marion, N. 31° 10′, W. 46° 35′...	30.27‡	768.8‡	.....	.....	68	20.0	74	SSE	.....	.....	2	.....	0	.....	.....	0	0	Long smooth	E	Clear.....	
Michigan, Erie, Pa.....	30.19‡	766.8‡	.....	.....	18	— 7.8	53	SW	.....	.....	4	.....	5	.....	SW	.....	.....	.....	.....	Fair.....	
Monocacy, Shanghai, China..	29.85‡	759.2‡	.....	.....	57	13.9	87	W	.....	.....	0-1	.....	0	.....	.....	.....	.....	.....	.....	Misty.....	
New Hampshire, Port Royal, S. C.....	30.35‡	770.4‡	.....	.....	37	2.8	74	NE	20	8.9	.....	.....	1	.....	.....	0	0	.....	.....	Clear.	
Nipsic, Norfolk, Va.....	30.46‡	773.7‡	.....	.....	31	-- 0.6	74	ENE	.....	.....	2	.....	2	.....	.....	.....	.....	.....	.....	D. clouds.....	
Onward, Callao, Peru ....†.	29.91‡	759.7‡	.....	.....	66	18.9	89	SSW	.....	.....	1	.....	8	.....	.....	.....	.....	Mod'ate smooth	W	Hazy.....	
Palos, Tientsin, China.	30.21‡	767.3‡	.....	.....	34	1.1	61	NNW	.....	.....	3-4	.....	2	.....	.....	.....	.....	.....	.....	Squally.....	
Passaic, Washington, D. C.....	30.46‡	773.7‡	.....	.....	16	— 8.9	83	SE	.....	.....	2	.....	2	.....	.....	.....	.....	.....	.....	Clear.	
Pensacola, Callao, Peru	29.91‡	759.7‡	.....	.....	66	18.9	94	SSE	.....	.....	0	.....	10	.....	.....	.....	.....	Smooth	.....	Hazy.....	
Powhatan, Navy Yard, Brooklyn, N.Y.	30.36‡	771.1‡	.....	.....	19	— 7.2	100	NW	.....	.....	3	.....	10	.....	Calm	0	0	.....	.....	Overcast	
Quinnebaug, Villafranca, France.... .	30.42‡	772.7‡	.....	.....	55	12.8	68	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Ranger, Honolulu, Sandwich Ids..	30.03‡	762.7‡	.....	.....	74	23.3	100	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Richmond, Manila, Philippine Ids..	29.94‡	760.5‡	.....	.....	80	26.7	70	ENE	.....	.....	1	.....	0	.....	.....	.....	.....	Smooth	.....	Clear	
Rio Bravo, Brownsville, Texas... †.	30.46‡	773.7‡	.....	.....	37	2.8	91	NE	2	0.9	.....	.....	0	.....	.....	0	0	.....	.....	Clear.	
Santee. Annapolis, Md	30.43‡	772.9‡	.....	.....	17	— 8.3	.....	SW	.....	.....	2	.....	2	.....	.....	0	0	.....	.....	Clear.	
Shenandoah, Montivideo, Uruguay. ..	29.83‡	757.7‡	.....	.....	70	21.1	57	NNW	.....	.....	4	.....	2	.....	NNW	.....	.....	Mod ate	NNW	Fair.....	
St. Louis, League Island, Pa.....	30.40‡	772.1‡	.....	.....	15	— 9.4	.....	W	7	3.1	.....	.....	5	.....	W	0	0	.....	.....	Fair.....	
Tennessee, Navy Yard, Brooklyn, N.Y.	30.37‡	771.4‡	.....	.....	14	—10.0	100	W	.....	.....	1	.....	10	.....	Calm	.....	.....	.....	.....	Cloudy.....	
Tuscarora. San José, Gautemala....	29.85‡	758.2‡	.....	.....	77	25.0	82	N	.....	.....	2	.....	2	.....	Calm	0	0	Smooth	.....	Clear	
Vandalia. Navy Yard, Brooklyn, N.Y	30.35‡	770.9‡	.....	.....	12	—11.1	80	W	.....	.....	2	.....	10	.....	W	.....	.....	.....	.....	Cloudy.....	
Wabash, Boston, Mass.....	30.25‡	768.3‡	.....	.....	13	—10.6	81	W	9	4.0	.....	.....	8	.....	.....	0	0	.....	.....	Cloudy.....	
Wachusett, S. 32°, W. 49°.. ... . †.	30.43‡	772.9‡	.....	.....	70	21.1	95	S	.....	.....	2	.....	2	.....	.....	.....	.....	Mod ate	S	Fair.....	
Wyoming, Villafranca, France	30.43‡	772.9‡	.....	.....	60	15.6	65	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	Smooth	.....	Clear.	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	OBSERVER
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		Character.	Direction from—		
S. S. Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitebury.
S. S. Costa Rica																			W. House & R. Lawless.
S. S. Dakota, Capt. H. G. Morse																			Capt. Connolly.
S. S. Georgia																			F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin																			Capt. A. Fuller.
S. S. Wilmington																			R. C. Ghest, 1st Officer.
S. S. Zealandia, Sydney, N. S. W.		29.40‡	746 7‡				S			0				SE				Fine	

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The orginals give the barometer as read off; wind-force by the scale 0 to to 12; for the Brittanic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer, N. 41° 09′, W. 144° 25′		30.22‡	767.6‡	55	12.8	74	NW			3		8		NNW		Light	NW	D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson N. 35° 48′, E. 148° 09′		29.48‡	748.8‡	55	12.8		N			9		d		N	Heavy	High	N	Showery	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES

Furnished by the co-operation of A. Schumacher & Co., Agents

S. S. Baltimore																			Capt. H. Andreasen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undutsch.
S. S. Leipzig, Capt. F. Pfeiffer, N. 40° 23′, W. 25° 21′		29.55‡	750.6‡	56.5	13.6	94	W			4		10		W	9 hours	Long	wsw; w	Drizzling	S. Risids, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 47° 08′, W. 34° 55′		29.67‡	753.6‡				NW			4		10		W		cross	NW; W	Light rain	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 39° 56′, W. 68° 54′		30.49‡	774.4‡	37	2.8		N			5		4		N	0	Mod'ate	N	Clear	Capt. R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.
RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents.																			
S. S. Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland, N. 51° 22′, E. 8° 10′†		30.45‡	773.4‡	25	— 3.9		ESE	2	0.9			Fog				Smooth		Dense fog	Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian, N. 50° 16′, W. 38° 57′		29.61‡	752.1‡	37	2.8		WSW			6		8		WSW		Cross	NE; WSW	Cloudy	J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES—Miscellaneous.																			
Furnished by the co-operation of the Observers named.																			
Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Barkentine "Carrie Heckle" N. 3° 45′, W. 28° 58′		29.79‡	756.7‡	82	27.8		SSE			2		5		SSE	0	Smooth	N	Clearing	B. F. Woodbury.
Brigantine "George" of Halifax																			N. B. Foss.
Schooner Harry and Fred																			Capt. George Gardner.
Haytian																			
§ Iron Cross																			Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; do not distinguish between upper and lower clouds; sea-swell in general terms, as published. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12. *The error of the barometer is not known. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time. *Instrumental error not known.

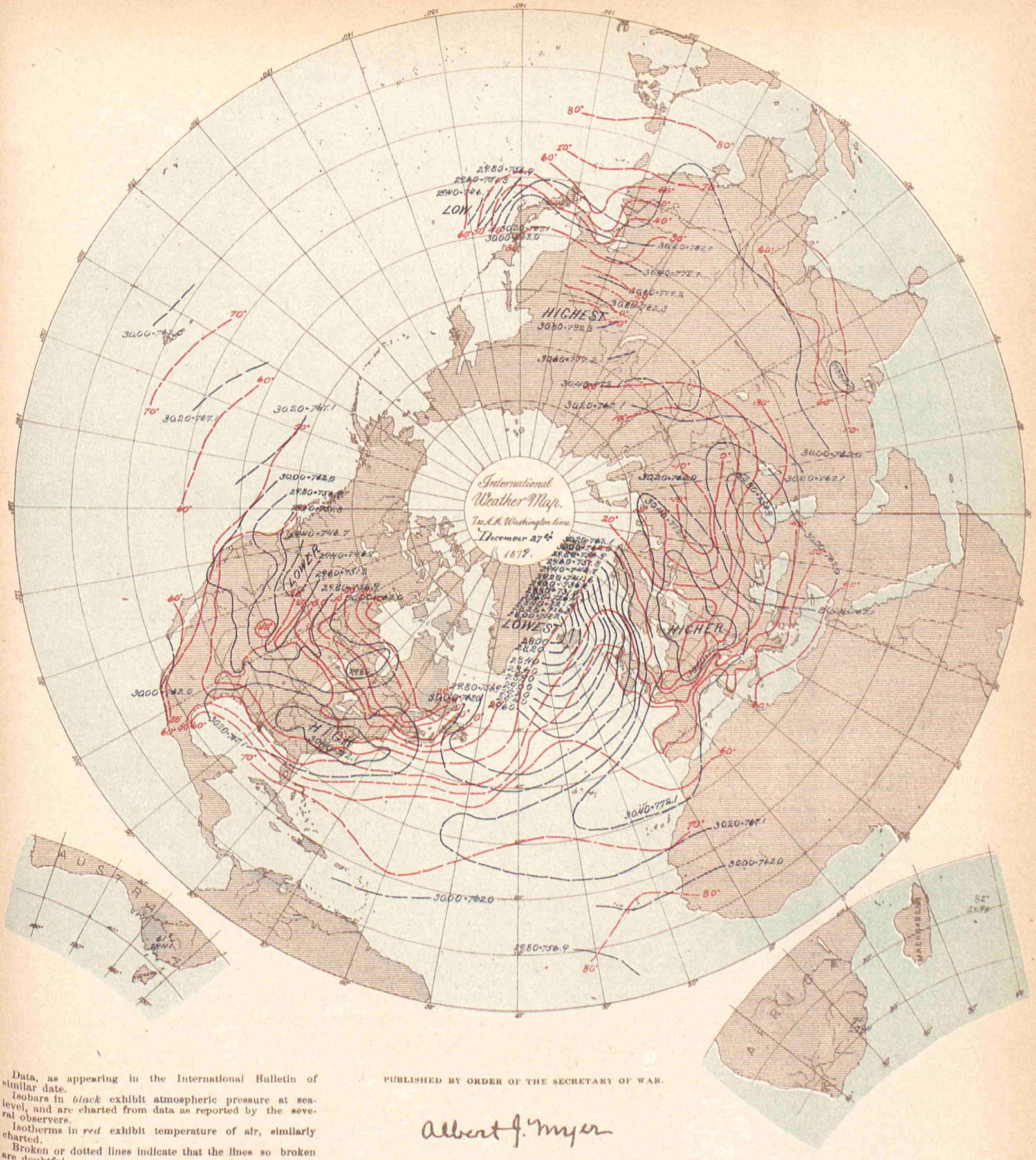
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 28, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time
1:57 P. M. CAPE TOWN, C. G. H. mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:30 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.41	772.5	59.0	15.0	75	NE	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	
Nemours	.....	.....	30.45	773.3	59.9	15.5	89	ENE	.....	.....	4	.....	8	.....	.....	0	0	Very cloudy	Kesxuche.
Algiers	.....	.....	30.60	777.3	54.3	12.4	72	NE	.....	.....	2	.....	0	.....	.....	0	0	Clear.	Tourillere.
La Calle	.....	.....	30.61	777 4	57.0	13.9	76	WSW	.....	.....	1	.....	8	.....	.....	0	0	Very cloudy	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques
Sfax	.....	.....	30.61	777.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Herbin.
Tebessa	.....	.....	30.61	777.5	41.7	5.4	75	SSE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Watrin.
Geriville	.....	.....	.....	.....	43.3	6.3	44	Calm	.....	.....	0	.....	0	.....	.....	0	0	Clear.	Brugniuax.
Laghouat	.....	.....	30.65	778.4	47.1	8.4	59	NE	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	Bertrand.
Biskra	.....	.....	30.62	777.8	56.4	13.0	48	NW	.....	.....	1	.....	2	.....	.....	0	0	Fair	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount of cloudiness by the scale 0–4; no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	30.15	765.9	30.77	781.6	13.1	—10.5	93	W	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. Ivan Stoxir.
Cracow, I. R. Observatory	29.84	757.8	30.70	779.8	5.2	—14.9	100	NE	0	0	.....	.....	2	.....	.....	0	0	.....	Dr. Wierzbicki.
Eperies	29.87	758.6	30.64	778.3	15.4	— 9.2	75	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	Julius Mikolik.
Gratz	29.33	744.9	30.70	779.8	18.7	— 7.4	69	S	.....	.....	2	.....	0	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	29.11	739.5	30.71	780.0	13.8	—10.1	94	NW	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	29.21	741.8	30.72	780.3	8.1	—13.3	92	Calm	.....	.....	0	.....	5	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	29.56	750.8	30.69	779.4	3.7	—15.7	95	NW	.....	.....	1	.....	6	.....	.....	0.004	0.1	.....	Dr. T. Stanecki.
Pola	30.52	775.1	30.68	778.1	39.9	4.4	32	WNW	.....	.....	1	.....	0	.....	.....	0	0	.....	I.R.Hydrographic Office
Szathmar	30.23	767.7	30.76	781.2	2.1	—16.6	80	E	.....	.....	1	.....	0	.....	.....	0	0	.....	Pet. Pancsics, S. J.
Szegedin	30.43	772.9	30.74	780.8	13.6	—10.2	.....	S	.....	.....	2	.....	0	.....	.....	0	0	.....	Karl Stancel.
Trieste	30.56	776.2	30.66	778.8	38.7	3.7	43	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	P. Busin.
Vienna	29.91	759.8	30.68	779.3	8.6	—13.0	100	Calm	.....	.....	0	.....	8	.....	.....	0.012	0.3	.....	I.R.Central Met. Ob'sy.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

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BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.50	749.3	29.60	751.8	41.0	5.0	.....	S	10	4.5	.....	.....	9	.....	.....	0.110	2.79	Overcast.....	W. Boswell.
Ardrossan	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Wm.McNeil & G.Carrick
Armagh, (Observatory)	29.35	745.5	29.57	751.1	47.1	8.4	.....	S	22	9.8	.....	.....	10	.....	.....	.....	.....	.....	S. Call.
Bidston (Liverpool Obs)	.....	.....	29.82	757.4	51.1	10.6	.....	SSW	15	6.7	.....	.....	10	.....	.....	.....	.....	Overcast.....	John Hartnup.
Bolton (Sharples)	29.28	743.7	29.80	756.9	48.2	9.0	.....	WSW	6	2.7	.....	.....	10	.....	.....	.....	.....	Overcast.....	Thomas Mackereth.
Bradford, Yorkshire	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.27	6.9	.....	J McLandsborough.
Bridgetown, Barbadoes	29.96	761.0	29.99	761.7	80	26.7	.....	SE	.....	.....	3	.....	2	.....	.....	.....	.....	D. clouds.....	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	29.90	759.4	30.00	762.0	49.0	9.4	.....	S	.....	.....	2	.....	10	.....	.....	Blan	Blank	Overcast.....	H. Todd.
Cardington	.....	.....	29.96	761.0	51.0	10.6	.....	SW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	John McLaren.
Chatham (School M. E.)	30.01	762.2	30.14	765.5	47.1	8.4	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Showery.....	J. Carmell, Sapper, R.E.
Donaghadee	29.60	751.8	29.64	752.8	47	8.3	.....	SW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	J. Mac Gowan.
Dover	30.12	765.0	30.15	765.8	43	6.1	.....	ENE	.....	.....	6	.....	10	.....	.....	.....	.....	Drizzling.....	J. Costello.
Falmouth (Observatory)	29.88	758.9	30.12	765.0	52.4	11.3	.....	SSW	.....	.....	6	.....	10	.....	.....	.....	.....	Raining	The Staff.
Fort Napier, Natal	27.56	700.0	29.77	756.1	85.0	29.4	.....	NE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Galway (Queen's College)	.....	.....	29.49	749.0	53.5	11 9	.....	SW	.....	.....	8	.....	10	.....	.....	.....	.....	Drizzling.....	Prof. A. H. Curtis.
Gibraltar, Mediterranean	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Sergt.Wm. Allen, A. H.
Glasgow, (Observatory)	30.39	771.9	30.59	777.0	44.7	7.1	.....	S	.....	.....	6	.....	10k	.....	.....	.....	.....	Gloomy	D. G. Maclean. [C.
Great Yarmouth	29.99	761.7	30.00	762.0	46	7.8	.....	SW	.....	.....	4	.....	8	.....	.....	.....	.....	Misty.....	G. T. Watson.
Greenwich (Royal Obs'y)	29.91	759.7	30.09	764.3	48.0	8.9	.....	SSW	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast.....	The Staff, for G.B.Airy.
Guernsey	30.01	762.2	30.24	768.1	51	10.6	.....	SSW	.....	.....	5	.....	10	.....	.....	.....	.....	Drizzling.....	Dr.S.E Hoskins, F.R.S.
Helston	30.23	767.8	30.35	770.9	52	11.1	.....	S	.....	.....	6	.....	10n	.....	.....	0.39	9.9	Misty.....	M. P. Moyle.
Holyhead	29.69	754.1	29.74	755.4	50	10.0	.....	SSW	.....	.....	5	.....	10	.....	.....	.....	.....	Misty.....	John Tilston.
Jersey	30.01	762.2	30.32	770.1	46.4	8.0	.....	S	.....	.....	6	.....	10	.....	.....	.....	.....	Misty.....	J. Fisher.
Kew (Observatory)	29.94	760.5	29.98	761.5	50.3	10.2	.....	SW	27	12.1	.....	.....	10	.....	.....	.....	.....	Drizzling.....	The Met'g'l Office.
Leicester (Museum)	29.67	753.6	29.93	760.2	52.2	11.2	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	30.45	773.4	30.53	775.4	54.8	12.7	.....	NE	.....	.....	3	.....	4k	.....	.....	.....	.....	D. clouds.....	A. King.
Nairn	29.40	746.7	29.50	749.3	42	5.6	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Overcast.....	W. D. Penny.
Nassau, Bahamas	.....	.....	30.19	766.8	74.0	23.3	.....	E	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds.....	C. S. Duncombe.
Nottingham (Observatory)	29.71	754.6	29.90	759.4	52.8	11.6	.....	SSW	.....	.....	4	.....	10kd	.....	SW	0.084	2.13	Overcast.....	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.37	746.0	29.90	759.4	51.9	11.1	.....	SSW	.....	.....	6	.....	10	.....	.....	.....	.....	Overcast.....	Rev.Stephen J.Whitty.
Oxford (Radcliffe Obs'y)	.....	.....	30.03	762.7	52	11.1	.....	SW	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast.....	H. E. Bellamy.
Plymouth	30.04	763.0	30.11	764.8	51.8	11.0	.....	SW	.....	.....	5	.....	10	.....	.....	.....	.....	Raining	John Merrifield.
*Roche's Point	29.77	756.1	29.87	758.7	51	10.6	.....	SW	.....	.....	6	.....	10	.....	.....	.....	.....	Raining	Wm. Kennedy.
St. Ann's Head	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John C. Walker.
Sandwick Manse, Orkneys	.....	.....	29.42	747.3	43	6.1	.....	SW	24	10.7	.....	.....	10	.....	.....	.....	.....	Showery.....	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	30.41	772.4	30.48	774.2	25.4	— 3.7	.....	NNW	.....	.....	4	.....	5	.....	.....	Blank	Blank	D. clouds.....	Serg't W. H. L ne.
Sheffield	29.61	752.1	29.89	759.2	51 3	10.7	.....	SW	.....	.....	2	.....	10	.....	.....	0.05	1.3	Overcast.....	W. F. Cooper.
Silloth Rectory	29.89	759.2	29.92	760.0	48.9	9.4	81	SW	.....	.....	5	.....	10	.....	.....	0.070	1.78	D. clouds.....	Francis Redford, A. M.
Stonyhurst (Observatory)	.....	.....	29.80	756.9	47.5	8.6	.....	SSW	9	4.0	.....	.....	10	.....	.....	.....	.....	Overcast.....	Rev. S. J. Perry.
Stratfield, Turgiss	.....	.....	.....	.....	51.3	10.7	.....	SW	.....	.....	4	.....	10	.....	.....	.....	.....	Raining	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	30.07	763.8	30.13	765.3	54	12.2	.....	SW	.....	.....	6	.....	10	.....	.....	.....	.....	Raining	W. Newcombe.
Valencia Observatory)	29.69	754.1	29.71	754.6	53.9	12.2	.....	SSW	52	23.2	.....	.....	10	.....	.....	.....	.....	Raining	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet
Constable, Cape Colony	26.72	678.7	.....	.....	49	9.4	.....	W	.....	.....	.....	.....	5	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Hobart Town, Tasmania	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Leith(RestalrigPark)Sc'tl'd	.....	.....	29.63	752.6	45.8	7.7	.....	SW	.....	.....	4	.....	10s	.....	.....	0.08	2.0	Overcast.....	C. Meldrum.
Mauritius (Observatory)	29.76	755.9	29.94	760 6	78.9	26.1	75	NNE	7.5	3.4	.....	8	2	.....	.....	0.62	15.8	Overcast.....	R. L. J. Ellery.
Melbourne (Observatory)	29.73	755.1	29.82	757.4	65.2	12.9	70	SW	25	12.5	.....	.....	9	.....	.....	0.84	21.3	Showery.....	J. Youngclause.
Monach Lt-house, Hebrides	.....	.....	.....	.....	43	6.1	.....	SW	.....	.....	7	.....	10	.....	.....	0.6	15.	.....	.....
North Unst, Shetland Is	.....	.....	29.23	742.4	.....	.....	.....	W	.....	.....	8	4	8	WNW	.....	0	0	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown.

BRITISH MARINE SERIES. VESSELS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. Alert, Wide Bay, Patagonia	.....	.....	29.80‡	756.9‡	52	11.1	.....	WNW	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast.....	Capt.J.P. Maclear, R.N.
H. M. Sloop Gannet, S. 18° 28′, W. 70° 21′	.....	.....	29.92‡	760.0‡	68	20.0	.....	SSW	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds.....	Commander E. Bourke, R. N.
H. M. S. Magpie, House Island, near Shanghai, China	.....	.....	30.30‡	769.6‡	38.5	3.6	.....	NNW	.....	.....	7	.....	7	.....	.....	.....	.....	Misty.....	Capt. R. H. Napier, R.N.
Barque Belle-Isle, N. 40° 25′, W. 40° 35′	.....	.....	30.54	775.7	54	12.2	.....	NNW	.....	.....	5	.....	6	.....	.....	5	WNW;SW	D. clouds.....	Capt. A. J. Brown
City of Cashmere, S. 28° 46′, W. 132° 57′	.....	.....	30.07‡	763.8‡	73.3	22.9	.....	SE	.....	.....	5	.....	3	.....	.....	.....	.....	D. clouds.....	Capt. W. M. Grieve.
Barque Commewyne, N. 11° 30′, W. 57° 15′	.....	.....	29.96‡	761.0‡	79.2	26.2	.....	ENE	.....	.....	5	.....	10	.....	.....	.....	.....	Overcast.....	Capt. Jas. Buchan.
Barque Fedalma, N. 34° 05′, W. 59° 30′	.....	.....	30.33	770.4	65	18.3	.....	Calm	.....	.....	0	.....	3	.....	S	4	NE;SW	D. clouds.....	Capt. H. L. Fox.
S. S. German, N. 11° 47′, W. 17° 35′	.....	.....	29.92‡	760.0‡	76	24.4	.....	ENE	.....	.....	5	.....	1	.....	.....	.....	.....	Blue sky.....	Capt. O. D. Coxwell.
Iron Cross, N. 47° 05′, W. 31° 35′	.....	.....	30.10	764.5	48	8.9	.....	WNW	.....	.....	9	.....	6	.....	.....	9	WNW	Showery.....	Capt. W. Randall.
S. S. Peruvian, N. 44° 50′, W. 59° 35′	.....	.....	30.37	771.4	28	— 2.2	.....	WNW	.....	.....	4	.....	4	.....	WNW	4	N	D. clouds.....	Capt. W. H. Smith.
S. S. Strathleven, S. 4° 35′, E. 73° 45′	.....	.....	29.76‡	755.9‡	79.5	26.4	.....	WNW	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds	Capt. C. W. Pearson.
S. S. Sunbeam, N. 43° 00′, W. 47° 15′	.....	.....	30.58	776.7	37	2.8	.....	NNW	.....	.....	2	.....	0	.....	.....	4	NNW	Blue sky.....	Capt. C. M. Dobson.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrumental error and temperature. Inches.	Corrected for instrumental error and temperature. Millimeters.	Reduced to sea-level. Inches.	Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. L'w'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
San José	26.21	665.7	29.93	760 2	62.2	16.8	70	SE			5		1s			0	0		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.93	760.3	29 98	761.5	30.6	— 0.8	94	SSW			6		10						
Fanöe	30.30	769.5	30.32	770.0	36.9	2.7	100	WSW			4		10						
Godthaab (Greenland)																			
Stykkisholm (Iceland)	28.58	726.6	28.62	726.9	26.2	— 3.2	87	NE			7							Snowing	
Thorshavn (Faröe)	29.01	736.8	29.04	737.7	40.8	4.9	86	W			6		4						
Vestervig	29.67	753.7	29.78	756.5	37.9	3.3	97	SW			4		3						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.95	760.6	30.50	774.6	28.4	— 2	92	NE			1		10			0	0	Foggy	Collignon, Director.
Amiens, Normal School	30.12	765.0	30.24	768.1	36.0	2.2	85	S			1		10		Calm	0	0	Covered	Vaillant, Director.
Arras, Engin'r School	30.03	762.8	30.31	769.8	32.5	0.3		SW			4					0	0		Klein, Commandant.
Avignon, Normal School	30.59	777.0	30.67	779.0	39.9	4.4	32	NE			1		0			0	0	Clear	Giraud, Director.
Bar-sur-Seine	29.99	761.7	30.60	777.1	25.2	— 3.8		S			1		10			0	0	Covered	C. Saillard, Director.
Beauvais, Normal School	30.15	765.9	30.44	773.2	34.3	1.3	74	S			1		10		W	0	0	Covered	Frère Eugene Marie.
Besançon, Normal School	29.68	762.6	30.09	777.2	23.2	— 4.9		S			1		2		NE	0	0	Slightly cl'dy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.77	756.2	30.69	779.5	27.3	— 2.6	92	S			1	5c				0	0	Cloudy	Marlot, Diretor.
Bourges, Normal School	30.72	762.6	30.63	778.0	23.0	— 5	92	N			3		2cs		N	0	0	Slightly cl'dy	M. Gence, Director.
Brest, Naval Observatory	30.08	764.0	30.32	770.2	52.2	11.2	93	SW			3		10		SW	0.039	1.00	Misty	Ch. de Kermaree, Dir.
Caen, Normal School	30.25	768.4	30.33	770.4	39.6	4.2	85	SSE			2				SW	0	0		M. Bietrin, Director.
Carcassonne, N. School	30.15	765.7	30.58	776.7	42.4	5.8	44	SW			1		2		NE	0	0	Slightly cl'dy	September, Director.
Châlons-sur-Marne, N. Sch'l	30.17	766 3	30.51	775.0	32.0	0.0		SE			1		8					Very cloudy	Jadot, Director.
Chartres, Normal School	29.85	758.2	30.46	773.7	29.8	— 1.2	73	SSE			1		10			0	0	Covered	Vergier, Director.
Clermont-Fd, Puy de D. Obs	29.17	741.0	30.60	777.2	39.9	4.4	40	W			1		0			0	0	Foggy	Alluard, Director.
Commercy, Normal School	29.67	753.5	30.61	777.4	21.9	— 5.6		E			1		5n		E	0	0	Cloudy	Dr. Coullet, Director.
Commune de Gréasque*	29.50	749.4	30.65	778.4	45.7	7.6	64	NE			1		5		NE	0	0		L. Kina, Director.
Grenoble, Normal School	29.91	759.7	30.76	781.2	21.6	— 5.8		E			1		0			0	0	Clear	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.35	770.9	30.58	776.6	36.0	2.2	96	SE			1		10			0	0	Covered	Mouillot, Director.
Le Mans, Normal School	30.19	766.8	30.52	776.2	32.0	0	93	S			2		5		W	0	0	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.68	753.9	30.65	778.6	29.3	— 1.5	72	NE			1		0			0	0	Foggy	A. Baudry, Director
Lorient, Naval Observatory	30.32	770.0	30.43	772.8	49.3	9.6	100	S			6		10			0	0	Covered	Lt. T. Carré, Director
Lyons Obs'y (Park Station)	30.02	762.5	30.69	779.6	22.1	— 5.5	100	ENE			1		0			0	0	Misty	Ch. André, Director
Mâcon, Normal School																			Galxin, Director.
Marseilles, Observatory	30.34	770.6	30.61	777.6	53.4	11.9	64	W			1		3		E	0	0		E. Stephan, Director.
Mirecourt, Normal School	29.47	748.5	30.60	777.1	23.0	— 5	80	N			1		k		N	0	0		Barbier, Director.
Mont-Louis	25.30	642.7	30.62	777.7	43.2	6.2	35	SW	7.4	3.3			3		W	0	0		M. Cave
Nice	30.60	777.1	30.63	777.9	53.1	11.7	56	NW			2		1	NW	NW	0	0	Clear	M. Boissière, Director.
Nismes, Normal School	30.43	772.8	30.63	778.0	46.9	8.3	54	NE			1		2		E	0	0	Slightly cl'dy	M. Boyer, Director.
Paris, Montsouris Obs'y	30.20	767.0			30.2	— 1.0	90	SSW			1		10			0	0		Marié Davy, Director.
Perpignan	30.54	775.7	30.65	778.5	45.1	7.3	54	SW	1.8	0.8			6		N				Dr. Fines.
Pic du Midi (Plantade) H. P.	22.91	582.0			39.2	4.0										NNE	0	0		Gen'l de Nansouty.
Pic du Midi (Summit) H. P.																			M. Baylac.
Privas, Normal School	29.53	750.1	30.67	779.1	33.8	1	81	N			1		0			0	0	Clear	M. Tallieu
Puy de Dome (Summ') Obs	25.58	649.8			44.2	6.8	55	W			2		2			0	0	¼ covered	Alluard, Director.
Rochefort, Naval Obs'y	30.56	776.3	30.60	777.1	41.9	5.5	82	E			1					0	0	Misty	Lt. E. Decante, Director
Rouen, Normal School	30.32	770.0	30.40	772.2	37.6	3.1	98	SSW			2		10			0	0	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.31	769.8	30.34	770.6	46.2	7.9	89	S			4		10	S	S	0.005	0.12	Covered	Lt. Hercouet, Director
Saint Maur (near Paris)	30.33	770.4	30.50	774.6	32.5	0.3	74	S			3		10		NNW	0	0	Solar halo	E. Renou, Director.
Tarbes, Normal School	29.43	747.6	30.58	776.6	55.4	18.	45	S			1		0			0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.92	760.0	30.66	778.7	54.2	1.2	81	E			1		0			0	0	Clear	M. Julier Mercadier.
Tours	30.33	770.4	30.53	775.4	33.8	1.0	87	SW			1		2	Calm	SW	0	0	¼ covered	Cousin-Marquet.
Versailles, Observatory	29.95	760.8	30.44	773.3	32.0	0.0	85	SW			1		10			0.005	0.13	Covered	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.87	758.8	30.65	778.4	30.2	1	96	E			1					0	0	Light mist	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.96	761.0	29.99	761.7	75.6	24.2										0.79	20.		L'Abbé Marchési
Zi-Ka-Wei (near Shanghai)	30.29	769.4	30.32	770.1	34.9	1.6	73	NNW	18.1	8.1		ck	10k	WSW	NNW	0.075	1.9	Covered	Marc Dechevrens.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second: the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:58 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Barometer. Corrected for instru-m'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity Miles per hour.	Wind. Velocity Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.68	753.8	30.54	775.7	10.0	—12.2	100	NE			4		5cs			0	0	Foggy	Prof. Dr. Hoh.
Berlin	30.12	765.0	30.30	769.7	27.0	— 2.8	61	S			2		8			0	0		Prof. Dr. Arndt.
Breslau	29.93	760.1	30.47	773.8	15.6	— 9.1	100	SE			2		8			0	0		Royal University Obs'y.
Carlsruhe	30.12	765.1	30.60	777.2	17.2	— 8.2	96	S			2		9	N		0	0		Albert Senz.
Cassel	29.77	756.2	30.39	771.8	19.4	— 7.0	90	SSW			5		8			0	0		Dr. H. Möhl.
Emden			30.08	763.9	33.4	0.8	90	WSW			5		10			0.134	3.4		Prof. Dr. Prestel
Frankfort on the Main	30.27	768.9	30.67	778.9	16.7	— 8.5	66	SW			1		10			0	0		Physical Society.
Friedrichshafen	29.15	740.5	30.73	780.5	17.6	— 8.0	77	ENE			2		10			0	0	Hazy	Chief Telegrapher Wilhelm.
Hamburg	30.08	764.0	30.15	765.8	35.2	1.8	67	SW			6		10			0.071	1.8		Capt. P. F. A. Hegerman.
Kiel	30.06	763.5	30.08	763.9	32.5	0.3	93	SSW			3		7			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.41	772.3	30.50	774.6	21.6	— 5.8	75	SW			7		2			0	0		Prof. E. Luther.
Köslin			30.28	769.0	20.7	— 6.3		S			4		4			0	0		H. Müller.
Leipsic Observatory	29.94	760.4	30.39	771.8	27.3	— 2.6	89	SW			3		9			0	0		Prof. Dr. Bruhns, Privy Councelo
Magdeburg	30.08	764.0	30.31	769.8	29.1	— 1.6	84	S			3		10ks	S		0	0		Dr. Assmann.
Memel	30.35	771.0	30.40	772.2	21.0	— 6.1	87	SSW			4		10ks						Reinbrecht & Issermann.
Munich (München)	28.68	728.4	30.58	776.6	17.1	— 8.3	84	S			2		9			0	0	Foggy	Dr. C. Lang.
Neufahrwasser	30.39	771.9	30.41	772.3	21.2	— 6.0	79	S			4		10			0	0		A. Lothes.
Neustadt (Palatinate)	30.00	762.1	30.54	775.7	18.5	— 7.5		E			1		7	E		0	0		Reallehrer Dicknether
Posen	30.11	764.9	30.43	773.0	19.2	— 7.1	85	S			2		10			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	30.05	763.3	30.37	778.9	15.8	— 9.0	91	SW			1		10			0.047	1.20		Imp. University Observatory.
Stuttgart	29.57	751.1	30.61	777.5	16.3	— 8.7	82	N			0		10			0.016	0.4		Prof. Dr. Schoder.
Weissenburg (Bavaria)	28.99	736.4	30.58	776.8	19.9	— 6.7	71	SE			1	9c		NW		0	0	Foggy	Reallehrer J. Hopfner
Wustrow	30.11	764.8	30.13	765.4	25.9	— 3.4	91	S			6		10s			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 481 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	30.12	765.1	30.54	775.6	36.9	2.7		NE			4.0		0					Clear.	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.98	761.5	30.03	762.8	73.3	22.9	39	SSE	20	8.9			0			0	0	Blue sky	
Deesa	29.53	750.1	30.02	762.4	71.6	22.0	36	N	8.4	3.8			0			0	0	Blue sky	
Bombay	29.90	759.6	29.94	760.5	73.5	23.1	84	NNW	16	7.2			0			0	0	Blue sky	
Poona (Yarrowda)	28.05	712.6	29.92	759.9	77.8	25.4	24	NW	11	4.9			0			0	0	Blue sky	
Belgaum	27.36	694.8	29.89	759.3	76.3	24.6	27	NE	3	1.3			0			0	0	Blue sky	
Lahore	29.30	744.3	30.09	764.4	54.7	12.6	68	NW	1.5	0.7			0			0	0	Blue sky	
Roorkee	29.10	739.2	30.06	763.4	54.2	12.3	94	NW	2.6	1.2			9			0.13	3.3	Gloomy	
Agra	29.46	748.2	30.05	763.2	59.8	15.4	79	W	7.3	3.3			0			0	0	Blue sky	
Nagpur	28.86	733.2	29.93	760.1	71.7	22.1	49	Calm	1.8	0.8			0			0	0	Blue sky	
Jubbulpore	28.55	725.2	29.95	760.8	68.5	20.3	55	W	4.4	2.0			4		W	0	0	Blue sky	
Lucknow	29.58	751.4	29.98	761.4	60.3	15.7	89	ENE	2.3	1.0			6	NE		0.16	4.1	D. clouds	
Allahabad	29.65	753.0	29.97	761.3	63.4	17.4	79	NNE	1.9	0.8			0			0	0	Blue sky	
Patna	29.76	755.8	29.95	760.6	69.1	20.6	68	N	1.3	0.6			4	NW	NW	0	0	D. clouds	
Hazaribagh	27.85	707.4	29.90	759.4	69.6	20.9	48	WNW	3.1	1.4			4			0	0	Overcast	
Cuttack	29.84	757.9	29.92	760.0	71.0	21.7	64	Calm	0.3	0.1			0			0	0	Blue sky	
Calcutta (Alipore)	29.89	759.2	29.91	759.8	66.2	19.0	79	Calm					0			0	0	Blue sky	
Goalpara	29.53	750.2	29.94	760.4	66.4	19.1	56	E	3	1.3			7	W		0	0	D. clouds	
Chittagong	29.84	757.8	29.93	760.2	67.4	19.7	77	Calm	1.3	0.6			0			0	0	Misty	
Sibsagar	29.63	752.5	29.98	761.4	61.9	16.6	83	ENE	1.2	0.5			0			0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	30.22	767.5	30.06	778.7	32.7	0.4	49	Calm	0	0	.....	.....	3	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	30.13	765.4	30.09	779.6	27.3	— 2.6	68	W	.....	.....	1	.....	2	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	30.56	776.2	30.68	779.2	31.8	— 0.1	45	SSW	1.3	0.6	.....	.....	4	NE	.....	0	0	.....	Prof. Dott. Lorenzoni
Moncalieri	29.71	754.7	30.70	779.7	25.7	— 3.5	73	NNE	2.5	1.1	.....	.....	2	NE	.....	0	0	.....	Prof. P. F. Denza.
Genoa	30.42	772.7	30.62	777.7	48.2	9.0	25	NE	1.8	0.8	.....	.....	2	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.64	727.4	30.65	778.4	33.1	0.6	64	SE	.....	.....	2	.....	4	NE	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.61	777.6	30.67	778.9	33.6	0.9	72	W	6.9	3.1	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	30.36	771.1	30.63	778.1	41.9	5.5	28	E	.....	.....	2	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	30.54	775.8	30.63	778.1	46.2	7.9	16	NE	5.6	2.5	.....	.....	1	.....	.....	0	0	.....	Prof. P. Monte.
Rome	30.43	772.8	30.61	777.5	46.8	8.2	61	N	3.1	1.4	.....	.....	6	.....	.....	0	0	.....	Prof. P. S. Ferrari
Lecce	30.33	770.4	30.60	777.1	42.4	5.8	58	NNE	15.4	6.9	.....	.....	1	S	.....	0	0	.....	Prof. C. De Giorgi
Cosenza	29.67	753.6	30.61	777.4	42.8	6.0	64	NW	3.1	1.4	.....	.....	0	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	30.36	771.2	30.56	776.3	52.2	11.2	56	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	30.30	769.7	30.57	776.4	51.8	11.0	45	NE	3.1	1.4	.....	.....	0	.....	.....	0	0	.....	Prof. G. Ciacciatore.
Syracuse	30.48	774.2	30.56	776.1	50.5	10.3	58	E	13.7	6.1	.....	.....	9	NNE	.....	0	0	.....	Prof. V.G. Guiliano.
SUB-SERIES.																			
Naples, S. R.	30.05	763.2	30.60	777.2	45.5	7.5	43	NE	1.8	0.6	.....	.....	0	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.75	755.6	29.76	755.9	49.5	9.7	99	ESE	1.9	0.8	.....	.....	10n	.....	.....	0.542	13.77	Raining	K. Sasaki.
Nagasaki, I. M. Obs'y	29.65	753.1	29.86	758.4	55.5	13.1	89	WNW	9.0	4.0	.....	.....	10n	.....	W	0.410	10.41	Light rain	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.92	759.9	29.99	761.7	42.7	5.9	79	NNE	4.9	2.2	.....	6ck	4ks	W	SSE	0.945	24.01	Cloudy	The Staff.
Wakayama	29.67	753.6	29.72	754.9	54.1	12.3	90	E	5.2	2.3	.....	.....	10s	.....	.....	0.760	19.31	Cloudy	

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Barcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima																			R. Banda, C. E.
Guadalajara	25.14	638.5	30.35	770.9	41.9	5.5	57	SW	.....	.....	1	.....	0	.....	.....	0	0	Very clear	Prof. L. Perez.
Leon	24.52	622.7	30.35	771.0	48.9	9.4	78	N	.....	.....	1	0	0	.....	.....	0	0	Pleasant	Prof. M. Leal.
Mazatlan	29.80	756.8	30.09	763.4	64.2	17.9	97	Calm	.....	.....	0	0	0	.....	.....	0	0	Hazy	I. Guerrero, C. E.
Mexico, Central Observatory	23.14	587.7	30.34	770.7	49.7	6.5	75	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff.
Pabellon (Aguascalientes)					41.5	5.3	64	SW	.....	.....	1	0	0	.....	.....	0	0	Very fine	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.50	596.8	30.48	774.2	41.0	5.0	61	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.26	616.1	30.42	772.7	44.6	7.0	34	E	.....	.....	1	0	0	.....	.....	0	0	Clear	G. Barroeta, M. D.
Tlacotalpam																			Prof. M. M. Chazaro.
Vera-Cruz																			Prof. J. Rossell
Zacatecas	22.61	574.4	30.37	771.4	46.1	7.8	70	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	J. C. Castrillon.

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m., or 6,313.3 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.3 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column; the instrumental correction —0.88 mm., or —0.035 inch, has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys-Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.21	767.4	30.21	767.4	34.3	1.3	.....	SSW	.....	.....	5	.....	.....	.....	.....	0	0	.....	
Groningen	30.06	763.5	30.11	764.9	34.9	1.3	.....	SW	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Helder	30.06	763.5	30.06	763.5	36.7	2.6	.....	SSW	.....	.....	5	.....	.....	.....	.....	0.118	3.0	.....	
Hellevoetsluis	30.17	766.3	30.17	766.3	33.8	1.0	90	SSW	.....	.....	6	.....	.....	.....	.....	.....	.....	.....	
Utrecht	30.15	765.9	30.20	767.1	34.7	1.5	91	SSW	.....	.....	5	.....	10	.....	.....	0.160	3.8	Overcast	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; at Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.56	750.7	29.61	752.1	43.9	6.6	68	SSE	13.2	5.9	.....	.....	7	.....	.....	.....	.....	Raining	
Brönö	28.94	735.1	28.98	736.1	35.6	2.0	82	SW	27	12	.....	.....	10	.....	.....	0.236	6.0	Rain & snow	
Christiana	29.31	744.4	29.46	748.2	34.7	1.5	93	S	2	1	.....	.....	9	.....	.....	0.198	3.5	.....	
Tromsö	28.89	733.8	28.93	734.9	30.9	— 0.6	77	SW	20	9	.....	.....	4	.....	.....	0	0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	30.38	771.7	30.58	776.6	61.2	16.2	89	W	5.6	2.5	.....	.....	6	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.57	751.0	30.60	777.2	53.2	11.8	54	ENE	9.4	4.2	.....	.....	1	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	30.41	772.3	30.49	774.5	63.9	17.7	57	NE	8.1	3.6	.....	.....	9	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon Observatory	30.25	768.4	30.63	777.9	49.5	9.7	68	NNE	18.1	8.1	.....	.....	1	N	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.51	775.0	30.58	776.8	65.5	18.6	75	SW	9.4	4.2	.....	.....	4	.....	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.															Sea or swell. Height scale 0-9	Sea or swell. Direction form—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. [illegible] Sande, Com'd't.
Duque da Terceira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J.T.d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa. Fogo, Cape Verd Ids	.....	.....	.....	.....	76.3	24.6	.....	NE	.....	.....	3	.....	10	.....	NE	4	NE	Overca t, ½ hr rain-fall.	A. D. de Fonseca Sarurento ...
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Comd't.
Sado, Capt. J. A de Brito Capello, St. Paul de Loando	.....	.....	29.94	760.5	82.6	28.1	.....	N	.....	.....	2	.....	5	.....	SW	.....	.....	D. clouds	F. de Assis Camillo, jun., Q. M.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	.....	.....	30.15	765.8	64.8	18.2	.....	ENE	.....	.....	2	.....	0	.....	.....	1	.....	Blue sky	J. G. Feigo, 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sá da Bandeirà gives the barometer reduced tofreezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	30.13	765.4	30.15	765.9	5.0	—15.0	86	SSW	9	4	.....	.....	10n	.....	.....	.....	.....	.....	Capt. Sselliwerstow.
Astrakhan	30.11	764.8	30.03	762.7	22.3	— 5.4	100	N	4	2	.....	.....	10cp	.....	.....	Blank	Blank	.....	Capt. Wisganow.
Barnaul	29.91	759.6	30.47	773.8	4.5	—15.3	100	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	30.15	765.7	30.41	772.5	14.7	— 9.6	52	S	9	4	.....	.....	4cs;k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	29.32	744.8	30.42	772.7	— 8.5	—22.5	82	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	29.99	761.8	30.30	769.7	—15.9	—26.6	78	N	7	3	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.88	759.0	30.61	777.6	— 4.0	—20.0	86	N	11	5	.....	.....	0	.....	.....	.....	.....	.....	Physical Cabinet.
Krotkowo*	29.69	754.1	30.23	767.7	— 7.4	—21.9	71	N	9	4	.....	.....	10	.....	.....	.....	.....	.....	Cand. Faijanow.
Lugan	30.02	762.6	30.26	768.5	— 4.7	—20.4	67	N	4	2	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Moscow	29.92	760.0	30.55	775.9	— 1.8	—18.8	82	NW	7.8	3.5	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	28.08	713.1	30.76	781.4	—19.3	—28.5	82	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	30.45	773.5	30.52	775.5	— 3.3	—19.6	68	N	31	14	.....	.....	0	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	29.76	755.8	30.00	762.0	31.6	— 0.2	74	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	.....
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	30.40	772.1	30.54	775.7	18.3	— 7.6	41	NW	11	5	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	30.34	770.5	30.35	770.9	15.1	— 9.4	84	S	13	6	.....	.....	10n	.....	.....	.....	.....	.....	Central Physical Obs.
Tashkend	28.55	725.1	30.21	767.3	29.8	— 1.2	100	.....	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.54	724.9	30.13	765.3	35.4	1.9	66	NW	9	4	.....	.....	10	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	30.13	765.2	30.60	777.3	6.3	—14.3	79	SE	9	4	.....	3c	.....	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	30.15	765.8	30.61	777.6	11.5	—11.4	58	S	4	2	.....	.....	3	.....	.....	.....	.....	Light clouds	Astronomical Obs.
Yenisiesk	30.10	764.8	30.41	772.4	19.9	— 6.7	88	SSW	7	3	.....	.....	10	.....	.....	.....	.....	.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47', E. 48° 34'.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	30.52	775.2	30.63	777.9	47.8	8.8	51	SSW	1.3	0.6	.....	.....	0	.....	.....	0	0	Clear.	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.52	775.3	30.58	776.8	53.8	12.1	46	S	1.8	0.79	.....	0	0	.....	.....	0	0	Clear.	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.60	701.0	.....	.....	39.7	4.3	60	E	0.2	0.11	.....	0	1	.....	.....	0	0	Light clouds	Domingo Martin y Perez.
Madrid, Royal Observatory	28.38	720.8	30.74	780.7	41.2	5.1	74	S	1.5	0.67	.....	1	0	N	.....	0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	30.28	769.2	30.44	773.1	52.7	11.5	71	NW	1.5	0.67	.....	4	4	NW	.....	0	0	Cloudy	Olayo Diaz, Director
Santiago, Met. Obs'y	29.65	753.0	30.56	776.2	55.4	13.0	52	SW	8.1	3.6	.....	.....	9	.....	.....	0	0	Almost cov'd	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	30.10	764.4	30.16	766.1	68.6	20.3	91	Calm	0	0	.....	1ck	1k	ENE	.....	0.252	6.4	Fair	Benito Vines S. J.
Manilla, Phillippine Islands	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.41	772.5	30.51	775.1	58.8	14.9	65	E	16.4	7.3	.....	0	7	.....	E	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I	30.00	762.0	30.09	764.3	75.9	24.4	76	SE	14.9	6.67	.....	4ck	5kn	SE	SE	0.217	5.50	Cloudy	Enrique Gadea, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at *midnight following*; at Barcelona, Bilbao, Burgos, Murcia and Santiago the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.48	748.8	29.52	749.8	32.7	0.4	.....	S	.....	.....	6	.....	10	.....	.....	0	0	.....	
Umea	29.48	748.7	29.53	750.0	32.7	0.4	78	SW	.....	.....	8-9	.....	10	.....	.....	0.161	4.1	.....	
Hernosand	29.39	746.4	29.44	747.7	28.8	— 1.8	76	S	.....	.....	8	.....	10	.....	.....	0	0	.....	
Stockholm	29.65	753.2	29.83	757.7	33.4	0.8	65	SW	.....	.....	7	.....	10	.....	.....	0	0	.....	
Wisby	29.89	759.2	29.95	760.7	32.7	0.4	75	SW	.....	.....	8	.....	10	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.65	753.2	29.74	755.4	32.2	0.1	65	S	26.6	11.9	.....	.....	10	.....	.....	0.220	5.75	Snowing.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	29.21	742.0	30.74	780.9	20.7	— 6.3	99	ESE	.....	.....	1	.....	10	.....	.....	0	0	Misty.....	The Observatory.
Zurich	28.94	735.1	30.71	780.0	18.5	— 7.5	100	SW	.....	.....	1	.....	3	.....	.....	0	0	Clear.	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +14.3 mm.; Thermometer, —7.8 Cent.; Relative Humidity, +18 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.53	775.4	24.6	— 4.1	100	NNW	27	12.0	.....	.....	6	.....	NNW	0.075	1.9	Snowing.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.48	774.1	41.5	5.3	.....	N	.....	.....	1	.....	0	.....	.....	0	0	Clear.	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.76	755.9	29.88	759.0	44.4	6.9	84	NW	.....	.....	5	.....	10n	.....	NW	0.91	23.1	Raining	Prof. C. V. A. van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	30.12	765.0	30.19	766.8	6.2	—14.3	88	SW	1	0.4	.....	.....	10s	.....	.....	0	0	Cloudy.....	G. A. Blair.
Charlottetown, P. E. Island	30.18	766.6	30.23	767.8	12.2	—11.0	100	S	5	2.2	.....	.....	10n	.....	.....	.....	.....	Light snow.	H. J. Cundall, C. E.
Cornwall, Ontario	29.85	758.2	30.05	763.3	27.8	— 2.3	95	SW	.....	.....	1	.....	10n	.....	.....	0.15	3.8	Cloudy.....	James Smith, M. A.
Dalhousie, N. B	29.96	761.0	30.15	765.8	— 6.5	—21.4	.....	W	1	0.4	.....	.....	10s	.....	.....	0	0	Cloudy.....	H. A. Johnson.
Father Point, Quebec	29.99	761.7	30.02	762.5	11.9	—11.2	90	SW	30.0	13.4	.....	.....	8n	.....	.....	0.10	2.5	Clearing....	J. McWilliams.
Fredericton, N. B	30.15	765.8	30.22	767.6	— 2.1	—18.9	68	Calm	0	0	.....	.....	10s	.....	.....	0	0	Overcast.....	Prof. Harrison.
Fort Garry, Manitoba	29.36	745.7	30.34	770.6	—21.0	—29.4	100	NE	8	3.6	.....	.....	10n	.....	.....	0.05	1.3	Light snow.	James Stewart.
Granton, Ontario	28.88	733.5	30.04	763.0	24	— 4.4	.....	Calm	.....	.....	0	2cs	0	.....	.....	0	0	Clear.	James Grant.
Halifax, N. S	30.16	766.1	30.30	769.6	25.3	— 3.7	96	SW	2	0.9	.....	.....	10n	.....	.....	0.01	0.3	Light snow.	A. Allison.
Hamilton, Ontario	29.70	754.4	30.10	764.5	28.7	— 1.8	86	W	.....	.....	7	10cs	0	E	.....	0	0	Cloudy.....	Geo. Dickson, B. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.71	754.6	30.06	763.5	28.7	— 1.8	84	W	2	0.9	.....	.....	10s	.....	.....	0.54	13.7	Smoky.....	S. Woods, M. A.
Little Glace Bay, N. S	30.23	767.8	30.27	768.8	16.7	— 8.5	90	W	5	2.2	.....	4ck	0	W	.....	0	0	Fair.....	C. H. Rigby.
Montreal, Quebec	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. H. McLeod, C. E.
Moose Factory, Ontario	30.20	767.1	30.24	768.1	—28.1	—33.4	79	N	.....	.....	3	0	0	.....	.....	0	0	Clear.	J. R. Nelson.
Norwood	29.29	744.0	30.02	762.5	27.5	— 2.5	100	W	4	1.8	.....	.....	10s	.....	NW	0.60	15.2	Snowing.....	Rev. T. F. Fotheringham, M.A.
Parry Sound, Ontario	29.28	743.7	30.02	762.5	22.5	— 5.3	93	NE	9	4.0	.....	.....	10n	.....	NE	0.30	7.6	Cloudy.....	Rev. R. Mosley.
Peterboro, Ontario	29.26	743.2	30.04	763.0	31.7	— 0.2	63	S	.....	.....	3	4k	0	.....	.....	0.40	10.2	Fair.....	J. F. Jeffers, M. A.
Port Dover, Ontario	28.33	719.6	30.05	763.3	30.0	— 1.1	89	SW	4	1.8	.....	10c	0	SW	.....	0	0	Fair.....	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.36	745.7	30.04	763.0	29.4	— 1.4	.....	W	12	5.4	.....	.....	10ks	.....	.....	0	0	Fair.....	M. Payne.
Quebec, Quebec	29.79	756.7	30.14	765.5	8.0	—13.3	89	Calm	.....	.....	0	.....	10k	.....	.....	0.08	2.0	Light snow.	Capt. Ashe, R. N.
Rockliffe, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. McIntyre.
St. Andrews, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Gove.
St. John, N. B	30.01	762.2	30.19	766.8	10	—12.2	89	Calm	0	0	.....	.....	10s	.....	.....	0	0	Cloudy..	G. Murdock, C. E.
Saugeen, Ontario	29.24	742.7	29.99	761.7	28.0	— 2.2	84	S	10	4.5	.....	.....	10ks	.....	.....	0.33	8.4	Overcast.....	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.70	729.0	30.06	763.5	22.3	— 5.4	90	Calm	0	0	.....	2cs	8s	NW	.....	0	0	Fair	C. J. MacGregor, M. A
Sydney, C. B	30.27	768.8	30.31	769.9	3.4	—15.9	100	S	1	0.4	.....	0	0	.....	.....	0	0	Clear.	T. C. Hill, C. E.
Toronto, Ontario	29.64	752.8	30.04	763.0	28.2	— 2.1	83	W	4	1.8	.....	7ck	2s	W	.....	0.03	0.8	Cloudy.....	Magnetic Observatory
Windsor, N. S	30.18	766.6	30.28	769.1	23.5	— 4.7	93	N	1	0.4	.....	.....	10n	.....	.....	.....	.....	Light snow.	Prof. John E. Oram, M.A
Woodstock, Ontario	28.91	734.3	30.04	763.0	25.2	— 3.8	89	S	13	5.8	.....	.....	10s	.....	W	0	0	Cloudy.....	Prof. J. Montgomery.
Yarmouth, N. S	30.17	766.3	30.24	768.1	32.5	0.3	89	SW	15	6.7	.....	.....	10s	.....	.....	0.55	14.0	Light snow.	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	30.13	765.3	30.40	772.1	12	—11.1	100	SW	.....	.....	.....	.....	10	.....	.....	0	0	Fair.....	John Delany.
St. Pierre, N. F., l'Hopital Maritime	.....	.....	30.20	767.0	23.0	— 5	.....	W	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	The Commandant
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.97	761.2	30.22	767.6	24	— 4.4	74	S	5	2.2	.....	1k	0	W	.....	0	0	Clear.	
Alpena, Michigan	29.30	744.2	29.98	761.5	24	— 4.4	74	NE	4	1.8	.....	.....	10s	.....	Calm	0.10	2.5	Cloudy.	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	29.08	738.6	30.29	769.4	35	1.7	61	E	7	3.1	.....	2k	5s	Calm	Calm	0	0	Cloudy.	
Atlantic City, New Jersey	30.25	768.3	30.27	768.8	38	3.3	81	SW	10	4.5	.....	5c	0	W	.....	0	0	Fair.	
Augusta, Georgia	30.15	765.8	30.36	771.1	44	6.7	52	Calm	0	0	.....	.....	10s	.....	W	0	0	Cloudy.	
Baltimore, Maryland	30.19	766.8	30.25	768.3	30	— 1.1	78	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Barnegat, New Jersey	30.23	767.8	30.26	768.6	31	— 0.6	89	SW	7	3.1	.....	2c	0	Calm	.....	0	0	Clear.	
Bismarck, Dakota	28.07	713.0	29.92	760.0	— 7	—21.7	100	E	30	13.4	.....	.....	10n	.....	Calm	0.08	2.0	Light snow.	
Boerne, Texas	28.54	724.9	29.86	758.4	54	12.2	93	S	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy.	
Boise City, Idaho	26.74	679.2	29.70	754.4	25	— 3.9	75	W	3	1.3	.....	.....	10s	.....	NW	0	0	Cloudy.	
Boston, Massachusetts	30.08	764.0	30.24	768.1	29	— 1.7	67	SW	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy.	
Brackettville, Texas	28.83	732.3	29.89	759.2	50	10.0	93	E	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy.	
Breckenridge, Minnesota	28.82	732.0	29.89	759.2	8	—13.3	100	NE	6	2.7	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy.	
Brownsville, Texas	29.99	761.7	30.04	763.0	62	—16.7	94	S	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Buffalo, New York	29.31	744.5	30.04	763.0	31	— 0.6	69	SW	9	4.0	.....	5·	2s	SW	Calm	0	0	Fair.	
Burkes, Arizona	.....	.....	.....	.....	48	8.9	78	Calm	.....	.....	0	.....	10s	.....	Calm	0.38	9.7	Cloudy.	
Burlington, Vermont	29.85	758.2	30.16	766.1	23	— 5.0	86	S	9	4.0	.....	.....	10n	.....	Calm	0.01	0.3	Light snow.	
Cairo, Illinois	29.64	752.8	30.05	763.3	39	3.9	64	S	7	3.1	.....	8cs	0	Calm	.....	0	0	Fair.	
Campo, California	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Cape Hatteras, N. Carolina	30.30	769.6	30.31	769.9	48	8.9	85	NE	1	0.4	.....	0	8s	.....	Calm	0	0	Cloudy.	
Cape Henry, Virginia	30.27	768.8	30.29	769.4	36	2.2	61	S	10	4.5	.....	2cs	8s	W	S	0	0	Cloudy.	
Cape Lookout, N. Carolina	30.31	769.9	30.33	770.4	46	7.8	84	N	10	4.5	.....	5ck	5s	N	N	0	0	Cloudy.	
Cape May, New Jersey	30.24	768.1	30.27	768.8	38	3.3	71	S	20	8.9	.....	5cs	0	W	.....	0	0	Fair.	
Castroville, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Cedar Keys, Florida	30.24	768.1	30.27	768.8	53	11.7	93	N	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy.	
Charleston, South Carolina	30.25	768.3	30.30	769.6	43	6.1	83	N	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Charlotte, North Carolina	29.43	747.5	30.29	769.4	32	0.0	79	SW	4	1.8	.....	10cs	Sm'e	SW	Calm	0	0	Cloudy.	
Chattanooga, Tennessee	29.42	747.3	30.27	768.8	34	1.1	79	SE	6	2.7	.....	5cs	0	Calm	.....	0	0	Fair.	
Cheyenne, Wyoming	23.50	596.9	29.44	747.8	27	— 2.8	42	W	4	1.8	.....	0	2s	.....	W	0	0	Clear.	
Chicago, Illinois	29.20	741.7	29.91	759.7	31	— 0.6	69	SW	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy.	
Cincinnati, Ohio	29.42	747.3	30.10	764.5	32	0.0	69	SE	3	1.3	.....	9ck,cs	0	W	.....	0	0	Cloudy.	
Cleveland, Ohio	29.32	744.7	30.08	764.0	29	— 1.7	67	S	9	4.0	.....	2c	5s	W	Calm	0	0	Fair.	
Coleman City, Texas	28.14	714.7	29.85	758.2	37	2.8	63	SW	4	1.8	.....	5cs	0	Calm	.....	0	0	Fair.	
Columbus, Ohio	29.22	742.2	30.10	764.5	31	— 0.6	69	S	6	2.7	.....	8ck	Haze	Calm	Calm	0	0	Fair.	
Concho, Texas	28.03	711.9	29.72	754.9	44	6.7	16	SW	.....	.....	2	0	0	.....	.....	0	0	Clear.	
Corsicana, Texas	29.51	749.5	29.98	761.5	50	10.0	72	S	4	1.8	.....	0	8ks	.....	Calm	0	0	Cloudy.	
Davenport, Iowa	29.16	740.7	29.82	757.4	29	— 1.7	78	SE	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy.	
Dayton, Washington T'y	.....	.....	.....	.....	27	— 2.8	100	SW	.....	.....	1	.....	10n	.....	Calm	0.08	2.0	Light snow.	
Deadwood, Dakota	24.96	634.0	.....	.....	8	—13.3	33	E	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.	
Decatur, Texas	28.69	728.7	29.86	758.4	49	9.4	71	S	12	5.4	.....	5c	0	S	.....	0	0	Cloudy.	
Denison, Texas	29.08	738.6	29.88	758.9	48	8.9	63	SW	19	8.5	.....	8cs	0	SW	.....	0	0	Fair.	
Denver, Colorado	24.26	616.2	29.48	748.8	29	— 1.7	78	S	3	1.3	.....	5ck	5s	Calm	Calm	0	0	Fair.	
Des Moines, Iowa	28.80	731.5	29.70	754.4	30	— 1.1	68	Calm	0	0	.....	.....	10s	.....	S	0	0	Cloudy.	
Detroit, Michigan	29.30	744.2	30.00	762.0	25	— 3.9	75	SW	6	2.7	.....	0	5s	.....	SW	0	0	Fair.	
Dodge City, Kansas	26.92	683.8	29.10	739.1	55	12.8	70	SW	31	13.9	.....	0	0	.....	.....	0	0	Clear.	
Dubuque, Iowa	29.12	739.6	29.86	758.4	18	— 7.8	68	S	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy.	
Duluth, Minnesota	29.20	741.7	29.93	760.2	13	—10.6	81	NE	8	3.6	.....	.....	10n	.....	Calm	0.06	1.5	Light snow.	
Eagle Pass, Texas	29.24	742.7	29.99	761.7	42	5.6	42	W	4	1.8	.....	5c	0	Calm	.....	0	0	Fair.	
Eastport, Maine	30.12	765.0	30.19	766.8	21	— 6.1	93	SW	6	2.7	.....	.....	10n	.....	.....	Inap.	Inap.	Light snow.	
Edinburg, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.34	745.2	30.08	764 0	31	— 0.6	69	S	8	3.6	.....	10cs	0	Calm	.....	0	0	Cloudy.	
Escanaba, Michigan	29.26	743.2	29.96	761.0	15	— 9.4	65	N	8	3.6	.....	.....	10s	.....	N	0	0	Cloudy.	
Florence, Arizona	28.37	720.6	29.97	761.2	52	11.1	93	Calm	0	0	.....	.....	10n	.....	SW	0.15	3.8	Cloudy.	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.92	709.2	30.00	762.0	—10	—23.3	77	NE	8	3.6	.....	10cs	0	W	.....	0.30	7.6	Cloudy.	
Fort Custer, Montana	26.61	675.9	.....	.....	—12	—24.4	50	N	7	3.1	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy.	
Fort Davis, Texas	25.08	637.0	30.04	763.0	53	11.7	36	SW	10	4.5	.....	2cs	0	SW	.....	0	0	Fair.	
Fort Gibson, Indian Ter	29.24	742.7	29.78	756 4	43	6.1	67	SE	12	5.4	.....	0	0	.....	.....	0	0	Clear.	
Fort Grant, Arizona	25.15	638.8	29.95	760 7	45	7.2	69	NE	12	5.4	.....	.....	10s	.....	Calm	0.27	6.9	Cloudy.	
Fort Griffin, Texas	28.56	725.4	29.83	757.7	49	9.4	57	S	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy.	
Fort Keogh, Montana	27.11	688.6	.....	0	—17.8	71	NE	12	5.4	.....	.....	.....	10s	.....	Calm	0	0	Cloudy.	
Fort McKavett, Texas	27.64	702.0	29.57	751.1	45	7.2	76	S	12	5.4	.....	4c	0	S	.....	0	0	Fair.	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.58	725.9	29.70	754.4	41	5.0	49	S	4	1.8	.....	10cs	0	Calm	.....	0	0	Cloudy.	
Fort Stevenson, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Verde, Arizona	.....	.....	.....	.....	44	6.7	100	SE	.....	.....	1	.....	10n	.....	SE	1.04	26.4	Light rain.	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.13	714.5	29.66	753.4	58	14.4	82	S	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.	
Galveston, Texas	30.05	763.3	30.10	764.5	62	16.7	88	S	4	1.8	.....	.....	10s	.....	S	0	0	Cloudy.	
Graham, Texas	28.77	730.7	29.83	757.7	48	8.9	43	S	2	0.9	.....	8ck	0	W	.....	0	0	Cloudy.	
Grand Haven, Michigan	29.24	742.7	29.91	759.7	33	0.6	79	S	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy.	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	.....	.....	.....	.....	49	9.4	51	S	16	7.2	.....	0	5s	.....	SW	0	0	Fair.	
Indianapolis, Indiana	29.08	738.6	29.88	758.9	31	— 0.6	79	S	7	3.1	.....	.....	10ks	.....	S	0	0	Cloudy.	
Indianola, Texas	30.04	763.0	30.07	763.8	60	15.6	88	S	5	2.2	.....	.....	10s	.....	S	0	0	Cloudy.	
Jacksboro, Texas	28.71	729.2	29.84	757.9	50	10.0	39	SW	14	6.3	.....	5c	0	SW	.....	0	0	Fair.	
Jacksonville, Florida	30.26	768.6	30.28	769.1	49	9.4	85	N	3	1.3	.....	Haze	5s	Calm	Calm	0	0	Fair.	
Keokuk, Iowa	29.12	739.6	29.74	755.4	33	0.6	70	SE	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy.	
Key West, Florida	30.13	765.3	30.16	766.1	71	21.7	85	E	6	2.7	.....	,0	0	.....	.....	0	0	Clear.	
Kittyhawk, North Carolina	30.32	770.1	30.35	770.9	42	5.6	91	SW	4	1.8	.....	5cs	5ks	W	W	0	0	Cloudy.	
Knoxville, Tennessee	29.22	742.2	30.29	769.4	28.5	— 1.9	89	SE	2	0.9	.....	Haze	5s	.....	Calm	0	0	Fair.	
La Crosse, Wisconsin	29.05	737.9	29.83	757.7	17	— 8.3	67	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.	
La Mesilla, New Mexico	26.96	684.8	30.11	764.8	42	5.6	66	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.	
Laredo, Texas	29.60	751.8	29.95	760.7	48	8.9	93	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Leavenworth, Kansas	28.77	730.7	29.62	752.3	37	2.8	53	SE	11	4.9	.....	10cs	0	W	.....	0	0	Cloudy.	
Lewiston, Idaho	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Little Rock, Arkansas	29.65	753.1	30.02	762.5	42	5.6	83	S	2	0.9	.....	.....	10s	.....	SW	0	0	Cloudy.	
Los Angeles, California	29.41	747.0	29.75	755.6	50.0	10.0	93	NE	12	5.4	.....	.....	10n	.....	Calm	0.98	24.9	Light rain.	
Louisville, Kentucky	29.49	749.0	30.06	763.5	38	3.3	54	S	7	3.1	.....	5ck	5s	Calm	Calm	0	0	Cloudy.	
Lynchburg, Virginia	29.54	750.3	30.27	768.8	28	— 2.2	88	W	11	4.9	.....	2cs	0	W	.....	0	0	Fair.	
Madison, Wisconsin	28.83	732.3	29.86	758.4	20	— 6.7	84	SE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.	
Marquette, Michigan	29.26	743.2	30.00	762.0	22	— 5.6	72	W	4	1.8	.....	.....	10s	.....	W	0.03	0.8	Cloudy.	
Mason, Texas	28.30	718.8	30.08	764.0	46	8.9	85	E	1	0.4	.....	2cs	0	W	.....	0	0	Fair.	
Memphis, Tennessee	29.71	754.6	30 06	763.5	42	5.6	42	SE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.	
Milwaukee, Wisconsin	29.13	739.9	29.90	759.4	22	— 5.6	86	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.	

UNITED STATES SERIES.—Continued.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mobile, Alabama	30.22	767.6	30.26	768.6	38	3.3	81	NE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Montgomery, Alabama	30.06	763.5	30.32	770.1	34	1.1	90	Calm	0	0	.....	5ck;cs	0	W	.....	0	0	Fair	
Morgantown, West Virginia	29.15	740.4	29.19	766.8	29	— 1.7	67	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Mt. Washington, N. H.	23.50	596.9	29.86	758.4	15	— 9.4	100	NW	93	41.6	.....	.....	Fog	.....	NW	0	0	Foggy	
Nashville, Tennessee	29.60	751.8	30.15	765.8	40	4.4	65	Calm	0	0	.....	.....	10ks	.....	S	0	0	Cloudy	
New Haven, Connecticut	30.24	768.1	30.36	771.1	29	— 1.7	78	Calm	0	0	.....	2cs	2s	Calm	Calm	0	0	Fair	
New London, Connecticut	30.22	767.6	30.27	768.8	34	1.1	79	SW	8	3.6	.....	1ck	0	SW	.....	0	0	Clear	
New Orleans, Louisiana	30.16	766.1	30.22	767.6	49	9.4	85	E	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Newport, Rhode Island	30.19	766.8	30.24	768.1	37	2.8	71	SW	8	3.6	.....	5c	0	NW	.....	0	0	Fair	
New River, North Carolina	.....	.....	.....	.....	40	4.4	83	N	.....	.....	1	5k	0	SW	.....	.....	.....	Fair	
New York, New York	30.08	764.0	30.27	768.8	32	0.0	69	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Norfolk, Virginia	30.23	767.8	30.29	769.4	36	2.2	80	S	6	2.7	.....	8k	2s	SW	SW	0	0	Cloudy	
North Platte, Nebraska	26.55	674.4	29.13	739.9	27	— 2.8	76	E	5	2.2	.....	2ck	0	Calm	.....	0	0	Clear	
Olympia, Washington Ter.	29.60	751.8	29.64	752.8	37.0	2.8	90	S	2	0.9	.....	.....	10n	.....	Calm	0.27	6.9	Light rain	
Omaha, Nebraska	28.43	722.1	29.54	750.3	30	— 1.1	78	SE	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Oswego, New York	29.77	756.1	30.10	764.5	36	2.2	61	S	4	1.8	.....	2cs	2s	W	W	Inap.	Inap.	Fair	
Pembina, Dakota	29.24	742.7	30.20	767.1	—18	—27.8	100	NW	12	5.4	.....	.....	10n	.....	Calm	0.06	1.5	Light snow	
Pensacola, Florida	30.25	768.3	30.28	769.1	48	8.9	57	NE	6	2.7	.....	7cs	0	Calm	.....	0	0	Fair	
Philadelphia, Pennsylvania	30.20	767.1	30.26	768.6	31	— 0.6	69	SW	8	3.6	.....	0	2s;fg	.....	Calm	0	0	Fair	
Phœnix, Arizona	28.71	729.2	30.52	775 2	50	10.0	86	NW	1	0.4	.....	.....	10s	.....	Calm	0.32	8.1	Raining	
Pike's Peak, Colorado	17.27	438.7	29.48	748.8	11	—11.7	100	W	21	9.4	.....	.....	Fog	.....	.....	0.21	5.3	Foggy	
Pilot Point, Texas	29.03	737.3	29.85	758.2	53	11.7	79	S	.....	.....	.....	5k	0	SE	.....	0	0	Fair	
Pioche, Nevada	.....	.....	.....	.....	27	— 2.8	100	S	17	7.6	.....	.....	10n	.....	Calm	0.35	8.9	Light snow	
Pittsburg, Pennsylvania	29.31	744.5	30.17	766.3	27	— 2.8	88	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Clear	
Port Huron, Michigan	29.80	744.2	30.00	762.0	26	— 3.3	82	SW	11	4.9	.....	.....	10s	.....	SW	0	0	Cloudy	
Portland, Maine	30.13	765.3	30.18	766.6	23	— 5.0	73	W	11	4.9	.....	.....	10n	.....	Calm	0.04	1.0	Light snow	
Portland, Oregon	29.59	751.6	29.66	753.4	39	3.9	87	S	4	1.8	.....	.....	10s	.....	SW	0.30	7.6	Cloudy	
Portsmouth, North Carolina	.....	.....	.....	.....	50	10.0	93	NE	9	4.0	.....	8k	0	SE	.....	0	0	Fair	
Prescott, Arizona	24.52	622.8	29.88	758.9	42	5.6	66	S	.....	.....	1	.....	10n	.....	S	1.07	27.2	Light rain	
Punta Rassa, Florida	30.17	766.3	30.18	766.6	64	17.8	89	NE	7	3.1	.....	5ck	0	SE	.....	0	0	Fair	
Red Bluff, California	29.41	747.0	29.78	756.4	36	2.2	80	S	4	1.8	.....	.....	10n	.....	.....	Inap.	Inap.	Light snow	
Rio Grande City, Texas	29.82	757.4	30.04	763.0	53	11.7	93	SW	4	1.8	.....	0	Fog	.....	Calm	0	0	Clear	
Rochester, New York	29.44	747.8	30.08	764.0	31	— 0.6	69	SW	6	2.7	.....	9cs	0	W	.....	0	0	Cloudy	
Roseburg, Oregon	29.18	741.1	29.76	755.9	33.5	0.8	95	S	1	0.4	.....	.....	10ks	.....	Calm	0.21	5.3	Cloudy	
Sacramento, California	29.68	753.9	29.76	755.9	37	2.8	90	SE	5	2.2	.....	.....	10s	.....	Calm	0.05	1.3	Cloudy	
St. Louis, Missouri	29.33	745.0	29.92	760.0	32	0.0	69	S	12	5.4	.....	5c	2ks	Calm	Calm	0	0	Fair	
St. Paul, Minnesota	28.93	734.8	29.81	757.2	15	— 9.4	66	N	6	2.7	.....	.....	10s	.....	N	0	0	Cloudy	
Salt Lake City, Utah	25.23	640.8	29.56	750.8	24	— 4.4	74	Calm	0	0	.....	.....	10n	.....	Calm	0.27	6.9	Light snow	
San Antonio, Texas	29.36	745.7	29.95	760.7	56	13.3	87	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
San Diego, California	29.72	754.9	29.79	756.7	56	13.3	100	S	11	4.9	.....	.....	10n	.....	S	2.56	65.0	Light rain	
Sandusky, Ohio	29.36	745.7	30.00	763.5	30	— 1.1	78	S	16	7.2	.....	10k	0	W	.....	0	0	Cloudy	
Sandy Hook, New Jersey	30.22	767.6	30.26	768.6	30	— 1.1	78	S	10	4.5	.....	1c	0	NW	.....	0	0	Clear	
San Francisco, California	29.70	754.4	29.76	755.9	48	6.1	92	SE	3	1.3	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Santa Fé, New Mexico	23.16	588.2	29.70	754.4	18	— 7.8	37	NE	2	0.9	.....	.....	10s	.....	NE	0	0	Cloudy	
Savannah, Georgia	30.22	767.6	30.32	770.1	44	6.7	52	N	4	1.8	.....	8k	0	SW	.....	0	0	Fair	
Shreveport, Louisiana	29.81	757.2	30.03	762.7	50	10.0	93	S	5	2.2	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	29.27	743.4	30.31	769.0	44	6.7	76	N	8	3.6	.....	2k	0	SW	.....	0	0	Fair	
Socorro, New Mexico	25.19	6 9.8	29.26	743.2	47	8.3	70	E	12	5.4	.....	0	1s	.....	W	0	0	Clear	
Springfield, Illinois	29.21	741.9	29.91	759.7	31	— 0.6	70	S	11	4.9	.....	5cs	5s	W	0	0	0	Cloudy	
Springfield, Massachusetts	30.11	764.8	30.25	768.3	26	— 3.3	75	S	6	2.7	.....	0	2ks	.....	W	Inap.	Inap.	Fair	
Stockton, Texas	27.03	686.6	30.03	762.7	59	15.0	23	E	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	30.20	767.1	30.26	768.8	37	2.8	71	SW	12	5.4	.....	2k	Sm'c	SW	.....	0	0	Fair	
Toledo, Ohio	29.30	744.2	30.01	762.2	30	— 1.1	68	S	9	4.0	.....	8cs	0	W	.....	0	0	Cloudy	
Tucson, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon	29.41	747.0	29.92	760.0	26.0	— 3.3	88	W	6	2.7	.....	.....	10s	.....	.....	Inap.	Inap.	Cloudy	
Uvalde, Texas	29.09	738.9	29.91	759.7	54	12.2	87	NE	3	1.3	.....	.....	10s	.....	E	0	0	Cloudy	
Vicksburg, Mississippi	29.91	759.7	30.17	766.3	45	7.2	76	SE	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
Virginia City, Montana	23.48	596.4	29.16	740.7	22	— 5.6	72	Calm	0	0	.....	5k	0	W	.....	0	0	Fair	
Visalia, California	29.36	745.7	29.73	755.1	42.5	5.8	96	E	1	0.4	.....	.....	10s	.....	Calm	0.35	8.9	Cloudy	
Washington, D. C.	30.12	765.0	30.24	768.1	29	— 1.7	78	S	4	1.8	.....	2c	2s;sme	NW	Calm	0	0	Fair	
Wickenburg, Arizona	.....	.....	.....	.....	44	6.7	100	S	.....	.....	1	.....	10n	.....	Calm	1.05	26.7	Heavy rain	
Wilmington, North Carolina	30.24	768.1	30.32	770.1	40	4.4	44	NE	2	0.9	.....	5ck	0	Calm	.....	0	0	Fair	
Winnemucca, Nevada	25.28	640.8	29.59	751.6	31	— 0.6	79	SW	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Wood's Holl, Massachusetts	30.21	767.3	30.25	768.3	40	4.4	73	W	10	4.5	.....	.....	10s	.....	.....	0	0	Cloudy	
Yankton, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Yuma, Arizona	29.72	754.9	29.87	758.7	43	6.1	83	S	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sub-Series.																			
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	30.08	764.0	30.13	765.3	73	22.8	76	Calm	0	0	.....	0	0	.....	.....	0.15	3.8	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.16	766.1	30.17	766.3	74	23.3	82	Calm	0	0	.....	2c	0	Calm	.....	.....	.....	Fair	James Gall.
Navassa, W. I.	29.96	761.0	30.04	763.0	76	24.4	69	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.97	761.2	29 97	761.2	79	26.1	82	E	.....	.....	2	4c	4s	E	.....	0.160	4 06	Fair	C. J. Hering.
Santiago de Cuba, W. I.	30.09	764.3	30.12	765.0	73	22.8	81	NNE	6	2.7	.....	.....	2s	.....	NE	Blank	Blank	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	30.09	764.3	30.14	765.5	—46.0	—43.3	.....	SE	16	7.2	.....	2c	0	E	.....	0	0	Fair	J. Fortescue & W. Wood
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.2 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,289 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,014 (?) ft., or 492 (?) m.; Graham, 1 040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm., Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.54 in., or 115.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.24‡	768.1‡	.....	.....	44	6.7	84	NE	8	3.6	.....	.....	2	.....	SW	0	0	.....	.....	Fair...	
Navy Yard, Portsmouth, N.H	29.97‡	761.2‡	.....	.....	10	—12.2	79	W	1	0.4	.....	.....	10?	.....	.....	0	0	.....	.....	Clear?.....	
Adams, Mare I'd., Navy Yard, Cal.	29.90‡	759.4‡	.....	.....	44	6.7	92	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....	Cloudy	
Alaska, Arica, Peru.....	29.91‡	759.7‡	.....	.....	68	20.0	84	Calm	.....	.....	0	.....	2	.....	.....	.....	.....	.....	.....	Hazy.....	
Colorado, New York, . Y.....	30.22‡	767.6‡	.....	.....	30	— 1.1	100	SW	4	1.8	.....	.....	2	.....	.....	0	0	.....	.....	Hazy.....	
Constitution, Fort de France, Martinique	30.02‡	762.5‡	.....	.....	79	26.1	82	NE	.....	.....	2	.....	5	.....	NE	.....	.....	.....	.....	Pleasant	
Enterprise. Constantinople, Turkey	30.49‡	774.4‡	.....	.....	28	— 2.2	81	N	.....	.....	5	.....	7	.....	N	.....	.....	Smooth	.....	Cloudy.....	
Franklin, Off Navy Yard, Norfolk, Va.	30.34‡	770.6‡	.....	.....	36	2.2	80	SW	8.4	3.8	.....	.....	8	.....	WSW	0	0	.....	.....	Cloudy.....	
Independence, Mare I'd, Navy Yard, Cal.	29.99‡	761.7‡	.....	.....	40	4.4	91	Calm	0	0	.....	.....	1	.....	SW	0	0	.....	.....	Clear.....	
Kearsarge, Ruatan, Bay Islands, Honduras	30.24‡	768.1‡	.....	.....	70	21.1	66	WSW	.....	.....	3	.....	8	.....	SW	0	0	Smooth	.....	Cloudy.....	
Lackawana, Honolulu, Sandwich Id's†	30.01‡	762.2‡	.....	.....	70	21.1	85	NE	.....	.....	1	.....	0	.....	.....	.....	.....	Smooth	.....	Clear.....	
Marion, N. 30° 10′, W. 46° 15′....	30.39‡	771.9‡	.....	.....	69	20.6	80	NE	.....	.....	2	.....	8	.....	Calm	0	0	Long	E	Fair.....	
Michigan, Erie, Pa.....	30.05‡	763.3‡	.....	.....	30	— 1.1	68	SW	.....	.....	2	.....	5	.....	SW	.....	.....	.....	.....	Fair.....	
Monocacy, Shanghai, China..	30.29‡	769.4‡	.....	.....	35	1.7	67	NW	.....	.....	3–5	.....	8	.....	NW	.....	.....	.....	.....	Cloudy.....	
New Hampshire, Port Royal, S. C.....	30.31‡	769.9‡	.....	.....	44	6.7	100	NE	13	5.8	..	.....	.....	.....	.....	0	0	.....	.....	Clear.....	
Nipsic, Norfolk, Va.....	30.29‡	769.4‡	.....	.....	39	3.9	78	SW	.....	.....	2	.....	8	.....	.....	.....	.....	.....	.....	D. clouds....	
Onward, Callao, Peru ....†	29.91‡	759.7‡	.....	.....	67	19.4	95	SE	.....	.....	2	.....	5	.....	.....	.....	.....	Mod'e smooth	W	Hazy.....	
Palos, Tientsin, China.	30.44‡	773.2‡	.....	.....	22	— 5.6	86	NNW	.....	.....	3–4	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Passaic, Washington, D. C.....	30.26‡	768.6‡	.....	.....	32	0.0	89	SW	.....	.....	2	.....	5	.....	.....	.....	.....	.....	.....	Fair.....	
Pensacola, Callao, Peru	29.89‡	759.2‡	.....	.....	66	18.9	94	SE	.....	.....	0–1	.....	5	.....	.....	.....	.....	Smooth	.....	Foggy	
Powhatan, Navy Yard, Brooklyn, N.Y.	30.24‡	768.1‡	.....	.....	33	0.6	70	WSW	.....	.....	1	.....	2	.....	.....	0	0	.....	.....	Hazy.....	
Quinnebaug, Villafranca, France.....	30.61‡	777.5‡	.....	.....	56	13.3	63	SW	.....	... ..	1	.....	2	.....	W	.....	.....	.....	.....	Fair.....	
Ranger, Honolulu, Sandwich Ids..	30.01‡	762.2‡	.....	.....	72	22.2	95	Calm	.....	.....	0	.....	2	.....	.....	.....	.....	.....	.....	Fair.....	
Richmond, Manila, Philippine Ids..	29.88‡	758.9‡	.....	.....	81	27.2	78	NE	.....	.....	1	.....	2	.....	.....	.....	.....	Smooth	.....	Fair.....	
Rio Bravo, Brownsville, Texas... †.	30.19‡	766.8‡	.....	.....	63	17.2	100	SSE	2	0.9	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Santee. Annapolis, Md	30.26‡	768.5‡	.....	.....	35	1.7	??	SSW	.....	.....	2	.....	8	.....	NW	0	0	.....	.....	Cloudy.....	
Shenandoah, Montivideo, Uruguay....	29.83‡	757.7‡	.....	.....	72	22.2	58	NNW	.....	.....	1	.....	10	.....	.....	.....	.....	Smooth	.....	Cloudy.....	
St. Louis, League Island, Pa.....	30.35‡	770.9‡	.....	.....	29	— 1.7	.....	Calm	0	0	.....	.....	5	.....	NW	0	0	.....	.....	Fair	
Tennessee, Navy Yard, Brooklyn, N.Y.	30.27‡	768.8‡	.....	.....	29	— 1.7	100	SSW	.....	.....	1–2	.....	2	.....	Calm	.....	.....	.....	.....	Cloudy?.....	
Tuscarora, San José, Gautemala....	29.90‡	759.4‡	.....	.....	75	23.9	95	N	.....	.....	1	.....	2	.....	Calm	0	0	Long	SE	Clear	
Vandalia, Navy Yard, Brooklyn, N.Y.	30.28‡	769.1‡	.....	.....	29	— 1.7	?	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Wabash, Boston, Mass.....	30.29‡	769.4‡	.....	.....	29	— 1.7	78	SW	3	1.3	.....	.....	8	.....	.....	0	0	.....	.....	Cloudy.....	
Wachusett, S. 33°, W. 49°..... †.	30.44‡	773.2‡	.....	.....	71	21 7	80	N	.....	.....	4	.....	2	.....	.....	.....	.....	Smooth	.....	Fair.....	
Wyoming, Villafranca, France	30.61‡	777.5‡	.....	.....	57	13.9	58	SW	.....	.....	1	.....	2	.....	SW	.....	.....	Smooth	SW	Clear.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
S. S. Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitebury.
S. S. Costa Rica																			W. House & R. Lawless.
S. S. Dakota, Capt. H. G. Morse																			Capt. Connolly.
S. S. Georgia																			F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin																			Capt. A. Fuller.
S. S. Wilmington																			R. C. Ghest, 1st Officer.
S. S. Zealandia, Sydney, N. S. W.		29.58‡	751 3‡				S			0				SE				Rainy	

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to to 12; for the Brittanic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer N. 40° 34′, W. 138° 13′		30.18‡	766.6‡	49	9.4	63	N			6		10		N		Rough	NW	Overcast	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson N. 35° 22′, E. 145° 55′		29.85‡	758.2‡	54	12.2		N			6		6		N	Heavy	High	NNW	D. clouds	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andreasen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Pfeiffer N. 48° 41′, W. 29° 04′		29.99‡	761.7‡	50.0	10.0	93	WNW			8		5		W	5 hours	Heavy	WNW	Fair	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 47° 52′, W. 29° 20′		29.99‡	761.7‡				WNW			9		10		W		Very Heavy	WNW W	Heavy rain	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'er 0—10.	Upper. From—	Lower. From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 41° 26′, W. 62° 48′		30.59‡	777.0‡	44	6.7		WNW			4		8		WNW	0	Mod'ate	N	Cloudy	Capt. R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents.

S. S. Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

NOTE.—The originals give the barometer as read off; do not distinguish between upper and lower clouds; sea-swell in general terms, as published. ‡Corrections for temperature, instrumental error and elevation applied at this office.

ALLAN LINE MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian, N. 49° 33′, W. 42° 03′		30.09‡	764.3‡	36	2.2		WSW			9		8		WSW		Heavy	WSW	Cloudy	J. Powell, 4th Officer.
S. S. Peruvian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. *The error of the barometer is not known. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES—Miscellaneous.

Furnished by the co-operation of the Observers named.

Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Barkentine "Carrie Heckle" N. 3° 00′, W. 29° 25′		29.81‡	757.2‡	79.5	26.4		SSE			2		10		SSE	Blank	Smooth	N	Threatening	B. F. Woodbury.
Brigantine "George" of Halifax																			N. B. Foss.
Schooner Harry and Fred																			Capt. George Gardner.
Haytian																			Capt. W. Randall.
§ Iron Cross																			Capt. P. Sandelin.
Nordenskiold of Sundsvall, Sweden																			L. Dunbar.
Sch'r A. A. Rowe, Capt. Beckwith																			

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time. *Instrumental error not known.

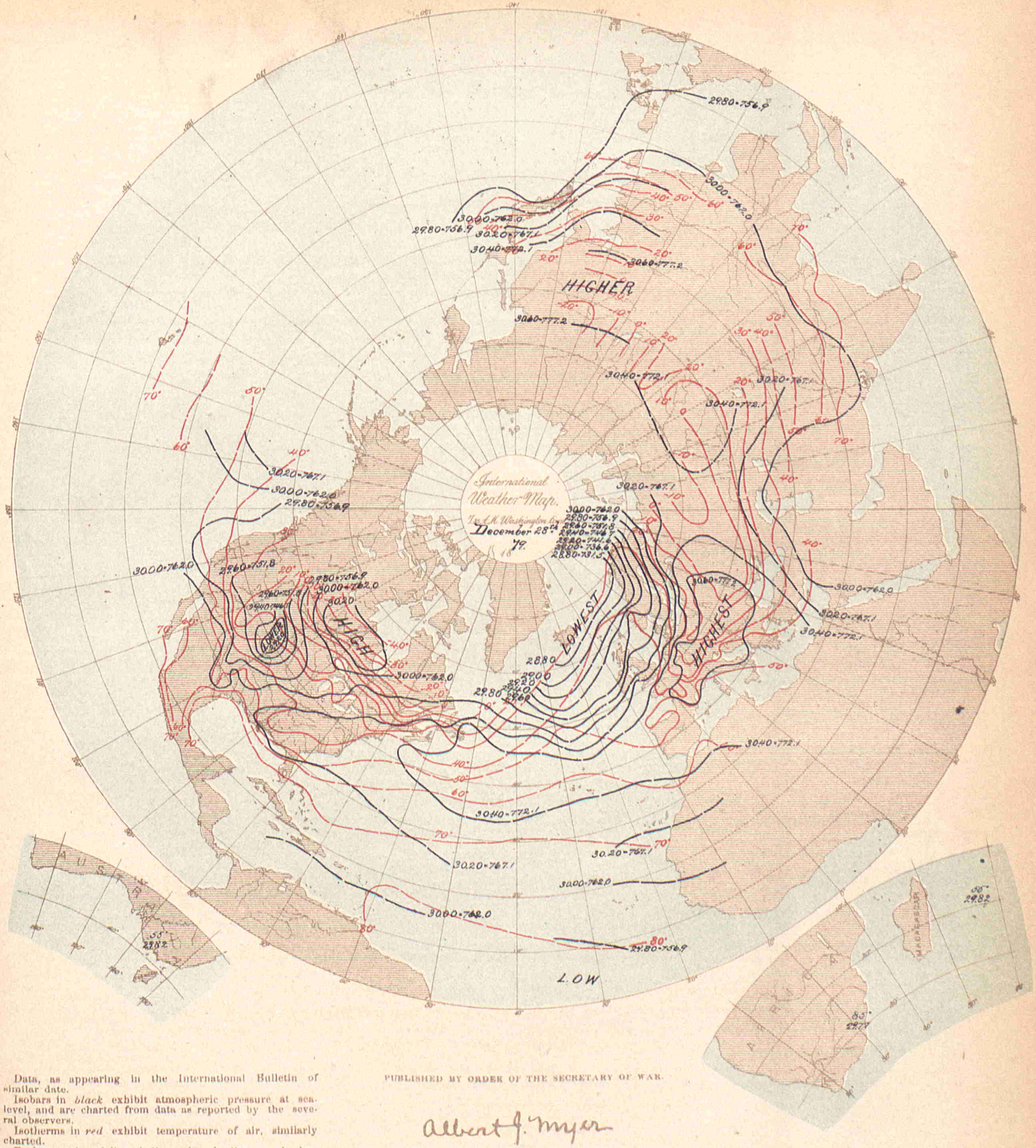
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Treasant St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 29, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
0:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE TOWN, C. G. H. mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:38 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. (—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.46	773.6	59.2	15.1	77	SE	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	
Nemours	.....	.....	30.53	775.5	59.5	15.3	93	NNW	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	Kesxuche.
Algiers	.....	.....	30.54	775.8	54.7	12.6	54	ESE	.....	.....	2	.....	0	.....	.....	0	0	Clear	Touriliere.
La Calle	.....	.....	30.56	776.1	57.9	14.4	72	WSW	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques
Sfax	.....	.....	30.64	778.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Herbin.
Tebessa	.....	.....	30.59	776.9	43.9	6.6	60	SSE	.....	.....	2	.....	0	.....	.....	0	0	Clear	Watrin.
Geriville	.....	.....	.....	.....	42.3	5.7	56	N	.....	.....	2	.....	8	.....	.....	0	0	Very cloudy	Brugniuax.
Laghouat	.....	.....	30.63	778.0	43.5	6.4	67	SSW	.....	.....	2	.....	2	.....	.....	0	0	Fair	Bertrand.
Biskra	.....	.....	30.50	774.7	58.3	14.6	58	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount of cloudiness by the scale 0-4; no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,860? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.77	756.1	30.36	771.2	22.8	— 5.1	90	W	.....	.....	1	.....	10	.....	.....	0	0	.....	Prof. Ivan Stosir
Cracow, I. R. Observatory	29.38	744.9	30.13	765.3	34.2	1.2	96	W	4.3	1.9	.....	.....	10	.....	.....	0.232	5.9	.....	Dr. Wierzbicki.
Eperies	29.40	746.7	30.38	771.6	9.7	—12.4	92	S	.....	.....	5	.....	10	.....	.....	0.122	3.10	.....	Julius Mikolik.
Gratz	28.98	736.2	30.30	769.7	32.7	0.4	80	S	.....	.....	2	.....	5	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.89	733.7	30.48	774.1	10.8	—11.8	93	NW	.....	.....	1	.....	10	.....	.....	0.102	2.60	.....	Prof. A. Gottschling.
Kremsmünster	28.89	733.9	30.28	769.2	41.2	5.1	71	W	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	29.09	738.9	30.16	766.1	19.9	— 6.7	97	NW	.....	.....	1	.....	10	.....	.....	0.413	10.5	.....	Dr. T. Stanecki.
Pola	30.36	771.2	30.48	774.3	39.6	4.2	60	W	.....	.....	1	.....	6	.....	.....	0	0	.....	I.R. Hydrographic Office
Szathmar	29.95	760.6	30.46	773.6	14.4	— 9.8	94	E	.....	.....	1	.....	10	.....	.....	0.157	4.0	Snowing	Pet. Pancsics, S. J.
Szegedin	30.08	764.0	30.39	771.8	17.2	— 8.2	.....	S	.....	.....	3	.....	10	.....	.....	0.096	2.45	.....	Karl Stancel.
Trieste	30.38	771.6	30.48	774.2	40.6	4.8	48	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	P. Busin.
Vienna	29.49	749.0	30.24	768.2	44.6	7.0	59	W	.....	.....	7	.....	10	.....	.....	0.089	1.0	.....	I.R. Central Met. Ob'ay
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.33	745.0	29.43	747.5	41.5	5.3		SW	17	7.6			4			0	0	Blue sky	W. Boswell.
Ardrossan	29.52	749.8	29.54	750.3	44	6.7		SW			6		7					D. clouds	Wm.McNeil&G.Carrick
Armagh, (Observatory)	29.42	747.3	29.66	753.1	41.4	5.2		SSW	25	11.2			10					Squally	S. Call.
Bidston (Liverpool Obs)			29.73	755.1	45	7.2		WSW	27	12.1			10					Raining	John Hartnup.
Bolton (Sharples)	29.19	741.4	29.70	754.4	43.4	6.3		SW	18	8.0			8					Squally	Thomas Mackereth.
Bradford, Yorkshire	29.33	745.0	29.72	754.9	45.8	7.7		SW			4		4			0.12	3.0	D. clouds	J McLandsborough.
Bridgetown, Barbadoes	29.99	761.7	30.02	762.5	80.5	26.9		NE			2		3					D. clouds	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	29.79	756.7	29.89	759.2	48.0	8.9		SSW			1		3					D. clouds	H. Todd.
Cardington			29.86	758.4	47.0	8.3		SW			2		3					D. clouds	John McLaren.
Chatham (School M. E.)	29.86	758.4	29.99	761.7	47.1	8.4		SW			1		6					D. clouds	J. Carmell, Sapper, R.E.
Donaghadee	29.59	751.6	29.63	752.6	42	5.6		WSW			4		5					D. clouds	J. Mac Gowan.
Dover	29.94	760.5	29.97	761.2	43	6.1		W			4		10					Foggy	J. Costello.
Falmouth (Observatory)	29.80	756.9	30.03	762.7	50.7	10.4		WSW			4		10					Raining	The Staff.
Fort Napier, Natal	27.41	696.2	29.62	752.3	90.0	32.2		NE			1		3					Blue sky	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone																			
Galway (Queen's College)			29.44	747.8	41	5.0		W			6		10					Hailing	Prof. A. H. Curtis.
Gibraltar, Mediterranean																			Sergt.Wm. Allen, A. H.
Glasgow, (Observatory)	29.82	744.7	29.62	749.8	42.4	5.8		SW			4		3k					Blue sky	D. G. Maclean. [C.
Great Yarmouth	29.86	758.4	29.87	758.7	48	8.9		WSW			4		3					Misty	G. T. Watson.
Greenwich (Royal Obs'y)	29.78	756.4	29.95	760.7	50.1	10.1		SW			3		6					D. clouds	The Staff, for G.B.Airy.
Guernsey	29.86	758.4	30.08	764.0	49	9.4		SW			3		8					D. clouds	Dr.S.E.Hoskins, F.R.S.
Helston	30.18	766.6	30.31	769.9	52	11.1		SW			4	4ck				0.50	12.7	Squally	M. P. Moyle.
Holyhead	29.68	753.9	29.74	755.4	46	7.8		WSW			5		5					D. clouds	John Tilston.
Jersey	29.84	757.9	30.14	765.5	46.9	8.3		SW			4		10			Blank	Blank	Misty	J. Fisher.
Kew (Observatory)	29.92	760.0	29.96	761.0	49.8	9.9		SW	20	8.9			6					Threatening	The Met'g'l Office.
Leicester (Museum)	29.57	751.1	29.83	757.7	47.1	8.4		SW			1							Overcast	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	30.40	772.7	30.54	775.7	56.6	13.7		W			2		9k					Overcast	A. King.
Nairn	29.32	744.7	29.41	747.0	39	3.9		SW			2		10					Overcast	W. D. Penny.
Nassau, Bahamas			30.24	768.1	74.0	23.3		NE			1		4					D. clouds	C. S. Duncombe.
Nottingham (Observatory)	29.60	751.8	29.80	756.9	47.8	8.8		S			3		10kd		SW	0.063	1.60	Overcast	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.29	744.0	29.82	757.4	46.9	8.5		SSW			4–5		9					D. clouds	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)			29.90	759.4	49	9.4		W			3		10					Squally	H. E. Bellamy.
Plymouth	29.93	760.2	30.01	762.2	49.7	9.8		WSW			3		10					Overcast	John Merrifield.
*Roche's Point	29.83	757.7	29.92	760.0	44	6.7		WNW			7		10					Raining	Wm. Kennedy.
St. Ann's Head	29.73	755.1	29.89	759.2	44	6.7		WSW			6		4					Squally	John C. Walker.
Sandwick Manse, Orkneys			29.32	744.7	37.5	3.1		Var.	8	3.6			1?					Snowing?	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	30.35	770.9	30.42	772.7	27.0	2.8		NNW			2		8					Snow-showers	Serg't W. H. Lyne.
Sheffield	29.50	749.3	29.79	756.7	42.0	5.6		SW			6		10			0.17	4.3	Hailing	W. F. Cooper.
Silloth Rectory	29.60	751.8	29.63	752.6	44.7	7.1	82	SW			4		7			0.342	8.69	D. clouds	Francis Redford, A. M.
Stonyhurst (Observatory)			29 71	754.6	44.2	6.8		SW	15	6.7			7					Misty	Rev. S. J. Perry.
Strathfeld, Turgiss					49.3	9.6		SW			4–5		0					Squally	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	29.99	761.7	30.04	763.0	53	11.7		W			6		10					Raining	W. Newcombe.
Valencia Observatory)	29.86	758.4	29.89	759.2	44.9	7.2		W	35	15.6			10			Blank	Blank	Misty	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)																			The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.44	646.2			85	29.4		NW					5						Robert Burnet.
Constable, Cape Colony	26.70	678.2			81	27.2		W					3						Francis Abbott, F.R.A.S.
Hobart Town, Tasmania																			Andrew Gibb.
Leith(RestalrigPark)Sc'tl'd			29.56	750.8	43.9	6.6		W			4		5k			0.41	10.4	Cloudy	C. Meldrum.
Mauritius (Observatory)	29.70	754.4	29.89	759.2	79.0	26.1	67.0	NNE	11.0	4.9		2	8		ENE	1.37	34.8	Cloudy	R. L. J. Ellery.
Melbourne (Observatory)	29.99	761.7	30.08	764.0	58.0	14.4	82	SE	6	2.7			1			0.01	0.3	Very fine	J. Youngclause.
Monach Lt-house, Hebrides					44	6.7		SW			8		10			1.2	30.		
North Unst, Shetland Is			29.07	738.4				W			7	6	10	WNW		0	0		

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown.

BRITISH MARINE SERIES. VESSELS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. Alert, Puerto Bueno, Patagonia			29.91‡	759.7‡	54.8	12.7		NNW			2		9					Overcast	Capt.J.P. Maclear, R.N.
H. M. Sloop Gannet, S. 18° 28′, W. 70° 21′			29.91‡	759.7‡	71	21.7		Calm			0		2					Blue sky	Commander E. Bourke, R. N.
H. M. S. Magpie, House Island, near Shanghai, China			30.26‡	768.6‡	32.5	0.3		NW			7		0					Blue sky	Capt. R. H. Napier, R.N.
Barque Belle-Isle, N. 40° 30′, W. 39° 35′			30.73	780.5	58	14.4		SSE			1		5			3	WNW	D. clouds	Capt. A. J. Brown
City of Cashmere, S. 29° 10′, W. 134° 40′			30.14‡	765.5‡	71	21.7		SSE			3		7					D. clouds	Capt. W. M. Grieve.
Barque Commewyne, N. 13° 35′, W. 58° 05′			29.98‡	761.5‡	78.8	26.0		ENE			5		3					D. clouds	Capt. Jas. Buchan.
Barque Fedalma, N. 34° 40′, W. 59° 10′			30.35	770.9	68	20.0		SSE			2		3		SW	3	ENE	D. clouds	Capt. H. L. Fox.
S. S. German, N. 7° 36′, W. 15° 43′			29.96‡	761.0‡	85	29.4		NNE			1		3					Misty	Capt. O. D. Coxwell.
Iron Cross, N. 48° 15′, W. 26° 55′			30.26	768.6	51	10.6		SW			6		6			9	WNW	Misty	Capt. W. Randall.
S. S. Peruvian, N. 46° 45′, W. 52° 35′			30.39	771.9	37	2.8		SSW			3		10					Overcast	Capt. W. H. Smith.
S. S. Strathleven, S. 2° 15′, E. 71° 25′			29.75‡	755.6‡	79.5	26.4		WNW			5		10					Squally	Capt. C. W. Pearson.
S. S. Sunbeam, N. 44° 40′, W. 43° 20′			30.56	776.2	50	10.0		W			6		6			5	W	D. clouds	Capt. C M. Dobson.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	L'w'r 0—10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER.
San José	26.21	665.7	29.93	760.2	62.2	16.8	83	NE	.....	.....	3	.....	2d	.....	NE	0	0	.....	Federico Maison.
.....																			
.....																			

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.58	751.2	29.62	752.4	41.4	5.2	87	W	.....	.....	6	.....	10	.....	.....	.....	.....	.....	.....
Fanöe	29.64	752.8	29.66	753.3	39.0	3.9	93	W	.....	.....	4	.....	5	.....	.....	.....	.....	.....	.....
Godthaab (Greenland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stykkisholm (Iceland)	29.03	737.4	29.08	738.5	22.3	— 5.4	90	E	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	.....
Thorshavn (Faröe)	29.11	739.4	29.15	740.3	35.6	2.0	66	NW	.....	.....	2	.....	5	.....	.....	.....	.....	.....	.....
Vestervig	29.41	747.1	29.52	749.9	38.5	3.6	93	SW	.....	.....	4	.....	2	.....	.....	.....	.....	.....	.....
.....																			
.....																			
.....																			
.....																			

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.66	753.3	30.21	767.3	41.4	5.2	97	S	.....	.....	1	.....	10	.....	.....	.....	.....	Rain & fog	Collignon, Director.
Amiens, Normal School	29.90	759.5	30.02	762.4	42.1	5.6	97	SSW	.....	.....	2	.....	10	.....	Calm	0.677	17.2	Covered	Vaillant, Director.
Arras, Engin'r School	29.82	757.4	30.09	764.2	39.6	4.2	100	WSW	.....	.....	3	.....	10	.....	.....	0.031	0.8	Raining	Klein, Commandant.
Avignon, Normal School	30.47	773.8	30.54	775.8	34.5	1.4	74	NE	.....	.....	1	.....	.....	.....	.....	0	0	Misty	Giraud, Director.
Bar-sur-Seine	29.75	755.7	30.33	770.4	40.3	4.6	65	S	.....	.....	1	.....	10	.....	.....	0	0	Covered	C. Saillard, Director.
Beauvais, Normal School	29.89	759.1	30.17	766.2	41.9	5.5	92	SW	.....	.....	2	.....	10	.....	WSW	0.059	1.50	Covered	Frère Eugene Marie.
Besançon, Normal School	29.53	750.1	30.48	774.3	36.3	2.4	.....	S	.....	.....	1	.....	10	.....	S	0	0	Covered	A. Carré, Director.
Bourg-en-Bresse, N. School	29.61	752.1	30.52	775.3	38.5	3.6	90	S	.....	.....	3	5c	.....	.....	SW	0	0	Cloudy	Marlot, Director.
Bourges, Normal School	29.80	756.9	30.37	771.5	40.6	4.8	92	SSW	.....	.....	4	.....	10sn	.....	SSW	0	0	Covered	M. Gence, Director.
Brest, Naval Observatory	29.94	760.4	30.18	766.6	51.4	10.8	90	SW	.....	.....	1	.....	9	.....	W	0.217	5.50	Misty	Ch. de Rermaree, Dir.
Caen, Normal School	30.01	762.3	30.10	764.4	46.4	8	92	SW	.....	.....	1	.....	.....	.....	SSW	0.024	0.6	.....	M. Bietrin, Director.
Carcassonne, N. School	30.06	763.5	30.49	774.4	49.6	9.8	80	SW	.....	.....	1	.....	0	.....	.....	0	0	Clear	September, Director.
Châlons-sur-Marne, N. Sch'	30.00	762.1	30.34	770.5	41.2	5.1	95	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Covered	Jadot, Director.
Chartres, Normal School	29.58	751.3	30.17	766.3	36.5	2.5	86	SSW	.....	.....	2	.....	10	.....	.....	0	0	Foggy	Vergier, Director.
Clermont-Fd, Puy de D. Obs	29.92	787.1	30.42	772.6	46.2	7.9	46	W	.....	.....	1	.....	10	.....	.....	0	0	.....	Alluard, Director.
Commercy, Normal School	29.85	746.6	30.29	769.4	39.0	3.9	97	WSW	.....	.....	1	.....	10	.....	.....	.....	.....	Raining	Dr. Coullet, Director
Commune de Gréasque*	29.38	746.3	30.52	775.3	45.1	7.3	55	NW	.....	.....	1	.....	2	.....	NW	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.74	755.4	30.58	776.6	24.8	— 4	.....	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.12	765.1	30.34	770.7	48.6	9.2	95	SW	.....	.....	3	.....	10	.....	.....	0.008	0.2	Covered	Mouillot, Director.
Le Mans, Normal School	29.94	760.5	30.26	768.7	41.4	5.2	100	SSW	.....	.....	4	.....	10	.....	.....	0.020	0.5	Covered	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.52	749.7	30.49	774.4	38.7	3.7	73	NW	.....	.....	1	.....	10	.....	.....	0	0	Foggy	A. Baudry, Director
Lorient, Naval Observatory	30.13	765.3	30.24	768.1	50.7	10.4	100	WSW	.....	.....	2	.....	10	.....	.....	0.126	3.2	Covered	Lt. T. Carré, Director
Lyons Obs'y (Park Station)	29.84	757.8	30.50	774.6	33.3	0.7	64	ENE	.....	.....	1	2c;ck	.....	.....	.....	0	0	Clear	Ch. André, Director
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galsin, Director.
Marseilles, Observatory	30.22	767.5	30.49	774.5	48.0	8.9	63	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	E. Stephan, Director.
Mirecourt, Normal School	29.25	742.9	30.35	770.9	33.6	0.9	88	NE	.....	.....	6	.....	k	.....	NE	0	0	.....	Barbier, Director.
Mont-Louis	25.28	640.8	30.54	775.8	41.9	5.5	30	WSW	9.4	4.2	.....	.....	2	.....	WNW	0	0	.....	M. Cave
Nice	30.47	773.9	30.50	774.8	60.4	10.2	64	WSW	.....	.....	2	.....	1	SW	WSW	0	0	Clear	M. Boissière, Director.
Nismes, Normal School	30.35	771.0	30.57	776.4	41.4	5.2	68	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. Boyer, Director.
Paris, Montsouris Obs'y	29.91	759.7	.....	.....	24.4	— 4.2	100	SSW	.....	.....	4	.....	10	.....	.....	0.020	0.5	Sprinkling	Marié Davy, Director.
Perpignan	30.39	772.0	30.50	774.8	46.3	7.4	71	S	3.8	1.7	.....	.....	0	.....	.....	0	0	.....	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.82	579.7	.....	.....	33.3	3.5	.....	.....	.....	.....	.....	.....	.....	.....	W	0	0	.....	Gen'l de Nansouty.
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Privas, Normal School	29.39	746.4	30.50	774.8	39.2	4	67	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. Tallieu
Puy de Dome (Summit) Obs	25.39	644.8	.....	.....	33.6	0.9	90	WSW	.....	.....	4	.....	8	.....	WSW	0	0	¾ covered	Alluard, Director.
Rochefort, Naval Obs'y	30.35	770.9	30.38	771.7	46.0	7.8	97	S	.....	.....	2	.....	10	S	S	0.43	11.	Covered	Lt E. Decante, Director
Rouen, Normal School	30.06	763.5	30.15	765.7	43.0	6.1	98	S	.....	.....	2	.....	10	.....	.....	0.051	1.3	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.10	764.5	30.13	765.2	48.0	8.9	90	SW	.....	.....	2	.....	10	SW	SW	0	0	Covered	Lt. Hercouet, Director
Saint Maur (near Paris)	30.04	763.1	30.21	767.3	37.4	3.0	98	S	.....	.....	3	.....	10	.....	.....	0.020	0.5	.....	E. Renou, Director.
Tarbes, Normal School	29.39	746.4	30.48	774.3	57.2	14	47	SW	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	T. Huguet, Director.
Toulouse, Observatory	29.82	757.5	30.48	774.2	40.6	4.8	55	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. Julier Mercadier.
Tours	30.10	764.5	30.30	769.5	41.9	5.5	84	SW	.....	.....	1	.....	10	Calm	SW	0	0	Covered	Cousin-Marquet.
Versailles, Observatory	29.67	753.6	30.16	766.1	38.5	3.6	100	SW	.....	.....	3	.....	10	.....	.....	0.081	2.06	Covered	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.85	758.3	30.00	777.3	42.8	6	85	ESE	.....	.....	1	.....	5	.....	SW	0.047	1.2	Clouny	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.97	761.2	30.00	761.9	75.2	24	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.71	18.	.....	L'Abbé Marchést
Zi-Ka-Wei (near Shanghai)	30.44	773.1	30.46	773.7	28.2	— 2.1	61	NW	16.6	7.4	.....	.....	1	.....	.....	0	0	Clear	Marc Dechevrens.
.....																			
.....																			
.....																			

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second: the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:58 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 822 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,082.97 ft.; Mont-Louis, 1,686.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,306 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 185.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Hamberg	29.31	744.4	30.15	765.9	36.5	2.5	93	SW	.....	.....	4	.....	10n	W	.....	0.051	1.3	Rain & fog	Prof. Dr. Hoh.
Berlin	29.77	756.1	29.95	760.6	38.8	3.8	87	SW	.....	.....	2	.....	10	.....	.....	0.244	6.2	.....	Prof. Dr. Arndt.
Breslau	29.54	750.3	30.07	763.8	36.7	2.6	83	SW	.....	.....	2	.....	10	.....	.....	0.370	9.4	Raining	Royal University Obs'y.
Carlsruhe	29.81	757.1	30.26	768.7	40.6	4.8	79	SW	.....	.....	4	.....	10	SW	.....	0.193	4.9	Light rain...	Albert Senz.
Cassel	29.44	747.8	30.05	763.3	36.9	2.7	89	SE	.....	.....	3	.....	10	.....	.....	0.055	1.42	Raining.....	Dr. H. Möhl.
Emden	.....	.....	29.88	759.0	37.4	3.0	98	WSW	.....	.....	5	.....	10	.....	.....	0.098	2.5	.....	Prof. Dr. Prestel
Frankfort on the Main	29.91	759.7	30.30	769.7	36.1	2.3	91	SSW	.....	.....	0	.....	10	.....	.....	0.185	4.7	Raining.....	Physical Society.
Friedrichshafen	28.91	734.4	30.43	772.9	33.4	0.8	73	SW	.....	.....	1	.....	10	WSW	.....	0	0	Föhn.....	Chief Telegrapher Wilhelm.
Hamburg	29.81	757.2	29.88	759.0	39.6	4.2	98	WSW	.....	.....	5	.....	10	.....	.....	0.122	3.1	.....	Capt. P. F. A. Hegerman.
Kiel	29.77	756.1	29.78	756.5	39.9	4.4	92	WSW	.....	.....	3	.....	10	.....	.....	0.208	5.28	.....	Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.67	753.5	29.75	755.6	36.0	2.2	96	SW	.....	.....	7	.....	10	.....	.....	0.024	0.6	.....	Prof. E. Luther.
Köslin	.....	.....	29.80	756.8	35.6	2.0	.....	SW	.....	.....	2	.....	8	.....	.....	0.213	5.4	.....	H. Müller.
Leipsic Observatory	29.67	753.7	30.11	764.8	38.1	3.4	85	SW	.....	.....	3	.....	10	.....	.....	0.539	13.7	Sprinkling...	Prof. Dr. Bruhns, Privy Counselo.
Magdeburg	29.79	756.7	30.02	762.5	40.8	4.9	84	SW	.....	.....	5	.....	10ks	WSW	.....	0.138	3.5	.....	Dr. Assmann.
Memel	29.58	751.2	29.62	752.4	37.4	3.0	96	WNW	.....	.....	6–7	.....	10k	.....	.....	.....	.....	Showery.....	Reinbrecht & Issermann.
Munich (München)	28.44	722.4	30.34	770.5	43.0	6.1	46	SW	.....	.....	3	.....	9	SW	.....	0.004	0.1	.....	Dr. C. Lang.
Neufahrwasser	29.76	755.9	29.78	756.3	40.6	4.8	84	WSW	.....	.....	3	.....	10	.....	.....	0	0	.....	A. Lothes.
Neustadt (Palatinate)	29.67	753.7	30.20	767.1	43.2	6.2	87	SSW	.....	.....	3	.....	10	SW	.....	0	0	.....	Reallehrer Dicknether
Posen	29.64	752.9	29.95	760.6	35.4	1.9	98	W	.....	.....	5	.....	10	.....	.....	0.343	8.7	Raining.....	Prof. Dr. Magener.
Strassburg (in Alsace)	29.76	755.8	30.33	770.4	39.6	4.2	80	SSW	.....	.....	3	.....	10	.....	.....	0	0	.....	Imp. University Observatory.
Stuttgart	29.31	744.4	30.28	769.1	42.8	6.0	67	SW	.....	.....	2	.....	10	.....	.....	0.091	2.3	.....	Prof. Dr. Schoder.
Weissenburg (Bavaria)	28.73	729.7	30.30	769.7	38.1	3.4	76	SW	.....	.....	4	.....	10	.....	.....	0	0	.....	Reallehrer J. Hopfner
Wustrow	29.76	756.0	30.79	756.6	36.3	2.4	100	SW	.....	.....	6	.....	Fog	.....	.....	0	0	.....	E. Schütz, Director.
German Naval Series.																			
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NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	30.04	763.1	30.45	773.4	43.0	6.1	.....	NE	.....	.....	1.0	.....	0	.....	.....	.....	.....	Clear.	Dr. J. F. J. Schmidt.
.....																			
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NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	30.01	762.2	30.06	763.5	73.1	22.8	27	E	7	3.1	.....	.....	0	.....	.....	0	0	Blue sky.....	
Deesa	29.56	750.9	30.06	763.8	67.7	19.8	23	NNE	10.7	4.8	.....	.....	0	.....	.....	0	0	Blue sky.....	
Bombay	29.86	758.3	29.89	759.3	73.6	23.1	66	NNW	22	9.8	.....	.....	0	.....	.....	0	0	Blue sky.....	
Poona (Yarrowda)	28.02	711.6	29.87	758.6	80.0	26.7	26	NNW	3	1.3	.....	.....	0	.....	.....	0	0	Blue sky.....	
Belgaum	27.35	694.6	29.90	759.5	71.9	22.2	40	NE	6	2.7	.....	.....	0	.....	.....	0	0	Blue sky.....	
Lahore	29.30	744.2	30.09	764.3	53.7	12.1	55	Calm	1.5	0.7	.....	.....	0	.....	.....	0	0	D. clouds	
Roorkee	29.05	737.9	30.00	762.0	54.8	12.7	68	NW	4.2	1.9	.....	.....	0	.....	.....	0	0	.....	
Agra	29.45	748.0	30.04	763.1	60.3	15.7	58	W	7.0	3.1	.....	.....	0	.....	.....	0	0	.....	
Nagpur	28.87	733.4	29.97	761.2	70.2	21.2	48	NE	2.8	1.2	.....	.....	0	.....	.....	0	0	Blue sky.....	
Jubbulpore	28.59	726.2	30.01	762 3	61.0	16.1	44	N	3.7	1.6	.....	.....	0	.....	.....	0	0	Blue sky.....	
Lucknow	29.62	752.3	30.02	762.4	58.3	14.6	67	NNW	3.7	1.6	.....	.....	0	.....	.....	0	0	Blue sky.....	
Allahabad	29.68	753.9	30.01	762.3	56.8	13.8	76	Calm	4.0	1.8	.....	.....	0	.....	.....	0	0	Blue sky.....	
Patna	29.78	756.3	29.96	761.1	59.8	15.4	79	W	1.1	0.5	.....	.....	6	W	W	0	0	D. clouds.....	
Hazaribagh	27.85	707.4	29.94	760.5	58.8	14.9	59	NW	7.2	3.2	.....	.....	0	.....	.....	0	0	Blue sky.....	
Cuttack	29.80	757.0	29.89	759.2	72.1	22.3	65	NNW	0.8	0.4	.....	.....	0	.....	.....	0	0	Blue sky.....	
Calcutta (Alipore)	29.86	758.5	29.89	759.1	66.9	19.4	73	NNW	0.5	0.2	.....	.....	0	.....	.....	0	0	Blue sky.....	
Goalpara	29.47	748.6	29.87	758.8	65.8	18.8	48	Calm	3.1	1.4	.....	.....	1	.....	W	0.17	4.3	D. clouds	
Chittagong	29.74	755.3	29.83	757.6	69.8	21.0	52	WNW	1.3	0.6	.....	.....	0	.....	.....	0	0	Misty.....	
Sibsagar	29.57	751.1	29.92	759.9	62.7	17.1	78	N	1.2	0.5	.....	.....	10	W	W	0	0	Overcast	
.....																			
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NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	Barometer: Corrected for instrumental error and temperature. Inches.	Barometer: Corrected for instrumental error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	30.06	763.4	30.50	774.6	35.2	1.8	68	N	0.7	0.3			8			0	0		Prof. Giovanni Clodig.
Milan	29.91	759.8	30.47	773.9	32.7	0.4	57	SW			2		2			0	0		Prof. Schiaparelli.
Padua	30.38	771.6	30.50	774.6	28.6	— 1.9	66	NNW	0.7	0.3			8			0	0		Prof. Dott. Lorenzoni.
Moncalieri	29.51	749.5	30.49	774 5	24.4	— 4.2	70	NW	1.8	0.8			1			0	0		Prof. P. F. Denza.
Genoa	30.31	769.8	30.50	774.8	47.1	8.4	70	E	6.3	2.8			10	S		0	0		Prof. G. M. Garibaldi.
Mondovi	28.45	722.5	30.41	772.5	33.8	1.0	60	W			2		1	NW		0	0		Prof. D. C. Bruno.
Pesaro	30.45	773.3	30.50	774.6	33.6	0.9	74	N	8.1	3.6			2			0	0		Prof. Luigi Guidi.
Florence	30.29	769.3	30.56	776.2	38.3	3.5	55	E			2		4			0	0		Cav. F. Meucci.
Leghorn	30.47	773.8	30.55	776.0	46.4	8.0	84	NNE	2.5	1.1			3			0	0		Prof. P. Monte.
Rome	30.37	771.5	30.56	776.2	47.1	8.4	65	N	0	0			1			0	0		Prof. P. S. Ferrari
Lecce	30.24	768.0	30.50	774.8	48.4	9.1	61	NNW	8.7	3.9			7	NW		0	0		Prof. C. De Giorgi
Cosenza	29.62	752.4	30.56	776.2	48.2	9.0	71	SE	0.7	0.3			0			0	0		Prof. D. Conti.
Cagliari	30.35	770.9	30.55	776.0	52.0	11.1	75	SE			2		0			0	0		Prof. A. Pacinotti.
Palermo	30.33	770.3	30.59	777.0	52.3	11.3	46	NE	2.5	1.1			1			0	0		Prof. G. Ciaccatore.
Syracuse	30.53	775.4	30.60	777.3	52.2	11.2	74	E	3.8	1.7			7	WNW		0	0		Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	30.01	762.1	30.55	775.9	48.4	9.1	70	ESE	0	0			10			0	0		Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.71	754.6	29.73	755.1	38.9	3.8	73	W	12.8	5.7			10ck		W	0.125	3.18	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.75	755.6	29.97	761.2	38.5	3.6	57	NW	15.5	6.9		ck	9s			0.210	5.33	Cloudy	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.27	743.4	29.34	745.2	48.0	8.9	95	SSE	3.3	1.5			10ck		SW	0.035	0.89	Cloudy	The Staff.
Wakayama	29.51	749.5	29.56	750.8	46.6	8.1	57	NW	24.0	10.7		ck	1s		NW	0.005	0.13	Fair	

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima																			R. Banda, C. E.
Guadalajara	25.10	637.4	30.30	769.6	41.9	5.5	55	SW			1		0			0	0	Very clear	Prof. L. Perez.
Leon	24.49	622.1	30.30	769.7	50.7	10.4	78	N			1	0	0			0	0	Pleasant	Prof. M. Leal.
Mazatlan	29.76	755.9	30.02	762.5	68.2	20.1	74	Calm			0	0	0			0	0	Clear	I. Guerrero, C. E.
Mexico, Central Observatory	23.12	587.1	30.33	770.3	42.8	6.0	68	Calm	0	0		0	0			0	0	Fine	The Staff.
Pabellon (Aguascalientes)					43.3	6.3	65	Calm			0	0	0			0	0	Pleasant	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.47	596.0	30.53	775 5	35.6	2.0	50	Calm	0	0		0	0			0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.24	615.7	30.37	771.4	46.9	8.3	52	E			1	3	0	W		0	0	Clear	G. Barroeta, M. D.
Tlacotalpam																			Prof. M. M. Chàsaro.
Vera-Cruz																			Prof. J. Rossell
Zacatecas	22.90	574.1	30.32	770.1	49.3	9.6	52	Calm			0	0	0			0	0	Fine	J. C. Castrillon

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,263.8 m., or 7.483.9 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column; the instrumental correction —0.88 mm., or —0.035 inch, has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.02	762.6	30.02	762.6	39.4	4.1		SSW			4					0.059	1.5		
Groningen	29.85	758.2	29.91	759.6	39.6	4.2		SW			4					0.126	3.2		
Helder	29.89	759.1	29.89	759.1	40.8	4.9		SW			4					0.016	0.4		
Hellevoetsluis	30.02	762.4	30.02	762.4	38.7	3.7	97	SW			4								
Utrecht	29.96	760.9	30.00	762.1	40.3	4.6	98	SW			4		10			0.035	0.9	Overcast	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which I have inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.29	744.0	29.35	745.4	41.4	5.2	66	WSW	18.3	8.2			6			1.173	29.8		
Brönö	28.71	729.1	28.74	730.1	32.7	0.4	92	S	9	4			10					Snow-fog.	
Christiana	28.91	734.3	29.06	738.0	44.2	6.8	45	WSW	11	5			6			0.217	5.5		
Tromsö	28.69	728.6	28.73	729.7	36.1	2.3	65	SW	11	5			9						

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)																			Dr. J. A. Sampaio.
Campo Major	29.58	751.4	30.62	777.8	50.0	10.0	62	ENE	6.9	3.1			0			0	0		Dr. A. M. R. dos Santos.
Funchal (Maderia)	30.38	771.6	30.47	773.9	64.0	17.8	51	NE	11.2	5.0			2			0.063	1.6		Capt. D. A. de Cunha.
Lisbon Observatory	30.28	769.2	30.66	778.8	48.7	9.3	71	NNE	11.2	5.0			0			0	0		The Staff.
Ponta Delgada (Azores)	30.62	777.8	30.69	779.6	62.2	16.8	85	NNE	7.4	3.3			10			0	0		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—																	
Bartholomew Dias																			A. G. da Silva Costa, Com'd't.
D. Fernando																			A. [illegible] Sande, Com'd't.
Duque da Terceira																			J. C. M. Cabrate, 1st Lt.
Mindello																			J. F. R. H. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos																			H. de C. C. e Athayde.
Rio Duro																			J. T. d'Oliveria, Com'd't.
Rio Lima. Capt. S. C. da Silva Costa.																			
Fogo, Cape Verd Ids					79.2	26.2		N			2		6		N	0		Drizzling, 1½ hr's rain-fall.	A. D. de Fonseca Sarurento
Sá da Bandeira																			F. Teixeira da Silva, Comd't.
Sado, Capt. J. A de Brito Capello, St. Paul de Loando			29.94	760.4	82.9	28.3		NW			3		3					D. clouds	F. de Assis Camillo, jun., Q. M.
Tejo, Capt. J. M. T. Guimaraes, Macao, China			30.13	765.4	64.8	18.2		ENE			3		0			1		Blue sky	J. G. Felgo, 2nd Lieut.

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	29.65	753.2	29.67	753.7	4.6	—15.2	66	SSE	13	6			10			Blank	Blank	Heavy clouds.	Capt. Sseliwerstow.
Astrakhan	30.15	765.9	30.07	763.8	11.8	—11.2	93	NNE	18	8			10n					Light clouds	Capt. Wisganow.
Barnaul	30.00	761.9	30.57	776.5	— 8.1	—22.3	100	SW	0	0			10					Snowing	Meteorological Obs.
Dorpat	29.23	742.4	29.48	748.8	20.8	— 6.2	90	S	13	6			10n					Light snow.	Prof. Dr. Weihrauch.
Ekaterinburg	29.23	742.4	30.32	770.0	— 4.2	—20.1	90	SE	4	2			10						Meteorological Obs.
Irkutsk																			
Kasan	29.97	761.1	30.28	769.1	—16.6	—27.0	82	W	2	1			10						Physical Cabinet.
Kertch																			Lagorio.
Kieff	29.62	752.3	30.34	770.5	0.3	—17.6	78	S	9	4		c	5cs;ks					Light clouds	Physical Cabinet.
Krotkowo*	29.76	755.8	30.30	769.7	—10.1	—23.4	66	NW	4	2			7ks						Cand. Fatjanow.
Lugan	30.11	764.9	30.35	770.8	0.1	—17.7	73	NNE	4	½			10						Meteorological Obs.
Moscow	29.69	754.0	30.32	770.1	— 9.8	—23.2	83	S	7.8	3.5			0						Meteorological Obs.
Nertchinsk	28.26	717.7	30.98	786.8	—22.5	—30.3	81	Calm	0	0			0						Meteorological Obs.
Nikolaiev	30 40	772.2	30.47	774.0	2.5	—16.4	65	N	4	2			0						Kurdakof.
Nukuss	29.62	752.4	29.87	758.6	30.2	— 1.0	78	ENE	7	3			1ks						
Orenberg																			
Pekin (China)	30.38	771.6	30.52	775.2	25.2	— 3.8	36	NW	7	3			0						Physical Observatory.
St. Petersburg	29.50	749.3	29.52	749.7	16.2	— 8.8	85	S	25	11			10n					Snowing	Central Physical Obs.
Tashkend	28.51	724.1	30.15	765.8	36.5	2.5	46	NE	13	6			0						Teich, A. M.
Tiflis	28.37	720.5	29.84	758.0	31.5	— 0.3	58	NW	45	20			10						Physical Observatory.
Vladivostock																			
Warsaw	29.50	749.3	29.94	760.5	34.3	1.3	96	WSW	18	8			10n					Raining	Astronomical Obs.
Wilna	29.40	746.7	29.85	758.2	19.4	— 7.0	86	SSW	18	6			10					Heavy clouds.	Astronomical Obs.
Yenisiesk	30.24	768.1	30.55	776.0	18.0	— 7 8	83	SW	2	1			10						Marks.

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	30.42	772.6	30.53	775.4	48.6	9.2	51	W	2.2	1.00			0			0	0	Clear.	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.47	773.8	30.52	775.2	57.7	14.3	44	SE	2.1	0.93		0	0			0	0	Clear.	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.56	700.0			40.1	4.5	57	SE	1.3	0.58		0	0			0	0	Clear.	Domingo Martin y Perez.
Madrid, Royal Observatory	28.32	719.3	30.68	779.2	40.3	4.6	60	SE	3.0	1.33		0	0			0	0	Clear.	The Staff.
Murcia, Met. Obs'y	30.46	773.6	30.61	777.5	50.4	10.2	72	WSW	0.9	0.42		0	0			0	0	Clear.	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.62	752.4	30.55	775.9	49.8	9.9	69	SSW	13.7	6.1			10			0	0	Covered	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.13	765.2	30.19	766.9	67.0	19.4	92	E	2.0	0.9		0	1k			0	0	Clear.	Benito Vines S. J.
Manilla, Phillippine Islands																			Federico Faura, S. J.
San Fernando, Naval Obs'y	30.47	773.9	30.57	776.4	60.6	15.9	56	E	14.3	6.4		0	5		E	0	0		Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I	29.99	761.8	30.08	764.1	75.9	24.4	80	E	12.7	5.68		8ck	2k	E	E	0.335	8.50	Clear.	Enrique Gadea, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.02	737.1	29.06	738.1	29.5	— 1.4	.....	SE	.....	.....	2	.....	10	.....	.....	0.079	2.0	.....	
Umea	28.74	730.1	28.80	731.4	32.4	0.2	96	S	.....	.....	4	.....	10	.....	.....	0	0	.....	
Hernosand	28.63	727.3	28.69	728.6	34.2	1.2	96	Calm	.....	.....	0	.....	10	.....	.....	0.087	2.2	.....	
Stockholm	28.77	730.8	28.85	735.3	37.8	3.2	97	NW	.....	.....	6	.....	10	.....	.....	0.087	2.2	.....	
Wisby	29.17	741.0	29.23	742.5	39.9	4.4	74	WSW	.....	.....	8	.....	8	.....	.....	0.161	4.1	.....	
Sub-Series.																			
Upsala	28.71	729.3	28.80	731.5	39.7	4.3	78	SW	19.5	8.7	.....	.....	10	.....	W	0.096	2.45	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	29.00	736.5	30.50	774.7	29.7	— 1.3	99	SE	.....	.....	1	.....	9	.....	.....	0	0	Covered.....	The Observatory.
Zurich	28.78	729.7	30.45	773.3	30.5	— 0.6	80	SE	.....	.....	1	.....	8	.....	.....	0.102	2.6	Foggy.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +5.8 mm.; Thermometer, —2.8 Cent.; Relative Humidity, +18 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.46	773.6	28.0	— 2.2	92	NW	7	3.0	.....	.....	10	.....	N	.....	.....	Snowing.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.41	772.5	46.9	8.3	.....	N	.....	.....	1	.....	2	.....	.....	0	0	Slightlycld'y	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.87	758.7	29.99	761.7	44.1	6.7	59	NW	.....	.....	6	.....	8n	.....	NW	0.23	5.8	Squally.....	Prof. C. V. A. van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	30.00	762.0	30.01	762.2	19.6	— 6.9	.....	N	4	1.8	.....	.....	.....	.....	.....	.....	.....	Snowing.....	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	29.99	761.7	30.05	763.3	21.5	— 5.8	93	NE	4	1.8	.....	.....	10n	.....	.....	0	0	Cloudy.....	G. A. Blair.
Charlottetown, P. E. Island	30.01	762.2	30.06	763.5	29.1	— 1.6	100	NE	5	2.2	.....	.....	10n	.....	.....	0.09	2.3	Light rain...	H. J. Cundall, C. E.
Cornwall, Ontario	29.52	749.8	29.72	754.9	23.9	— 4.5	94	E	.....	.....	1	.....	10n	.....	.....	0	0	Cloudy.....	James Smith, M. A.
Dalhousie, N. B	29.92	760.0	30.10	764.5	14.0	—10.0	.....	E	2	0.9	.....	.....	10n	.....	.....	0.20	5.1	Light snow.	H. A. Johnson.
Father Point, Quebec	29.94	760.5	29.96	761.0	5.3	—14.8	88	SE	49.0	21.9	.....	.....	10n	.....	.....	0.10	2.5	Heavy snow	J. McWilliams.
Fredericton, N. B	29.94	760.5	30.01	762.2	21.0	— 6.1	90	Calm	0	0	.....	.....	Haze	.....	.....	0.05	1.3	Hazy.	Prof. Harrison.
Fort Garry, Manitoba	29.45	748.0	30.49	774.4	—41.5	—40.8	100	W	2	0.9	.....	0	0	.....	.....	0.03	0.8	Clear.	James Stewart.
Granton, Ontario	28.62	726.9	29.74	755.4	37	2.8	.....	SE	.....	.....	1	.....	10n	.....	.....	Inap.	Inap.	Cloudy.....	James Grant.
Halifax, N. S	29.94	760.5	30.07	763.8	38.3	3.5	97	SW	4	1.8	.....	.....	Fog	.....	.....	0.14	3.6	Foggy.....	A. Allison.
Hamilton, Ontario	29.42	747.3	29.79	756.7	41.1	5.1	97	W	.....	.....	1	10cs	0	E	.....	0	0	Cloudy.....	Geo. Dickson, B. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.39	746.5	29.73	755.1	37.3	2.9	71	SW	13	5.8	.....	.....	10s	.....	.....	Inap.	Inap.	Cloudy.....	S. Woods, M. A.
Little Glace Bay, N. S	30.01	762.2	30.05	763.3	33.2	0.7	98	S	6	2.7	.....	.....	10n	.....	.....	.....	.....	Raining	C. H. Rigby.
Montreal, Quebec	29.58	751.3	29.79	756.7	24.0	— 4.4	91	E	2	0.9	.....	.....	10n	.....	.....	0.43	10.9	Light snow.	C. H. McLeod, C. E.
Moose Factory, Ontario	30.09	764.3	30.13	765.3	—20.2	—29.0	93	N	.....	.....	3	.....	10	.....	.....	0.10	2.5	Snowing.....	J. R. Nr son.
Norwood	28.99	736.3	29.70	754.4	35.1	1.7	76	SW	5	2.2	.....	.....	10s	.....	.....	0	0	Overcast....	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	28.97	735.8	29.69	754.1	29.5	— 1.4	95	S	5	2.2	.....	.....	10n	.....	S	0.15	3.8	Cloudy.....	Rev. R. Mosley.
Peterboro, Ontario	28.97	735.8	29.74	755.4	38.7	3.7	72	NW	.....	.....	2	.....	10n	.....	.....	0	0	Cloudy.....	J. F. Jeffers, M. A.
Port Dover, Ontario	29.06	738.1	29.76	755.0	38.9	3.8	100	SW	12	5.4	.....	.....	10n	.....	.....	0.05	1.3	Rain & fog..	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.12	739.6	29.78	756.4	37.2	2.9	.....	W	8	3.6	.....	.....	Fog	.....	.....	0.08	2.0	Foggy.....	M. Payne.
Quebec, Quebec	29.56	750.8	29.91	759.7	13.5	—10.3	100	NE	.....	.....	7	.....	10n	.....	.....	0.08	2.0	Light snow.	Capt. Ashe, R. N.
Rockliffe, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. McIntyre.
St. Andrews, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Gove.
St. John, N. B	29.90	759.4	30.07	763.8	32	0.0	100	NE	3	1.3	.....	.....	10s	.....	.....	0.03	0.8	Cloudy.....	G. Murdock, C. E.
Saugeen, Ontario	28.97	735.8	29.70	754.4	34.0	1.1	95	SW	10	4.5	.....	.....	10s	.....	.....	0.08	2.0	Overcast....	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.44	722.4	29.74	755.4	37.5	3.1	95	SW	10.0	4.5	.....	.....	Fog	.....	.....	0	0	Foggy.....	C. J. MacGregor, M. A
Sydney, C. B	30.12	765.0	30.17	766.3	32.0	0.0	94	E	6	2.7	.....	.....	10n	.....	.....	0.20	5.1	Sleeting.....	T. C. Hill, C. E.
Toronto, Ontario	29.37	746.0	29.74	755.4	36.2	2.8	90	SW	11	4.9	.....	.....	10n	.....	.....	0	0	Cloudy.....	Magnetic Observatory
Windsor, N. S	30.00	762.0	30.16	766.1	32.0	0.0	100	SW	4	1.8	.....	.....	Fog	.....	.....	0.08	2.0	Foggy	Prof. John E. Oram, M. A
Woodstock, Ontario	28.66	728.0	29.74	755.4	39.0	3.9	98	SW	19	8.5	.....	.....	10s	.....	.....	Inap.	Inap.	Overcast....	Prof. J. Montgomery.
Yarmouth, N. S	29.94	760.5	30.01	762.2	39.6	4.2	95	S	9	4.0	.....	.....	Fog	.....	.....	0.04	1.0	Foggy	Lt. F. E. Wilmot, R. N
Sub-Series.																			
St. Johns, Newfoundland	30.16	766.1	30.42	772.4	26	— 3.3	100	SW	.....	.....	.....	.....	10	.....	.....	0.02	0.5	Overcast....	John Delany.
St. Pierre, N. F., l'Hopital Maritime	.....	.....	30.20	767.0	35.6	2	.....	SW	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	The Commandant
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the SECRETARY OF WAR.

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0–10.	CLOUDS. Amount. Up'er 0–10.	CLOUDS. Amount. Lo'er 0–10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.66	753.4	29.90	759.4	35	1.7	80	S	9	4.0	.....	.....	10s	.....	Calm	0.08	2.0	Cloudy	
Alpena, Michigan	29.07	738.4	29.73	755.1	28	— 2.2	88	W	4	1.8	.....	.....	10s	.....	Calm	0.15	3.8	Cloudy	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	29.07	738.4	30.25	768.3	45	7.2	76	SW	9	4.0	.....	Haze	2s;sm'	.....	Calm	0	0	Smoky	
Atlantic City, New Jersey	30.03	762.7	30.04	763.0	44	6.7	92	SW	12	5.4	.....	8c;cs;k	0	W	.....	0	0	Fair	
Augusta, Georgia	30.11	764.8	30.32	770.1	46	7.8	84	NW	4	1.8	.....	0	5s	.....	W	0	0	Fair	
Baltimore, Maryland	29.98	761.5	30.03	762.7	36	2.2	80	S	3	1.3	.....	5k	Fog	W	Calm	0	0	Foggy	
Barnegat, New Jersey	29.98	761.5	30.01	762.2	37	2.8	100	S	10	4.5	.....	0	8s	.....	Calm	0	0	Fair	
Bismarck, Dakota	28.34	719.8	30.20	767.1	—26	—32.2	100	Calm	0	0	.....	0	0	.....	.....	0.02	0.5	Clear	
Boerne, Texas	28.56	725.4	29.86	758.4	61	16.1	100	SE	10	4.5	.....	.....	10s	.....	SE	0	0	Cloudy	
Boise City, Idaho	27.14	689.3	30.10	764.5	20	— 6.7	77	S	7	3.1	.....	.....	10s	.....	W	0.05	1.3	Cloudy	
Boston, Massachusetts	29.84	757.9	29.99	761.7	38	3.3	81	Calm	0	0	.....	.....	10n	.....	Calm	0.05	1.3	Light rain	
Brackettville, Texas	28.82	732.0	29.86	758.4	60	15.6	94	E	11	4.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Breckenridge, Minnesota	29.20	741.7	30.39	771.9	—24	—31.1	100	N	12	5.4	.....	1c	0	Calm	.....	Inap.	Inap.	Clear	
Brownsville, Texas	29.98	761.5	30.03	762.7	68	20.0	95	S	4	1.8	.....	8k	0	S	.....	0	0	Fair	
Buffalo, New York	29.03	737.3	29.73	755.1	41	5.0	82	SW	12	5.4	.....	.....	10m	.....	Calm	0.01	0.3	Light rain	
Burkes, Arizona	.....	.....	.....	.....	49	9.4	71	Calm	.....	.....	0	0	2s	.....	Calm	0.11	2.8	Clear	
Burlington, Vermont	29.52	749.8	29.81	757.2	34	1.1	61	S	13	5.8	.....	.....	10s	.....	SW	Inap.	Inap.	Cloudy	
Cairo, Illinois	29.56	750.8	29.95	760.7	58	14.4	88	S	16	7.2	.....	.....	10s	.....	S	0.01	0.3	Threatening	
Campo, California	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Cape Hatteras, N. Carolina	30.23	767.8	30.24	768.1	57	13.9	87	W	8	3.6	.....	0	Fog	.....	Calm	0.02	0.5	Foggy	
Cape Henry, Virginia	30.11	764 8	30.13	765.3	53	11.7	73	SW	16	7.2	.....	2cs	5ks	SW	Calm	0	0	Cloudy	
Cape Lookout, N. Carolina	30.24	768.1	30.25	768.3	58	14.4	94	SW	12	5.4	.....	8c	0	W	.....	0	0	Cloudy	
Cape May, New Jersey	30.02	762.5	30.05	763.3	45	7.2	84	S	4	1.8	.....	2ck	5ks	W	W	0	0	Cloudy	
Castroville, Texas	29.22	742.2	29.92	760.0	62	16.7	94	SE	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Cedar Keys, Florida	30.24	768.1	30.26	768.6	62	16.7	94	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Charleston, South Carolina	30.20	767.1	30.26	768.6	55	12.8	87	Calm	0	0	.....	0	5s	.....	SW	0	0	Fair	
Charlotte, North Carolina	29.31	746.2	30.14	765.5	43	6.1	83	S	6	2.7	.....	10cs	Sm'e	W	Calm	0	0	Cloudy	
Chattanooga, Tennessee	29.38	746 2	30.20	767.1	47	8.3	85	S	7	3.1	.....	.....	10s	.....	SW	0	0	Cloudy	
Cheyenne, Wyoming	23.72	602.5	29.66	753.4	17	— 8.3	67	S	8	3.6	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Chicago, Illinois	29.07	738.4	29.77	756.1	36	2.2	80	NW	8	3.6	.....	0	0	.....	.....	0.01	0.3	Clear	
Cincinnati, Ohio	29.27	743.4	29.92	760.0	52	11.1	86	S	12	5.4	.....	.....	10ks	.....	SW	0.01	0.3	Threatening	
Cleveland, Ohio	29.06	738.1	29.78	756.4	48	8.9	93	SE	11	4.9	.....	.....	10s	.....	SW	0.02	0.5	Cloudy	
Coleman City, Texas	28.18	715.8	29.86	758.4	48	8.9	85	S	4	1.8	.....	.....	Fog	.....	.....	0	0	Foggy	
Columbus, Ohio	29.03	737.3	29.87	758.7	48	8.9	85	SW	8	3.6	.....	.....	10s	.....	W	0	0	Cloudy	
Concho, Texas	28.08	713.2	29.78	756.4	47	8.3	77	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.52	749.8	29.97	761.2	66	18.9	89	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Davenport, Iowa	29.22	742.2	29.89	759.2	22	— 5.6	72	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Dayton, Washington Ty	.....	.....	.....	.....	11	—11.7	79	Calm	.....	.....	0	.....	10s	.....	SW	0.28	7.1	Cloudy	
Deadwood, Dakota	25.22	640.6	.....	.....	— 4	—20.0	65	Calm	0	0	.....	2cs	0	W	.....	0.14	3.6	Fair	
Decatur, Texas	28.80	731.5	29.94	760.5	53	17.2	72	SW	4	1.8	.....	5cs	0	S	.....	0	0	Cloudy	
Denison, Texas	29.09	738.9	29.86	758.4	63	17.2	94	S	14	6.3	.....	2k	2s	SW	SW	0	0	Fair	
Denver, Colorado	24.52	622.8	29.74	755.4	17	— 8.3	83	N	6	2.7	.....	.....	10n	.....	Calm	Inap.	Inap.	Light snow	
Des Moines, Iowa	29.12	739.6	30.09	764.3	7	—13.9	77	N	10	4.5	.....	.....	10s	.....	N	0	0	Cloudy	
Detroit, Michigan	29.06	738.1	29.73	755.1	41	5.0	91	SW	7	3.1	.....	.....	10s;fg	.....	Calm	0.02	0.5	Threatening	
Dodge City, Kansas	27.41	696.2	29.92	760.0	6	—14.4	76	N	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.19	741.4	29.93	760.2	23	— 5.0	73	NW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Duluth, Minnesota	29.30	744.2	30.07	763.8	—10	—23.3	54	NW	24	10.7	.....	0	0	.....	.....	0.40	10.2	Clear	
Eagle Pass, Texas	29.16	740.7	29.89	759.2	53	11.7	93	E	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Eastport, Maine	29.89	759.2	29.96	761.0	36	2.2	95	S	4	1.8	.....	.....	10s;fg	.....	S	0.11	2.8	Cloudy	
Edinburg, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.07	738.4	29.77	756.1	47	8.3	85	SW	7	3.1	.....	.....	10s	.....	Calm	0.16	4.1	Cloudy	
Escanaba, Michigan	29.12	739.6	29.80	756.9	26	— 3.3	75	N	8	3.6	.....	.....	10s	.....	N	0.19	4.8	Cloudy	
Florence, Arizona	28.44	722.4	30.04	763.0	50	10.0	93	SW	1	0.4	.....	0	5ks	.....	W	Inap.	Inap.	Fair	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	28.00	711.2	30.14	765.5	- 19	—28.3	65	E	2	0.9	.....	10cs	0	Calm	.....	0.07	1.8	Cloudy	
Fort Custer, Montana	26.67	677.4	.....	.....	—16	—26.7	100	N	2	0.9	.....	0	0	.....	.....	0.10	2.5	Clear	
Fort Davis, Texas	25.14	638.5	30.10	764.5	52	11.1	60	SW	4	1.8	.....	5cs	0	SW	.....	0	0	Fair	
Fort Gibson, Indian Ter	29.35	745.5	29.90	759.4	30	3.9	82	W	2	0.9	.....	.....	10s	.....	S	0	0	Cloudy	
Fort Grant, Arizona	25.13	638.3	29.93	760.2	42	5.6	75	E	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Griffin, Texas	28.58	725.9	29.82	757.4	60	15.6	71	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.23	691.6	.....	.....	—24	—31.1	.....	Calm	0	0	.....	0	0	.....	.....	0.03	0.8	Clear	
Fort McKavett, Texas	27.72	704.1	29.62	752.3	55	12.8	93	W	9	4.0	.....	.....	10s	.....	W	0	0	Cloudy	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.64	727.4	29.74	755.4	54	12.2	67	NW	6	2.7	.....	10ck	0	W	.....	0	0	Cloudy	
Fort Stevenson, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Verde, Arizona	.....	.....	.....	.....	41	5.0	91	S	.....	.....	1	.....	10n	.....	S	0.83	21.1	Light rain	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.14	714.7	29.66	753.4	62	16.7	77	S	16	7.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Galveston, Texas	30.06	763.5	30.10	764.5	63	17.2	89	S	8	3.6	.....	5k	0	S	.....	0	0	Fair	
Graham, Texas	28.82	732.0	29.86	758.4	56	13.3	81	S	4	1.8	.....	8cs	0	SW	.....	0	0	Fair	
Grand Haven, Michigan	29.10	739.1	29.76	755.9	38	3.3	63	N	6	2.7	.....	6cs	0	Calm	.....	0	0	Fair	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	.....	.....	.....	.....	56	13.3	81	SE	8	3.6	.....	0	5s	.....	SW	0	0	Fair	
Indianapolis, Indiana	29.01	736.8	29.78	756.4	53	11.7	93	SW	12	5.4	.....	.....	10n	.....	S	0.02	0.5	Light rain	
Indianola, Texas	30.06	763 5	30.09	764.3	68	20.0	90	S	9	4.0	.....	.....	10s	.....	S	Inap.	Inap.	Cloudy	
Jacksboro, Texas	28.75	730.2	29.85	758.2	59	15.0	82	SW	12	5.4	.....	2c	0	Calm	.....	0	0	Clear	
Jacksonville, Florida	30.24	768.1	30.27	768.8	55	12.8	87	NE	1	0.4	.....	5cs	0	Calm	.....	0	0	Fair	
Keokuk, Iowa	29.23	742.4	29.88	758.9	24	— 4.4	74	N	9	4.0	.....	1cs	1s	W	Calm	0	0	Clear	
Key West, Florida	30.17	766.3	30.20	767.1	73	22.8	85	E	8	3.6	.....	2k	0	E	.....	Inap.	Inap.	Fair	
Kittyhawk, North Carolina	30.20	767.1	30.23	767.8	52	11.1	93	SW	15	6.7	.....	0	0	.....	.....	0	0	Clear	
Knoxville, Tennessee	29.14	740.1	30.16	766.1	50	10.0	72	SW	12	5.4	.....	.....	10s	.....	W	0	0	Cloudy	
La Crosse, Wisconsin	29.12	739.6	29.59	759.2	23	— 5.0	73	NW	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
La Mesilla, New Mexico	26.04	611.4	30.19	766.8	33	0.6	89	Calm	0	0	.....	2c	0	Calm	.....	0.07	1.8	Fair	
Laredo, Texas	29.59	751.6	29.94	760.5	58	14.4	82	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.12	739.6	30.04	763.0	15	— 9.4	65	N	11	4.9	.....	5cs	0	W	.....	0	0	Fair	
Lewiston, Idaho	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Little Rock, Arkansas	29.65	753.1	30.00	762.0	62	16.7	94	S	8	3.6	.....	.....	10s	.....	SW	0	0	Cloudy	
Los Angeles, California	29.60	751.8	29.95	760.7	47.0	8.3	92	N	3	1.3	.....	.....	10s	.....	SW	0.43	10.9	Cloudy	
Louisville, Kentucky	29.36	745.7	29.91	759.7	54	12.2	93	S	10	4.5	.....	.....	10n	.....	S	0.01	0.3	Light rain	
Lynchburg, Virginia	29.41	747.0	30.11	764.8	37	2.8	90	S	1	0.4	.....	5cs	0	W	.....	0	0	Fair	
Madison, Wisconsin	28.78	731.0	29.80	756.9	27	— 2.8	76	W	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Marquette, Michigan	29.16	740.7	29.90	759.4	20	— 6.7	100	NW	20	8.9	.....	.....	10n	.....	Calm	0.51	13.0	Heavy snow	
Mason, Texas	28.32	719.3	30.05	763.3	62	16.7	88	S	2	0.9	.....	.....	10s	.....	S	0	0	Cloudy	
Memphis, Tennessee	29.60	754.1	30.02	762.5	59	15.0	59	S	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Milwaukee, Wisconsin	29.02	737.1	29.76	755 9	31	— 0.6	89	NW	13	5.8	.....	.....	10s	.....	NW	Inap.	Inap.	Cloudy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mobile, Alabama	30.19	766.6	30.23	767.8	52	11.1	93	S	1	0.4	.....	.....	10s	.....	SW	0	0	Cloudy	
Montgomery, Alabama	30.04	763.0	30.29	769.4	45	7.2	92	S	1	0.4	.....	.....	10ks	.....	W	0	0	Cloudy	
Morgantown, West Virginia	28.97	735.8	29.94	760.5	59	15.0	48	SW	12	5.4	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Mt. Washington, N. H.	23.42	594.9	29.78	756.4	31	— 0.6	100	NW	66	29.5	.....	.....	Fog	.....	NW	0.04	1.0	Foggy...	.....
Nashville, Tennessee	29.64	750.3	30.08	764.0	56	13.3	81	S	5	2.2	.....	.....	10ks	.....	S	0.02	0.5	Threatening	
New Haven, Connecticut	29.89	759.2	30.01	762.2	39	3.9	82	Calm	0	0	.....	5cs	5s;sm'o	SW	SW	0	0	Cloudy	
New London, Connecticut	29.96	761.0	30.00	762.0	40	4.4	86	SW	3	1.3	.....	.....	10s	.....	SW	0	0	Cloudy	
New Orleans, Louisiana	30.14	765.5	30.20	767.1	53	11.7	93	SE	3	1.3	.....	0	8s	.....	N	0	0	Fair	
Newport, Rhode Island	29.95	760.7	30.00	762.0	42	5.6	91	S	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
New River, North Carolina	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
New York, New York	29.86	758.4	30.04	763.0	36	2.2	70	NW	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Norfolk, Virginia	30.07	763.8	30.13	765.3	48	8.9	78	S	9	4.0	.....	0	5s	.....	Calm	0	0	Fair	
North Platte, Nebraska	27.06	687.3	29.90	759.4	1	—17.2	71	N	7	3.1	.....	10k	0	NW	.....	0	0	Cloudy	
Olympia, Washington Ter.	30.03	762.7	30.08	764.0	37.0	2.8	88	S	1	0.4	.....	.....	10s	.....	W	0.01	0.3	Cloudy	
Omaha, Nebraska	28.91	734.3	30.14	765.5	0	—17.8	70	NW	17	7.6	.....	.....	10s	.....	Calm	0	0	Cloudy	.....
Oswego, New York	29.46	748.3	29.78	756.4	42	5.6	74	S	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Pembina, Dakota	29.38	746.2	30.40	772.1	—40	—40.0	100	Calm	0	0	.....	0	0	.....	.....	Inap.	Inap.	Clear	.....
Pensacola, Florida	30.24	768.1	30.28	769.1	56	13.3	87	N	2	0.9	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Philadelphia, Pennsylvania	29.96	761.0	30.02	762.5	37	2.8	90	SW	4	1.8	.....	2ck	5s	W	Calm	0	0	Cloudy	
Phœnix, Arizona	28.76	730.5	30.56	776.2	55	12.8	81	NW	2	0.9	.....	8k	0	W	.....	0.12	3.0	Fair	
Pike's Peak, Colorado	17.31	439.9	29.53	750.0	8	—13.3	100	SW	24	10.7	.....	.....	10n	.....	Calm	0.35	8.9	Light snow.	
Pilot Point, Texas	29.17	740.9	29.98	761.5	64	17.8	89	SE	.....	.....	.....	5k	5s	SE	S	0	0	Cloudy	
Ploche, Nevada	.....	.....	.....	.....	29	— 1.7	89	S	6	2.7	.....	.....	10n	.....	Calm	0.09	2.3	Light snow.	
Pittsburg, Pennsylvania	29.10	739.1	29.90	759.4	50	10.0	79	SW	8	3.6	.....	.....	10s;fg	.....	SW.Calm	0.05	1.3	Cloudy	
Port Huron, Michigan	29.04	737.6	29.70	754.4	39	3.9	86	S	8	3.6	.....	.....	10n	.....	Calm	0.12	3.0	Light rain	
Portland, Maine	29.89	759.2	29.94	760.5	30	— 1.1	78	NW	3	1.3	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
Portland, Oregon	30.04	763.0	30.12	765.0	33.5	0.8	84	N	2	0.9	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Portsmouth, North Carolina	.....	.....	.....	.....	56	13.3	94	SW	7	3.1	.....	8cs	0	Calm	.....	0.09	2.3	Fair	
Prescott, Arizona	24.60	624.8	29.96	761.0	36	2.2	90	S	.....	.....	1	.....	10n	.....	Calm	1.20	30.5	Light rain	
Punta Rassa, Florida	30.24	768.1	30.25	768.3	66	18.9	95	NE	9	4.0	.....	2c	Fog	Calm	NE	0.21	5.3	Foggy	
Red Bluff, California	29.69	754.1	30.06	763.5	35	1.7	66	NW	4	1.8	.....	0	0	.....	.....	0.04	1.0	Clear	
Rio Grande City, Texas	29.79	756.7	30.00	762.0	61	16.1	88	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Rochester, New York	29.11	739.4	29.72	754.9	41	5.0	91	SW	7	3.1	.....	.....	10n	.....	Calm	Inap.	Inap.	Light rain	
Roseburg, Oregon	29.55	750.6	30.14	765.5	32	0.0	90	Calm	0	0	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Sacramento, California	29.98	761.5	30.06	763.5	34	1.1	100	N	2	0.9	.....	.....	Fog	.....	.....	0.02	0.5	Foggy	
St. Louis, Missouri	29.26	743.2	29.82	757.4	55	11.7	86	NW	9	4.0	.....	.....	10ks; fg	.....	.....	Inap.	Inap.	Cloudy	
St. Paul, Minnesota	29.15	740.4	30.06	763.5	4	—15.6	76	NW	13	5.8	.....	.....	10s	.....	NW	0.07	1.8	Cloudy	.....
Salt Lake City, Utah	25.44	646.2	29.77	756.1	27	— 2.8	76	Calm	0	0	.....	.....	10n	.....	Calm	0.44	11.2	Light snow.	
San Antonio, Texas	29.34	745.2	29.91	759.7	65	18.3	94	S	5	2.2	.....	.....	10ks	.....	S	0	0	Cloudy	
San Diego, California	29.94	760.5	30.02	762.5	49	9.4	100	SE	3	1.3	.....	.....	10n	.....	SW	1.39	35.3	Heavy rain	
Sandusky, Ohio	29.12	739.6	29.78	756.4	48	8.9	93	SW	15	6.7	.....	.....	10s	.....	SW	0.03	0.8	Cloudy	
Sandy Hook, New Jersey	29.90	759.4	29.93	760.2	38	3.3	81	W	4	1.8	.....	5ck	0	NW	.....	0	0	Fair	
San Francisco, California	30.05	763.3	30.12	765.0	40	4.4	91	Calm	0	0	.....	0	0	.....	.....	0.23	5.8	Clear	
Santa Fé, New Mexico	23.13	587.5	29.67	753.6	23	— 5.0	60	SW	2	0.9	.....	0	8s	.....	SW	Inap.	Inap.	Cloudy	
Savannah, Georgia	30.19	766.8	30.20	767.1	51	10.6	86	Calm	0	0	.....	10k	Fog	SW	Calm	0	0	Cloudy	
Shreveport, Louisiana	29.81	757.2	30.02	762.5	65	18.3	84	S	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.23	767.8	30.25	768.3	57	13.9	93	W	5	2.2	.....	10k	0	SW	.....	0	0	Cloudy	
Socorro, New Mexico	25.29	642.4	29.35	745.5	37	2.8	71	S	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois	29.19	741.4	29.87	758.7	39	3.9	73	NW	7	3.1	.....	2cs;hzo	5s	W;Calm	W	Inap.	Inap.	Fair	
Springfield, Massachusetts	29.88	758.9	30.01	762.2	36	2.2	90	S	3	1.3	.....	.....	10n	.....	SW	0.06	1.5	Light rain	
Stockton, Texas	26.94	684.3	29.94	760.5	51	10.6	28	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	29.91	759.7	29.97	761.2	45	7.2	100	S	12	5.4	.....	.....	10n	.....	S	0.23	5.8	Heavy rain	
Toledo, Ohio	29.05	737.9	29.73	755.1	46	7.8	92	E	9	4.0	.....	.....	10s	.....	S	0.01	0.3	Threatening	
Tucson, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon	29.89	759.2	30.43	772.9	15.0	— 9.4	90	NE	4	1.8	.....	.....	10s	.....	W	0	0	Cloudy	
Uvalde, Texas	29.08	738.6	29.80	759.2	61	16.1	82	SE	1	0.4	.....	.....	10s	.....	E	0	0	Cloudy	
Vicksburg, Mississippi	29.88	758.9	30.14	765.5	62	16.7	77	S	13	5.8	.....	.....	10s	.....	SW	0	0	Cloudy	
Virginia City, Montana	23.96	608.6	29.44	747.8	3	—16.1	78	Calm	0	0	.....	0	0	.....	.....	0.30	7.6	Clear	
Visalia, California	29.60	751.8	29.98	761.5	38	3.3	97	NW	5	2.2	.....	.....	Fog	.....	Calm	0.19	4.8	Dense fog	
Washington, D. C.	29.98	760.2	30.05	763.3	38	3.3	91	SW	1	0.4	.....	10cs	Fog	SW	Calm	0	0	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	48	8.9	100	S	.....	.....	1	.....	10n	.....	S	0.74	18.8	Light rain	
Wilmington, North Carolina	30.17	766.3	30.25	768.3	55	12.8	87	SW	2	0.9	.....	8ck	2s	SW	SW	0	0	Cloudy	
Winnemucca, Nevada	25.52	648.2	29.88	758.9	14	—10.0	82	NE	10	4.5	.....	0	1s	.....	NE	0.01	0.3	Clear	
Wood's Holl, Massachusetts	29.98	761.5	30.02	762.5	46	7.8	76	SW	2	0.9	.....	.....	10s	.....	.....	0	0	Threatening	
Yankton, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Yuma, Arizona	29.78	756.4	29.92	760.0	49	9.4	93	SE	3	1.3	.....	.....	10s	.....	SE	0	0	Cloudy	
SUB-SERIES.																			
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	30.09	764.3	30.14	765.5	71	21.7	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink
Kingston, Jamaica, W. I.	30.31	769.9	30.32	770.1	72	22.2	82	N	3	1.3	.....	5c	0	Calm	.....	.....	.....	Fair	James Gall.
Navassa, W. I.	29.98	761.5	30.06	763.5	77	25.0	65	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.96	761.0	29.96	761.0	78	25.6	86	NE	.....	.....	2	3c	4k	E	.....	0.400	10.16	Fair	C. J. Hering.
Santiago de Cuba, W. I.	30.11	764.8	30.14	765.5	74	23.3	76	NNE	7.2	3.2	.....	0	0	.....	.....	0	0	.....	Robert Mason
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	30.04	763.0	30.09	764.3	—37.0	—38.3	.....	E	10	4.5	.....	3k	0	NE	.....	0	0	Fair	J. Fortescue & W. Wood

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.2 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,087.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.806 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.33 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.19‡	766.8‡	.....	.....	64	17.8	89	SW	5	2.2	.....	.....	10	.....	SW	0	0	.....	.....	Threatening	
Navy Yard, Portsmouth, N.H	29.76‡	755.6‡	.....	.....	30	— 1.1	89	S	2	0.9	.....	.....	10	.....	.....	.....	.....	.....	.....	Raining	
Adams, Mare I'd., Navy Yard, Cal.	30.11‡	764.8‡	.....	.....	38	3.3	90	NNW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Alaska, Arica, Peru	29.90‡	759.4‡	.....	.....	71	21.7	75	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	.....	.....	Hazy.....	
Colorado, New York, N. Y.	29.95‡	760.7‡	.....	.....	36	2.2	100	S	2.7	1.2	.....	.....	8	.....	W	0	0	.....	.....	Foggy.....	
Constitution, Fort de France, Martinique	30.00‡	762.0‡	.....	.....	77	25.0	86	NE	.....	.....	3	.....	6	.....	NE	.....	.....	.....	.....	Pleasant.....	
Enterprise, Constantinople, Turkey	30.45‡	773.4‡	.....	.....	31	- 0.6	31	NW	.....	.....	3	.....	5†	.....	N	.....	.....	Smooth	.....	Clear.....	
Franklin, Off Navy Yard, Norfolk, Va.	30.16‡	766.1‡	.....	.....	50	10.0	93	SW	7.2	3.2	.....	.....	5	.....	W	0	0	.....	.....	Fair.....	
Independence, Mare I'd, Navy Yard, Cal.	30.06‡	763.5‡	.....	.....	32	0.0	??	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	.....	Foggy.....	
Kearsarge, Truxillo, Honduras	30.07‡	763.8‡	.....	.....	74	23.3	86	E	.....	.....	1	.....	5	.....	WSW	0	0	Smooth	.....	Fair	
Lackawana, Honolulu, Sandwich Id's†	30.08‡	764.0‡	.....	.....	72	22.2	80	Calm	.....	.....	0	.....	5	.....	NE	.....	.....	Smooth	.....	Fair.....	
Marion, N. 27° 55′, W. 45° 35′.....	30.34‡	770.6‡	.....	.....	77	25.0	61	E	.....	.....	5	.....	5	.....	E	0	0	Rough	E	Fair.....	
Michigan, Erie, Pa.....	29.71‡	754.6‡	.....	.....	46	7.8	47	SSW	.....	.....	2	.....	10	.....	SSW	.....	.....	.....	.....	Cloudy.....	
Monocacy, Shanghai, China..	30.45‡	773.4‡	.....	.....	28	— 2.2	81	WNW	.....	.....	1-2	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
New Hampshire, Port Royal, S. C	30.27‡	768.8‡	.....	.....	56	13.3	100	Calm	0	0	.....	.....	8	.....	W	0	0	.....	.....	Cloudy	
Nipsic, Norfolk, Va.....	30.13‡	765.3‡	.....	.....	50	10.0	86	SW	.....	.....	3	.....	8	.....	SW	.....	.....	.....	.....	D. clouds.....	
Onward, Callao, Peru ..... †.	29.91‡	759.7‡	.....	.....	66	18.9	89	NNE	.....	.....	1	.....	5	.....	.....	.....	.....	Mod'ate smooth	W	Hazy.....	
Palos, Tientsin, China..	30.47‡	773.9‡	.....	.....	27	— 2.8	100	NW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Passaic, Washington, D. C.....	30.05‡	763.3‡	.....	.....	35	1.7	90	N	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Cloudy.....	
Pensacola, Callao, Peru	29.89‡	759.2‡	.....	.....	67	19.4	84	NNW	.....	.....	0-1	.....	2	.....	.....	.....	.....	Smooth	.....	Hazy.....	
Powhatan, Navy Yard, Brooklyn, N.Y.	30.03‡	762.7‡	.....	.....	38	3.3	81	SSE	.....	.....	2	.....	8	.....	S;E	0	0	.....	.....	Hazy.....	
Quinnebaug, Villafranca, France.....	30.49‡	774.4‡	.....	.....	52	11.1	79	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Ranger, Honolulu, Sandwich Ids..	30.07‡	763.8‡	.....	.....	73	22.8	95	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	.....	.....	Fair...	
Richmond, N. 14° 31′, E. 120°	29.86‡	758.4‡	.....	.....	82	27.8	83	NNE	.....	.....	2	.....	5	.....	.....	.....	.....	Smooth	NE	Fair.....	
Rio Bravo, Brownsville, Texas....†.	30.17‡	766.3‡	.....	.....	67	19.4	100	SSW	2	0.9	.....	2	5	Calm	S	0	0	.....	.....	Fair.....	
Santee. Annapolis, Md.....	30.06‡	763.5‡	.....	.....	39	3.9	91	SSW	.....	.....	1	.....	10	.....	SW	0	0	.....	.....	Cloudy.....	
Shenandoah, Montivideo, Uruguay....	29.75‡	755.6‡	.....	.....	80	26.7	54	WNW	.....	.....	3	.....	2	.....	WNW	.....	.....	Mod'ate	WNW	Fair.....	
St. Louis, League Island, Pa.....	30.02‡	762.5‡	.....	.....	32	0.0	100	S	1	0.4	.....	.....	8	.....	W	0	0	.....	.....	Fair.....	
Tennessee, Navy Yard, Brooklyn, N.Y.	30.00‡	762.0‡	.....	.....	37	2.8	81	W	.....	.....	1	.....	6	.....	Calm	.....	.....	.....	.....	Fair.....	
Tuscarora, N. 14° 00′, W. 91° 01′.....	29.89‡	759.2‡	.....	.....	77	25.0	86	N	.....	.....	2	.....	0	.....	.....	0	0	Smooth	.....	Clear.	
Vandalia. Navy Yard, Brooklyn, N.Y.	30.03‡	762.7‡	.....	.....	37	2.8	100	Calm	.....	.....	0	.....	8	.....	.....	.....	.....	.....	.....	Fair.....	
Wabash, Boston, Mass.....	29.95‡	760.7‡	.....	.....	39	3.9	82	SW	6	2.7	.....	.....	10	.....	.....	0.12	3.0	.....	.....	Light rain...	
Wachusett, S. 33°, W. 50°.....	30.47‡	773.9‡	.....	.....	74	23.3	86	NW	.....	.....	1	.....	0	.....	.....	.....	.....	Smooth	.....	Clear	
Wyoming, Villafranca, France	30.46‡	773.7‡	.....	.....	64	17.8	25	SSE	.....	.....	0-1	.....	5	.....	SSE	.....	.....	Smoot	SSE	Fair.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		CHARACTER.	DIRECTION FROM—		

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S. S. Samaria																			Capt. T. Roberts.

NOTE—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitebury.
S. S. Costa Rica																			W. House & R. Lawless.
S. S. Dakota, Capt. H. G. Morse																			Capt. Connolly.
S. S. Georgia																			F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin																			Capt. A. Fuller.
S. S. Wilmington																			
S. S. Zealandia, Sydney, N. S. W.		30.00‡	762.0‡				S			0				SE				Fine	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The orginals give the barometer as read off; wind-force by the scale 0 to to 12; for the Brittanic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer N. 39° 51′, W. 131° 37′..†		30.21‡	767.3‡	51	10.6	59	NW			8				NW		Mod'ate	NW	D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson N. 34° 53′, E. 142° 55′...†		29.41‡	747.0‡	66	18.9		SSW			6		ks		SW	0	Rough	W	D. clouds	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undutsch.
S. S. Leipzig, Capt. F. Pfeiffer N. 48° 26′, W. 31° 33′		30.26‡	768.6‡	52.0	11.1	86	WNW			8		8		W	3 hours	Heavy	WNW	Fair	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 48° 25′, W. 29° 13′		30.40‡	772.1‡				NW			7		10		W		Very Heavy	NW	Heavy rain	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
											Up'er	Lo'er	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 48° 22', W. 56° 18'.....	.....	30.52‡	775.2‡	56	13.3	.....	SSW	.....	.....	7	.....	6	.....	SW	0	Mod'ate	SW	Cloudy.....	Capt. R. W. Sargent.
S. S. Ohio.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Wm. Shackford, Chief Officer
S. S. Pennsylvania.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Harris.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents.

S. S. Belgenland.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Sam'l Jackson.
S. S. Nederland.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Randle.
S. S. Switzerland.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Jackson.
S. S. Vaderland.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Nichols.
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the barometer as read off; do not distinguish between upper and lower clouds; sea-swell in general terms, as published. ‡Corrections for temperature, instrumental error and elevation applied at this office.

ALLAN LINE MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Austrian.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Richardson.
S. S. Hibernian, N. 48° 59', W. 43° 45'.....	.....	30.27‡	768.8‡	37	2.8	.....	WSW	.....	.....	8	.....	10	.....	WSW	.....	Mod'ate	W	Cloudy.....	J. Powell, 4th Officer.
S. S. Peruvian.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. *The error of the barometer is not known. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES—Miscellaneous.

Furnished by the co-operation of the Observers named.

Schooner Addie Fuller.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. James Jorgensen.
Schooner Charley Buck.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	N. B. Foss.
Barkentine "Carrie Heckle" N. 2° 18', W. 29° 35'.....*	.....	29.83‡	757.7‡	79	26.1	.....	E	.....	.....	3	.....	10	.....	E	Drizzles.	Short	SSE	Threatening	B. F. Woodbury. W. H. Champlin.
Brigantine "George" of Halifax.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. George Gardner.
Schooner Harry and Fred.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Haytian.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Randall.
§ Iron Cross.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. P. Sandelin.
Nordenskiold of Sundsvall, Sweden..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Dunbar.
Sch'r A. A. Rowe, Capt. Beckwith...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time. *Instrumental error not known.

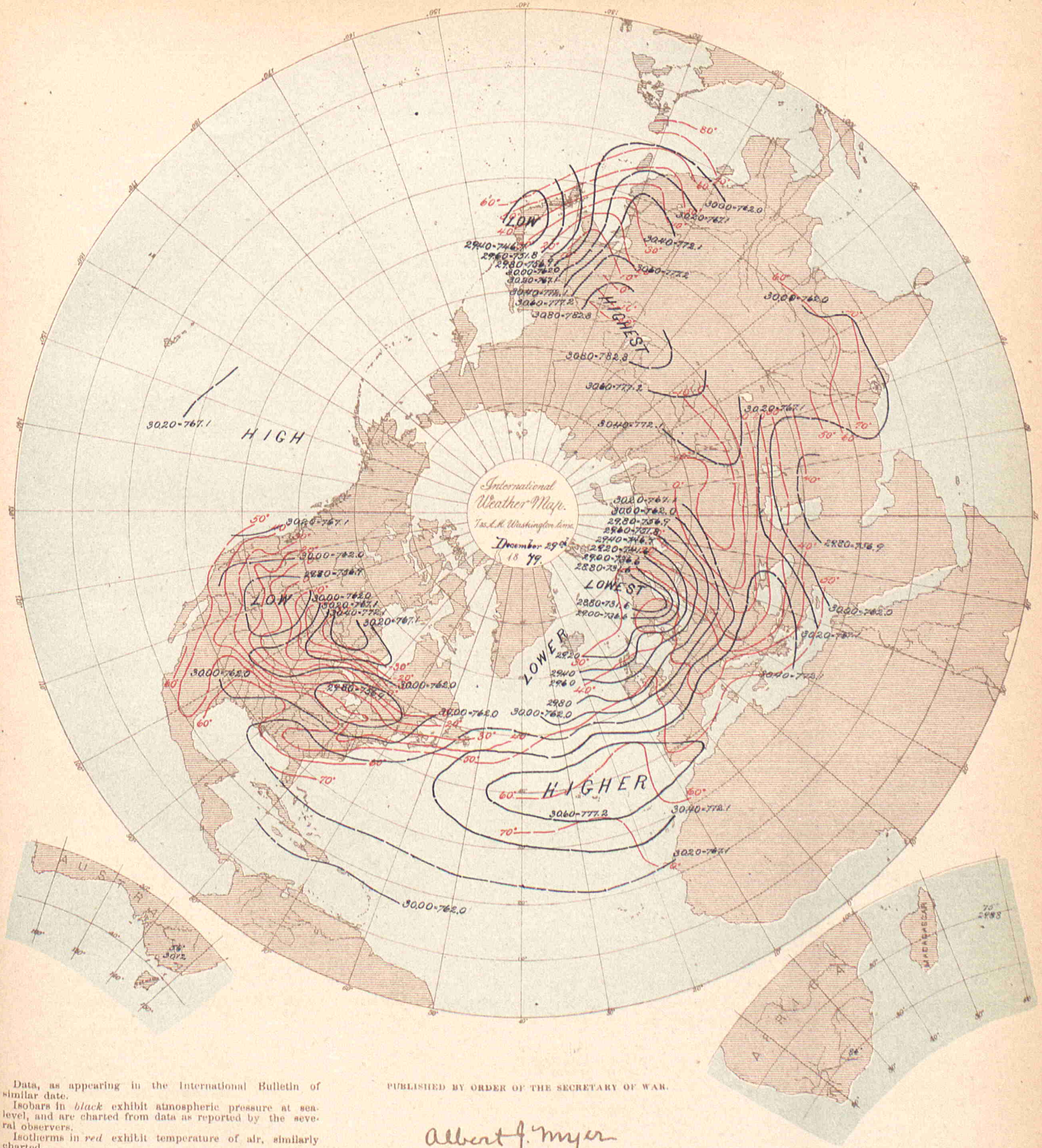
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 30, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE TOWN, C. G. H. mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instru-m'tal error and tem-perature. Inches.	Barometer. Corrected for instru-m'tal error and tem-perature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Mogador, Marocco	....	.....	30.43	773.0	59.2	15.1	79	NE	.....	.....	2	.....	2	.....	.....	0	0	Fair...	
Nemours	.....	.....	30.44	773.2	55.0	12.8	77	NE	.....	.....	1	.....	8	.....	.....	0	0	Very cloudy	Kesxuche.
Algiers	.....	.....	30.43	773.0	56.1	13.4	47	WSW	.....	.....	3	.....	0	.....	.....	0	0	Clear.	Tourilliere.
La Calle	.....	.....	30.42	772 7	56.3	13.5	62	WSW	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques
Sfax	.....	.....	30.53	775.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Herbin.
Tebessa	.....	.....	30.48	774.2	50.5	10.3	44	SSW	.....	.....	1	.....	2	.....	.....	0	0	Fair	Watrin.
Geriville	.....	.....	.....	.....	43.3	6.3	61	SE	.....	.....	2	.....	8	.....	.....	0	0	Very cloudy	Brugniuax.
Laghouat	.....	.....	30.48	774.2	46.0	7.8	66	SE	.....	.....	1	.....	8	.....	.....	0	0	Very cloudy	Bertrand.
Biskra	.....	.....	30.35	770.9	55.8	13.2	77	NW	.....	.....	1	.....	2	.....	.....	0	0	Fair...	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0–4; no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.63	752.6	30.20	767.0	42.1	5.6	73	W	.....	.....	3	.....	7	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.21	742.0	30.00	762.1	38.5	3.6	83	W	14.3	6.4	.....	.....	6	.....	.....	0.177	4.5	.....	Dr. Wierzbicki.
Eperies	29.19	741.5	30.15	765.7	18.7	— 7.4	89	S	.....	.....	1	.....	10	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.90	734.0	30.21	767.4	33.4	0.8	82	N	.....	.....	1	.....	10	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.67	728.3	30.19	766.8	28.4	— 2.0	94	SSE	.....	.....	1	.....	10	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.80	731.5	30.19	766.8	39.0	3.9	72	WNW	.....	.....	1	.....	8	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	28.87	733.3	29.91	759.7	29.1	— 1.6	98	NW	.....	.....	1	.....	10	.....	.....	0.091	2.3	.....	Dr. T. Stanecki.
Pola	30.16	766.0	30.28	769.0	43.3	6.3	84	SE	.....	.....	1	.....	10	.....	.....	0.047	1.2	Raining	I.R.Hydrographic Office
Szathmar	29.71	754.6	30.21	767.2	25.5	— 3.6	95	E	.....	.....	1	.....	10	.....	.....	0	0	.....	Pet. Pancsics, S. J.
Szegedin	29.88	759.0	30.18	766.5	34.2	1.2	.....	Calm	.....	.....	0	.....	10	.....	.....	0.161	4.10	.....	Karl Stancel.
Trieste	30.19	766.8	30.29	769.4	40.1	4.5	82	Calm	.....	.....	0	.....	10	.....	.....	Inap.	Inap.	Rain & fog.	P. Busin.
Vienna	29.42	747.2	30.09	764.2	42.8	6.0	67	W	.....	.....	2	.....	2	.....	.....	0	0	.....	I.R.Central Met. Ob'sy
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	28.98	736.1	29.08	738.6	37.8	3.2	.....	SSW	11	4.9	.....	.....	7	.....	.....	0.170	4.32	D. clouds	W. Boswell.
Ardrossan	29.07	738.4	29.09	738.9	40	4.4	.....	WNW	.....	.....	6	.....	8	.....	.....	.....	.....	Raining	Wm. McNeil & G. Carrick
Armagh, (Observatory)	29.06	738.1	29.29	744.0	35.2	1.8	.....	SW	19	8.5	.....	.....	10	.....	.....	.....	.....	Snowing	S. Call.
Bidston (Liverpool Obs)	.....	.....	29.34	745.2	37.9	3.3	.....	WSW	47	21.0	.....	.....	10	.....	.....	.....	.....	Overcast	John Hartnup.
Bolton (Sharples)	28.79	731.3	29.30	744.2	34.5	1.4	.....	SW	36	16.1	.....	.....	10	.....	.....	.....	.....	Overcast	Thomas Mackereth.
Bradford, Yorkshire	28.92	734.6	29.31	744.5	36.4	2.4	.....	NW	.....	.....	4	.....	10	.....	.....	0.06	1.5	Overcast	J McLandsborough.
Bridgetown, Barbadoes	29.91	759.7	29.94	760.6	80	26.7	.....	NE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds	Pvt. G. Surgener, A.H.C.
Cambridge (Observatory)	29.45	748.0	29.54	750.3	40.5	4.7	.....	SW	.....	.....	4	.....	10	.....	.....	Blank	Blank	Overcast	H. Todd.
Cardington	.....	.....	29.50	749.3	42.0	5.6	.....	SW	.....	.....	7	.....	8	.....	.....	.....	.....	Showery	John McLaren.
Chatham (School M. E.)	29.56	750.8	29.69	754.1	42.1	5.6	.....	S	.....	.....	7	.....	9	.....	.....	.....	.....	Showery	J. Carmell, Sapper, R.E.
Donaghadee	29.18	741.1	29.22	742.2	36	2.2	.....	WSW	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	J. Mac Gowan.
Dover	29.62	752.3	29.65	753.1	43	6.1	.....	SW	.....	.....	7	.....	7	.....	.....	.....	.....	Squally	J. Costello.
Falmouth (Observatory)	29.59	751.6	29.82	757.4	44.2	6.8	.....	W	.....	.....	7	.....	9	.....	.....	.....	.....	Raining	The Staff.
Fort Napier, Natal	27.52	699.0	29.74	755.4	76.4	24.7	.....	E	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Galway (Queen's College)	.....	.....	29.52	749.8	37	2.8	.....	W	.....	.....	5	.....	8	.....	.....	.....	.....	Hailing	Prof. A. H. Curtis.
Gibraltar, Mediterranean	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Sergt. Wm. Allen, A. H.
Glasgow, (Observatory)	28.88	733.5	29.09	738.9	36.0	3.3	.....	WSW	.....	.....	5	.....	10k	.....	.....	.....	.....	Raining	D. G. Maclean. [C.
Great Yarmouth	29.58	751.3	29.58	751.3	41	5.0	.....	SSW	.....	.....	6	.....	6	.....	.....	.....	.....	Raining	G. T. Watson.
Greenwich (Royal Obs'y)	29.46	748.3	29.63	752.6	40.3	4.6	.....	SW	.....	.....	4	.....	10	.....	.....	.....	.....	Thunder-storm	The Staff, for G. B. Airy.
Guernsey	29.65	753.1	29.87	758.7	47	8.3	.....	SW	.....	.....	6	.....	8	.....	.....	.....	.....	Rain & hail	Dr. S. E. Hoskins, F.R.S.
Helston	30.01	762.2	30.13	765.3	45	7.2	.....	WSW	.....	.....	4	.....	4k	.....	.....	0.25	6.3	.....	M. P. Moyle.
Holyhead	29.36	745.7	29.42	747.3	40	4.4	.....	WSW	.....	.....	7	.....	10	.....	.....	.....	.....	Overcast	John Tilston.
Jersey	29.62	752.3	29.91	759.7	48 4	9.1	.....	SW	.....	.....	7	.....	7	.....	.....	Blank	Blank	Squally	J. Fisher.
Kew (Observatory)	29.61	752.1	29.65	753.1	41.1	5.1	.....	SW	24	10.7	.....	.....	10	.....	.....	.....	.....	Rain & hail	The Met'g'l Office.
Leicester (Museum)	29.19	741.4	29.45	748.0	37.9	3.3	.....	SW	.....	.....	6	.....	10	.....	.....	.....	.....	Drizzling	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	30.36	771.1	30.43	772.9	59	15.0	.....	W	.....	.....	1	.....	1k	.....	.....	.....	.....	Blue sky	A. King.
Nairn	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. D. Penny.
Nassau, Bahamas	.....	.....	30.25	768.3	74.5	23.6	.....	NE	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham (Observatory)	29.23	742.4	29.42	747.3	38.3	3.5	.....	SSW	.....	.....	5	.....	10d	.....	SW	0.034	0.86	Raining	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	28.94	735.1	29.48	748.8	34.2	1.2	.....	SW	.....	.....	6	.....	10	.....	.....	.....	.....	Rain & snow	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)	.....	.....	29.58	751.3	42	5.6	.....	WSW	.....	.....	6	.....	10	.....	.....	.....	.....	Overcast	H. E. Bellamy.
Plymouth	29.70	754.4	29.77	756.1	44.8	7.1	.....	W	.....	.....	6	.....	10	.....	.....	Blank	Blank	Overcast	John Merrifield.
*Roche's Point	29.60	751.8	29.70	754.4	42	5.6	.....	NW	.....	.....	7	.....	10	.....	.....	.....	.....	Raining	Wm. Kennedy.
St. Ann's Head	29.43	747.5	29.60	751.8	43	6.1	.....	WNW	.....	.....	9	.....	7	.....	.....	.....	.....	Squally	John C. Walker.
Sandwick Manse, Orkneys	.....	.....	29.00	736.6	38	3.3	.....	SE	24	10.7	.....	.....	10	.....	.....	.....	.....	Misty	Rev. C. Clouston, L.L.D.
Scutari Cemetery, Turkey	30.23	767.8	30.30	769.6	38.6	3.7	.....	SW	.....	.....	3	.....	9	.....	.....	.....	.....	Gloomy	Serg't W. H. Lyne.
Sheffield	29.12	739.6	29.41	747.0	37.4	3.0	.....	SW	.....	.....	6	.....	10	.....	.....	0.40	10.2	Raining	W. F. Cooper.
Silloth Rectory	29.14	740.1	29.17	740.9	38.9	3.8	93	W	.....	.....	6	.....	10	.....	.....	0.550	13.97	Raining	Francis Redford, A. M.
Stonyhurst (Observatory)	.....	.....	29.28	743.7	38.0	3.3	.....	WSW	32	14.3	.....	.....	10	.....	.....	.....	.....	Raining	Rev. S. J. Perry.
Strathfield, Turgiss	.....	.....	.....	.....	39.8	4.3	.....	W	.....	.....	5-6	.....	10	.....	.....	.....	.....	Rain, hail, snow	Rev. C. H. Griffith, F.M.S.
Truro (Royal Institution)	29.82	757.4	29.88	758.9	48	8.9	.....	NW	.....	.....	9	.....	10	.....	.....	.....	.....	Raining	W. Newcombe.
Valencia Observatory)	29.72	754.9	29.75	755.6	40.7	4.8	.....	W	48	21.5	.....	.....	10	.....	.....	Blank	Blank	Misty	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.38	644.6	.....	.....	87	30.6	.....	W	.....	.....	.....	.....	5	.....	.....	.....	.....	.....	Robert Burnet.
Constable, Cape Colony	26.70	678.2	.....	.....	84	28.9	.....	W	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Hobart Town, Tasmania	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Leith (Restalrig Park) Sc'tl'd	.....	.....	29.08	738.6	40.0	4.4	.....	SW	.....	.....	4	.....	5k	.....	.....	0.22	5.6	Cloudy	C. Meldrum.
Mauritius (Observatory)	29.68	753.9	29.87	758.6	79.0	26.1	68	E	8.0	3.6	.....	.....	10	.....	.....	0.03	0.8	Overcast	R. L. J. Ellery.
Melbourne (Observatory)	30.08	764.0	30.17	766.3	57.8	14.3	80	SSE	5	2.2	.....	.....	1	.....	.....	0	0	Very fine	J. Youngclause.
Monach Lt-house, Hebrides	.....	.....	.....	.....	43	6.1	.....	SW	.....	.....	8	.....	10	.....	.....	0.3	8.	.....	.....
North Unst, Shetland Is	.....	.....	29.17	740.9	.....	.....	.....	SE	.....	.....	6	4	6	Calm	.....	0	0	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown.

BRITISH MARINE SERIES. VESSELS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. Alert, Puerto Bueno, Patagonia	.....	.....	29.61‡	752.1‡	52.5	11.4	.....	Calm	.....	.....	0	.....	9	.....	.....	.....	.....	Overcast	Capt. J. P. Maclear, R.N.
H. M. Sloop Gannet, S. 18° 28′, W. 70° 21′	.....	.....	29.87‡	758.7‡	74	23.3	.....	Calm	.....	.....	0	.....	3	.....	.....	.....	.....	D. clouds	Commander E. Bourke, R. N.
H. M. S. Magpie, House Island, near Shanghai, China	.....	.....	30.47‡	773.9‡	35.0	1.7	.....	NW	.....	.....	5-6	.....	9	.....	.....	.....	.....	Squally	Capt. R. H. Napier, R.N.
Barque Belle-Isle, N. 41° 30′, W. 37° 50′	.....	.....	30.44	773.2	62	16.7	.....	SW	.....	.....	5	.....	9	.....	.....	4	SSW	Overcast	Capt. A. J. Brown
City of Cashmere, S. 30° 46′, W. 134° 40′	.....	.....	30.03‡	762.7‡	71	21.7	.....	NNW	.....	.....	3	.....	10	.....	.....	.....	.....	Showery	Capt. W. M. Grieve.
Barque Commewyne, N. 15° 15′, W. 58° 45′	.....	.....	29.97‡	761.2‡	78	25.6	.....	NE	.....	.....	4	.....	2	.....	.....	.....	.....	Blue sky	Capt. Jas. Buchan.
Barque Fedalma, N. 35° 30′, W. 57° 35′	.....	.....	30.30	769.6	68	20.0	.....	WSW	.....	.....	5	.....	8	.....	.....	2	WSW	D. clouds	Capt. H. L. Fox.
S. S. German, N. 3° 46′, W. 12° 54′	.....	.....	29.87‡	758.7‡	85	29.4	.....	Calm	.....	.....	0	.....	3	.....	.....	.....	.....	D. clouds	Capt. O. D. Coxwell.
Iron Cross, N. 49° 05′, W. 21° 50′	.....	.....	30.15	765.8	54	12.2	.....	WSW	.....	.....	6	.....	3	.....	.....	9	NW	Misty	Capt. W. Randall.
S. S. Peruvian, N. 49° 25′, W. 45° 55′	.....	.....	29.39	746.5	46	7.8	.....	WSW	.....	.....	6	.....	10	.....	.....	.....	.....	Raining	Capt. W. H. Smith.
S. S. Strathleven, S. 0° 20′, E. 69° 15′	.....	.....	29.75‡	755.6‡	80.0	26.7	.....	NW	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	Capt. C. W. Pearson.
S. S. Sunbeam, N. 45° 35′, W. 39° 00′	.....	.....	29.98	761.5	61	16.1	.....	SW	.....	.....	7	.....	10	.....	.....	7	SW	Squally	Capt. C. M. Dobson.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected.
‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	L'w'r 0—10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER.
San José	26.20	665.5	29.92	760.0	63.5	17.5	83	SE	.....	.....	3	.....	3d	.....	NE	0	0	.....	Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.47	748.4	29.51	749.6	37.8	3.2	87	WSW	.....	.....	4	.....	8	.....	.....	.....	.....	Snowing	
Faröe	29.54	750.3	29.56	750.8	38.7	3.7	83	W	.....	.....	6	.....	9	.....	.....	.....	.....	.....	
Godthaab (Greenland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Stykkisholm (Iceland)	28.86	733.1	28.91	734.2	27.3	— 2.6	96	E	.....	.....	6	.....	.....	.....	.....	.....	.....	.....	
Thorshavn (Faröe)	28.91	734.4	28.95	735.3	39.6	4.2	85	SE	.....	.....	6	.....	6	.....	.....	.....	.....	.....	
Vestervig	29.29	744.0	29.40	746.8	38.7	3.7	83	WSW	.....	.....	7	.....	8	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.60	751.9	30.15	765.9	41.0	5	84	S	.....	.....	1	.....	8km	.....	.....	0.177	4.5	Very cloudy	Collignon, Director.
Amiens, Normal School	30.15	765.9	30.27	768.8	42.8	6	79	SSW	.....	.....	2	.....	5	.....	NE	0	0	Cloudy	Vaillant, Director.
Arras, Engin'r School	29.99	754.2	29.96	761.0	38.8	3.8	80	SW	.....	.....	6	.....	10	.....	.....	0.126	3.2	Sprinkling	Klein, Commandant.
Avignon, Normal School	30.24	768.0	30.32	770.0	51.1	10.6	52	N	.....	.....	1	.....	2	.....	W	0	0	Light clouds	Giraud, Director.
Bar-sur-Seine	29.68	753.8	30.26	768.6	38.5	3.6	82	S	.....	.....	1	.....	8km	.....	W	0.343	8.7	Very cloudy	C. Saillard, Director.
Beauvais, Normal School	29.76	756.0	30.04	763.0	41.5	5.3	75	SSW	.....	.....	2	.....	8	.....	WSW	0.098	2.50	Very cloudy	Frère Eugene Marie.
Besançon, Normal School	29.36	745.8	30.29	769.4	37.6	3.1	.....	S	.....	.....	1	.....	8	.....	W	0	0	Very cloudy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.47	748.5	30.39	771.8	44.2	6.8	94	S	.....	.....	1	.....	2cn	.....	SW	0.244	6.2	Slightly cl'dy	Marlot, Director.
Bourges, Normal School	29.71	754.6	30.28	769.2	41.0	5	97	SSW	.....	.....	3	.....	1	.....	SSW	0	0	Clear	M. Gence, Director.
Brest, Naval Observatory	29.85	758.1	30.09	764.3	51.8	11.0	77	SW	.....	.....	4	.....	9	.....	SW	0.059	1.50	Squally	Ch. de Kermaree, Dir.
Caen, Normal School	29.88	758.9	29.96	761.0	44.6	7	84	SSW	.....	.....	4	.....	.....	.....	SSW	0.161	4.1	.....	M. Bietrix, Director.
Carcassonne, N. School	29.93	760.2	30.36	771.1	45.0	7.2	77	W	.....	.....	3	.....	10	W	W	0	0	Covered	September, Director.
Châlons-sur-Marne, N. Sch'	29.91	759.6	30.24	768.1	35.6	2.0	93	SW	.....	.....	2	.....	2	WSW	WSW	.....	.....	Slightly cl'dy	Jadot, Director.
Chartres, Normal School	29.53	750.0	30.12	765.0	37.0	2.8	81	S	.....	.....	3	.....	3	NE	.....	0.39	10.	.....	Vergier, Director.
Clermont-Fd, Puy de D. Obs	29.91	754.4	30.31	769.8	46.4	8.0	59	W	.....	.....	1	.....	2	.....	W	0	0	.....	Alluard, Director.
Commercy, Normal School	29.32	744.6	30.26	768.5	36.7	2.6	89	SW	.....	.....	4	.....	5km	.....	SW	1.071	27.2	Cloudy	Dr. Coullet, Director.
Commune de Gréasque*	29.18	741.1	30.32	770.1	45.7	7.6	42	W	.....	.....	2	.....	5	.....	SW	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.68	751.3	30.39	771.9	35.6	2	71	SE	.....	.....	1	.....	8km	.....	NW	0	0	Very cloudy	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.06	763.4	30.28	769.0	48.6	9.2	74	SSW	.....	.....	1	.....	5	.....	SW	0.177	4.5	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.88	758.9	30.20	767.1	40.6	4.8	87	SW	.....	.....	4	.....	8	WNW	W	0.220	5.6	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.39	746.6	30.39	772.0	39.4	4.1	98	S	.....	.....	1	.....	5	S	SW	1.02	26.	Cloudy	A. Baudry, Director
Lorient, Naval Observatory	30.06	763.5	30.17	766.3	49.6	9.8	84	SW	.....	.....	7	.....	.....	.....	W	0.173	4.4	.....	Lt. T. Carré, Director
Lyons Obs'y (Park Station)	29.69	754.2	30.34	770.6	40.3	4.6	80	SE	.....	.....	1	2c;k	.....	.....	.....	0.130	3.30	Clear	Ch. André, Director
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galxin, Director.
Marseilles, Observatory	30.01	762.3	30.29	769.3	47.3	8.5	49	NW	.....	.....	2-3	.....	7	.....	W	0	0	.....	E. Stephan, Director.
Mirecourt, Normal School	29.26	743.2	30.36	771.1	36.5	2.5	89	NE	.....	.....	1	.....	km	.....	NE	0	0	.....	Barbier, Director.
Mont-Louis	25.68	630.9	30.39	771.9	37.4	3.0	45	SE	7.4	3.3	.....	.....	4	.....	NE	0	0	.....	M. Cave
Nice	30.22	767.6	30.26	768.5	51.8	11.0	70	WSW	.....	.....	2	.....	5	W	WSW	0	0	Cloudy	M. Boissière, Director.
Nismes, Normal School	30.14	765.6	30.43	773.0	51.4	10.8	73	N	.....	.....	1	.....	5	.....	E	0	0	Cloudy	M. Boyer, Director.
Paris, Montsouris Obs'y	29.84	758.0	.....	.....	38.8	3.8	83	SSW	.....	.....	4	8c	.....	SW	.....	0.079	2.0	.....	Marié Davy, Director.
Perpignan	30.25	768.4	30.36	771.2	52.3	11.3	66	NW	11.2	5.0	.....	.....	2	NW	NW	0	0	.....	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.65	575.4	.....	.....	27.7	— 2.4	.....	.....	.....	.....	.....	.....	.....	.....	NW	0.059	1.5	.....	Gen'l de Nansouty.
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Privas, Normal School	29.21	742.0	30.31	769.8	46.4	8	72	SW	.....	.....	1	.....	1	SW	SW	0	0	Clear	M. Tallieu
Puy de Dome (Summ') Obs	25.24	641.2	.....	.....	27.3	— 2.6	98	W	.....	.....	4	.....	0	.....	.....	0.012	0.3	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	30.33	770.3	30.36	771.1	44.6	7.0	100	SSW	.....	.....	1	.....	5	SSW	SSW	0.08	2.	½ covered	Lt E. Decante, Director
Rouen, Normal School	29.91	759.7	30.00	761.9	43.0	6.6	70	S	.....	.....	4	.....	8	.....	SW	0.315	8.0	Very cloudy	Frere Lucard, Director
Saint Malo (Port) Obs'y	29.97	761.3	30.00	762.1	50.7	10.4	64	SW	.....	.....	6	.....	1	SW	SW	0.142	3.60	Clear	Lt. Hercouet, Director
Saint Maur (near Paris)	29.97	761.3	30.14	765.5	37.2	2.9	83	SSW	.....	.....	4	.....	8	W	W	0.070	1.9	.....	E. Renou, Director.
Tarbes, Normal School	29.31	744.4	30.43	772.9	45.7	7.6	91	SW	.....	.....	1	.....	5	N	NW	0.04	1.	Cloudy	T. Huguet, Director.
Toulouse, Observatory	29.70	754 3	30.44	773.2	41.4	5.2	98	SW	.....	.....	1	.....	10	.....	.....	0	0	Covered	M. Julier Mercadier.
Tours	30.02	762.4	30.21	767.4	42.1	5.6	81	SW	.....	.....	1	.....	1	Calm	WSW	0.142	3.6	Almost clear	Cousin-Marquet.
Versailles, Observatory	29.61	752.1	30.10	764.6	41.0	5.0	71	SW	.....	.....	2	.....	.....	.....	.....	0.043	1.11	.....	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.71	754.6	30.46	773.7	37.4	3	73	SE	.....	.....	1	.....	2	.....	.....	0	0	Slightly cl'dy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.92	759.9	29.95	760.6	77.0	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.39	10.	.....	L'Abbé Marchési
Zi-Ka-Wei (near Shanghai)	30.46	773.6	30.48	774.3	30.6	— 0.8	98	NW	13.7	6.1	.....	ck	10k	.....	NW	0	0	Covered	Marc Dechevrens.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second: the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,272 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,082.97 ft.; Mont-Louis, 1,686.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.25	743.0	30.10	764.5	37.4	3.0	78	W			6		3k	W		0.047	1.2		Prof. Dr. Hoh.
Berlin	29.68	753.9	29.86	758.4	39.2	4.0	76	SW			6		0			0.026	0.5		Prof. Dr. Arndt.
Breslau	29.47	748.4	30.00	761.9	39.0	3.9	66	W			4		4	W		0.167	4.24		Royal University Obs'y.
Carlsruhe	29.73	755.2	30.17	766.4	42.1	5.6	72	SW			3		5	SW		0.181	4.6		Albert Senz.
Cassel	29.40	746.8	30.01	762.2	37.4	3.0	75	W			3					0.034	0.88	Snowing	Dr. H. Möhl.
Emden			29.69	754.0	37.6	3.1	88	SSW			3		5			0.059	1.5		Prof. Dr. Prestel.
Frankfort on the Main	29.83	757.7	30.22	767.6	38.3	3.5	73	SW			3		5			0.378	9.6		Physical Society.
Friedrichshafen	28.78	730.9	30.27	768.8	38.8	3.8	83	W			5		10	W		0	0		Chief Telegrapher Wilhelm.
Hamburg	29.71	754.6	29.78	756.4	38.3	3.5	83	SW			6		4			0.071	1.8		Capt. P. F. A. Hegerman.
Kiel	29.68	753.9	29.70	754.3	37.4	3.0	87	WSW			5		5			0.107	2.73		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.47	748.4	29.55	750.5	34.7	1.5	96	SW			6		8			0.114	2.9		Prof. E. Luther.
Köslin			29.68	753.8	36.1	2.3		SW			4		4			0.331	8.4		H. Müller.
Leipsic Observatory	29.61	752.1	30.05	763.2	36.1	2.3	75	SW			4		6			0.173	4.4		Prof. Dr. Bruhns, Privy Counselo
Magdeburg	29.72	754.8	29.94	760.5	39.0	3.9	69	SW			5		0			0	0		Dr. Assmann.
Memel	29.36	745.8	29.41	746.9	37.9	3.3	92	WSW			6		10n					Rain & snow	Reinbrecht & Issermann.
Munich (München)	28.34	719.7	30.21	767.3	39.0	3.9	70	W			4		5	SW		0.020	0.5		Dr. C. Lang.
Neufahrwasser	29.56	750.9	29.58	751.3	38.1	3.4	80	W			7		8			0.079	2.0		A. Lothes.
Neustadt (Palatinate)	29.61	752.0	30.13	765.4	41.0	5.0	69	SW			5		7	SW		0.138	3.5		Reallehrer Dicknether
Posen	29.54	750.4	29.84	758.0	36.5	2.5	68	W			9		10			0.043	1.1	Raining	Prof. Dr. Magener.
Strassburg (in Alsace)	29.68	753.7	30.25	768.3	39.4	4.1	78	SW			3		3	SW		0.043	1.11		Imp. University Observatory.
Stuttgart	29.22	742.2	30.20	767.0	39.2	4.0	64	W			1		0			0.102	2.6		Prof. Dr. Schoder.
Weissenburg (Bavaria)	28.66	728.0	30.23	767.9	36.9	2.7	75	W			2		8ks		W	0	0		Reallehrer J. Hopfner.
Wustrow	29.67	753.5	29.69	754.1	36.0	2.2	96	SW			6		8ks			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	30.00	762.1	30.40	772.2	59.0	10.0		NE			1–0		0			Clear.		Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.98	761.5	30.03	762.8	69.1	20.6	54	SW	8	3.6			0			0	0	Blue sky
Deesa	29.54	750.4	30.03	762.8	69.7	20.9	40	NW	9.3	4.2			0			0	0	Blue sky
Bombay	29.86	758.4	29.90	759.4	74.8	23.8	72	NNW	19	8.5			0			0	0	Blue sky
Poona (Yarrowda)	28.04	712.2	29.90	759.3	78.8	26.0	20	NE	10	4.5			0			0	0	Blue sky
Belgaum	27.34	694.5	29.88	759.0	76.1	24.5	30	NE	1	0.4			3	S		0	0	D. clouds
Lahore	29.20	741.8	29.99	761.7	57.6	14.2	42	W	1.3	0.6			0			0	0	Blue sky
Roorkee	28.97	735.9	29.92	759.9	56.0	13.3	57	NW	3.8	1.7			0			0	0	Foggy
Agra	29.41	747.1	30.01	762.2	59.8	15.4	43	W	6.9	3.1			0			0	0	
Nagpur	28.89	733.7	29.95	760.8	70.2	21.2	36	Calm	2.3	1.0			0			0	0	Blue sky
Jubbulpore	28.59	726.1	29.99	761.7	68.0	20.0	29	Calm	2.5	1.1			0			0	0	Blue sky
Lucknow	29.58	751.4	29.98	761.5	55.3	12.9	65	NW	3.3	1.5			0			0	0	Blue sky
Allahabad	29.66	753.3	29.99	761.7	53.5	11.9	62	Calm	3.6	1.6			0			0	0	Blue sky
Patna	29.78	756.4	29.97	761.2	59.4	15.2	59	W	0.7	0.3			6	W	W	0	0	D. clouds
Hazaribagh	27.86	707.6	29.97	761.3	54.8	12.7	52	WNW	9.2	4.1			0			0	0	Blue sky
Cuttack	29.94	760.5	30.02	762.6	67.2	19.6	72	NNW	0.9	0.4			0			0	0	Blue sky
Calcutta (Alipore)	29.91	759.8	29.94	760.4	60.9	16.1	77	Calm					0			0	0	Blue sky
Goalpara	29.53	750.0	29.93	760.3	62.7	17.1	71	ESE	4.4	2.0			0			0.25	6.4	Blue sky
Chittagong	29.82	757.4	29.91	759.8	69.5	20.8	76	Calm	1.3	0.6			0			0	0	Misty
Sibsagar	29.63	752.6	29.98	761.5	61.0	16.1	84	ENE	1.4	0.6			8	W	W	0.38	9.6	D. clouds

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,846.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.87	758.6	30.31	769.8	36.1	2.3	77	Calm	0	0	.....	.....	10	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.73	755.2	30.29	769.3	34.2	1.2	75	NE	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	30.19	766.7	30.30	769.7	32.9	0.5	79	NNW	2.5	1.1	.....	.....	10	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.32	744.6	30.30	769.6	30.6	— 0.8	87	NNE	0.7	0.3	.....	.....	2	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	30.03	762.8	30.23	767.8	51.3	10.7	69	SE	6.3	2.8	.....	.....	10	SE	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.28	718.2	30.28	769.1	34.0	1.1	64	E	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.23	767.9	30.28	769.2	39.2	4.0	90	S	1.8	0.8	.....	.....	10	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	30.06	763.5	30.33	770.4	41.0	5.0	87	W	.....	.....	2	.....	10	W	.....	0	0	.....	Cav. F. Meucci.
Leghorn	30.19	766.9	30.28	769.1	52.7	11.5	70	S	13.0	5.8	.....	.....	10	.....	.....	0	0	.....	Prof. P. Monte.
Rome	30.21	767.1	30.39	771.8	46.9	8.3	72	N	0	0	.....	.....	10	.....	.....	0	0	.....	Prof. P. S. Ferrari
Lecce	30.13	765.2	30.39	771.9	51.4	10.8	63	W	3.8	1.7	.....	.....	8	W	.....	0	0	.....	Prof. C. De Giorgi
Cosenza	29.52	749.8	30.46	773.6	48.9	9.4	71	SE	0	0	.....	.....	10	.....	.....	0.031	0.8	.....	Prof. D. Conti.
Cagliari	30.20	767.0	30.40	772.1	52.7	11.5	64	NW	.....	.....	2	.....	8	SW	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	30.17	766.2	30.43	772.9	56.8	13.8	46	WSW	11.9	5.3	.....	.....	8	WSW	.....	0	0	.....	Prof. G. Ciaccia'tore.
Syracuse	30.36	771.7	30.46	773.6	62.3	11.3	66	S	2.5	1.1	.....	.....	4	WSW	.....	0	0	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.84	758.0	30.38	771.7	50.4	10.2	70	NW	4.9	2.2	.....	.....	9	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.79	756.6	29.81	757.2	35.2	1.8	77	WNW	8.3	3.7	.....	.....	8ks;ck	.....	.....	0.013	0.33	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.77	756.1	29.98	761.5	38.0	3.3	89	WNW	7.8	3.5	.....	.....	8s;n	.....	.....	0.330	8.38	Raining	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.25	742.9	29.32	744.7	37.4	3.0	58	SW	10.7	4.8	.....	0	0	.....	.....	0.010	0.25	Clear	The Staff.
Wakayama	29.62	752.3	29.67	753.6	40.4	4.7	67	WNW	10.6	4.7	.....	.....	10ks	.....	NNW	0	0	Cloudy	

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima																			R. Banda, C. E.
Guadalajara	25.07	636.7	30.28	769.0	41.0	5.0	54	Calm	.....	.....	0	.....	0	.....	.....	0	0	Fine	Prof. L. Perez.
Leon	24.48	621.9	30.31	769.9	49.5	9.7	79	N	.....	.....	1	0	0	.....	.....	0	0	Pleasant	Prof. M. Leal.
Mazatlan	29.74	755.5	30.00	762.1	65.7	18.7	89	W	.....	.....	2	0	0	.....	.....	0	0	Hazy	I. Guerrero, C. E.
Mexico, Central Observatory	23.08	586.3	30.31	769.9	41.2	5.1	43	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	42.3	5.7	66	Calm	.....	.....	0	0	0	.....	.....	0	0	Pleasant	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.46	595.9	30.51	775.0	36.5	2.5	53	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.19	614.5	30.38	771.7	42.1	5.6	41	E	.....	.....	1	.....	10	.....	E	0	0	Covered	G. Barroeta, M. D.
Tlacotalpam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. M. Châzaro.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell
Zacatecas	22.58	573.6	30.27	768.9	51.1	10.6	49	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	J. C. Castrillon

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column; the instrumental correction —0.88 mm., or —0.035 inch, has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.84	757.9	29.84	757.9	38.1	3.4	.....	SSW	.....	.....	5	.....	.....	.....	.....	0	0	.....	
Groningen	29.73	755.1	29.78	756.5	38.5	3.6	.....	SW	.....	.....	4	.....	.....	.....	.....	0.024	0.6	.....	
Helder	29.69	754.2	29.69	754.2	39.0	3.9	.....	SSW	.....	.....	5	.....	.....	.....	.....	0.098	2.5	.....	
Hellevoetsluis	29.82	757.4	29.82	757.4	38.5	3.6	83	SW	.....	.....	5	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.80	756.8	29.84	758.0	40.3	4.6	76	SSW	.....	.....	5	.....	5	.....	.....	0.051	1.3	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.35	745.4	29.40	746.8	36.0	2.2	85	SE	7.4	3.3	.....	.....	1	.....	.....	0.016	0.4	.....	
Brönö	28.84	732.5	28.88	733.5	33.8	1.0	81	SW	18	8	.....	.....	10	.....	.....	0.280	7.1	Rain & snow	
Christiana	29.06	738.1	29.21	741.9	28.2	— 2.1	98	Calm	0	0	.....	.....	10	.....	.....	0	0	Foggy	
Tromsö	28.73	729.7	28.77	730.8	29.7	— 1.3	78	SW	9	4	.....	.....	10	.....	.....	0	0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. J. A. Sampaio.
Campo Major	29.40	746.7	30.43	773.0	49.3	9.6	62	E	1.8	0.8	.....	.....	5	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	30.38	771.6	30.47	773.2	63.3	17.4	54	ENE	6.9	3.1	.....	.....	7	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon Observatory	30.13	765.4	30.50	774.8	51.8	11.0	69	ENE	2.5	1.1	.....	.....	3	N	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.60	777.2	30.67	779.0	64.0	17.8	57	Calm	0	0	.....	.....	5	.....	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.															Sea or swell. Height scale 0–9	Sea or swell. Direction form—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. [illegible] Sande, Com'd't.
Duque da Terceira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa, Brava, Cape Verd Islands	.....	.....	.....	.....	76.6	24.8	.....	NE	.....	.....	6	.....	7	.....	NE	3	NE	D. clouds.....	A. D. da Fonseca Sarurento.....
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Comd't.
Sado, Capt. J. A de Brito Capello, Ambriz, Gulf of Guinea	.....	.....	29.85	758.3	83.3	28.5	.....	W	.....	.....	3	.....	3	.....	.....	3	W	D. clouds.....	F. de Assis Camillo, jun., Q. M.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	.....	.....	30.18	766.5	64.8	18.2	.....	NE	.....	.....	2	.....	0	.....	.....	1	.....	Blue sky.....	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sá da Bandeirá gives the barometer reduced tofreezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	29.39	746.6	29.41	747.1	— 4.4	—20.2	79	ESE	18	8	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Astrakhan	30.23	767.7	30.14	765.6	0.3	—17.6	84	W	18	8	.....	.....	10	.....	.....	.....	.....	.....	Capt. Wisganow.
Barnaul	29.99	761.8	30.56	776.3	— 2.4	—19.1	97	Calm	0	0	.....	.....	9	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Dorpat	29.13	739.9	29.38	746.2	35.8	2.1	96	SW	9	4	.....	.....	10n	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	29.14	740.1	30.21	767.4	1.2	—17.1	92	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	29.80	757.0	30.11	764.9	—15.7	—26.5	77	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Foggy	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.13	739.9	29.80	757.0	20.5	— 6.4	95	SSW	7	3	.....	.....	10n	.....	.....	.....	.....	Snow-fog....	Physical Cabinet.
Krotkowo*	29.60	751.8	30.13	765.3	— 6.9	—21.6	78	NNE	0	0	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	29.93	760.3	30.16	766.1	9.0	—12.8	75	SSW	18	8	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Moscow	29.18	741.1	29.78	756.4	3.6	—15.8	85	SSW	7.8	3.5	.....	.....	10s	.....	.....	.....	.....	Light snow.	Meteorological Obs.
Nertchinsk	28.21	716.5	30.93	785.5	—22.0	—30.2	81	Calm	0	0	.....	.....	2	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Nikolaiev	29.99	761.8	30.07	763.6	32.5	0.3	83	SSW	9	4	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	29.84	758.0	30.09	764.2	33.3	0.7	82	WSW	9	4	.....	.....	8ks	.....	.....	.....	.....	.....	.....
Oranberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	30.43	773.0	30.58	776.6	27.0	— 2.8	43	NW	9	4	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	29.28	743.7	29.30	744.1	34.9	1.6	80	WSW	11	5	.....	.....	10kpn	.....	.....	.....	.....	.....	Central Physical Obs.
Tashkend	28.42	721.9	30.02	762.5	46.0	7.8	39	NE	9	4	.....	.....	2	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.77	730.7	30.26	768.5	33.3	0.7	71?	NW	13	6	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	29.36	745.8	29.80	756.9	35.2	1.8	85	W	27	12	.....	.....	8ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.14	740.1	29.57	751.1	34.5	1.4	94	SW	4	2	.....	.....	10	.....	.....	.....	.....	Heavy clouds..	Astronomical Obs.
Yenisiesk	30.43	772.9	30.75	781.1	2.3	—16.5	80	WNW	2	1	.....	.....	5	.....	.....	.....	.....	.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	30.30	769.6	30.41	772.4	48.2	9	58	SSE	1.5	0.67	.....	.....	1	.....	.....	0	0	Light Mist...	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.37	771.5	30.43	773.0	50.4	10.2	74	S	1.4	0.61	.....	10	.....	.....	.....	0.008	0.2	Raining	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.41	696.2	.....	.....	41.0	5.0	61	SW	1.0	0.44	.....	0	1	.....	.....	0	0	Almost clear	Domingo Martin y Perez.
Madrid, Royal Observatory	28.15	714.9	30.49	774.4	39.2	4.0	77	SE	0.7	0.33	.....	3	4	SW	.....	0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	30.29	769.4	30.45	773.3	52.9	11.6	74	NW	1.4	0.64	.....	2	4	SW	.....	0	0	Clouds.....	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.56	750.9	30.49	774.4	47.7	8.7	95	NW	0	0	.....	.....	0	.....	.....	0.079	2.0	Almost cov'd	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.14	765.5	30.21	767.2	67.9	19.9	89	Calm	0	0	.....	0	2k	.....	E	0	0	Clear.	Benito Vines S. J.
Manilla, Phillippine Islands	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.32	770.2	30.43	772.8	55.8	13.2	63	ENE	5.8	2.6	.....	0	4	.....	ENE	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.96	761.0	30.05	763.3	75.9	24.4	81	E	16.0	7.14	.....	7ck	3kn	E	E	0.256	6.50	Cloudy.....	Enrique Gadea, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	28.99	736.3	28.98	736.1	6.1	—14.4	.....	Calm	.....	.....	0	.....	0	.....	.....	0.276	7.0	.....	
Umea	28.98	736.0	29.03	737.3	23 0	— 5.0	86	SW	.....	.....	2	.....	9	.....	.....	0	0	.....	
Hernosand	29.01	736.8	29.06	738.1	27.3	— 2.6	92	SW	.....	.....	2	.....	0	.....	.....	0.083	2.1	.....	
Stockholm	29.08	738.7	29.26	743.2	34.9	1.6	89	SW	.....	.....	2	.....	10	.....	.....	0.079	2.0	Foggy	
Wisby	29.24	742.8	29.30	744.3	34.9	1.6	96	W	.....	.....	6	.....	10	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.07	738.3	29.15	740.5	33.4	0.8	93	SW	7.8	3.5	.....	.....	10	.....	.....	0.030	0.76	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.86	733.0	30.32	770.2	41.2	5.1	76	S	.....	.....	2	.....	6	.....	.....	0.189	4.8	Cloudy	The Observatory.
Zurich	28.68	725.9	30.28	769.0	37.4	3.0	94	NW	.....	.....	1	.....	7	.....	.....	0.091	2.3	Foggy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +5.3 mm.; Thermometer, +3.7 Cent.; Relative Humidity, —5 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.37	771.3	36.7	2.6	98	SW	11	5.0	.....	.....	10	.....	SW	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.35	770.8	50.9	10.5	.....	N	.....	.....	1	.....	0	.....	.....	0	0	Clear.	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	30.19	766.8	30.32	770.0	41.0	5.0	50	NE	.....	.....	4	.....	3ks	.....	NE	0.25	6.3	D. clouds	Prof. C. V. A. van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	29.96	761.0	29.97	761.2	9.6	—12.4	.....	NW	6	2.7	.....	.....	.....	.....	.....	0.30	7.6	Clear.	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Bigg.
Chatham, N. B	29.88	758.9	29.94	760.5	17.1	— 8.3	83	NW	11	4.9	.....	.....	10s	.....	.....	0.09	2.3	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	29.80	756.9	29.85	758.2	27.9	— 2.3	79	N	8	3.6	.....	.....	10n	.....	.....	0.13	3.3	Light snow.	H. J. Cundall, C. E.
Cornwall, Ontario	30.00	762.0	30.21	767.3	6.0	—14.4	100	N	.....	.....	4	.....	10n	.....	.....	0.20	5.1	Cloudy	James Smith, M. A.
Dalhousie, N. B	29.80	756.9	29.98	761.5	— 3.5	—19.7	.....	W	2	0.9	.....	0	2ks	.....	.....	0.20	5.1	Fair	H. A. Johnson.
Father Point, Quebec	30.16	766.1	30.18	766.6	— 1.7	—18.7	84	N	18.0	8.0	.....	0	5s	.....	.....	0.12	3.0	Clearing	J. McWilliams.
Fredericton, N. B	29.86	758.4	29.92	760.0	26.3	— 3.2	75	NW	7	3.1	.....	.....	10n	.....	.....	0.02	0.5	Light snow.	Prof. Harrison.
Fort Garry, Manitoba	29.34	745.2	30.32	770.1	—23.4	—30.8	100	S	14	6.3	.....	0	0	.....	.....	0	0	Clear.	James Stewart.
Granton, Ontario	29.14	740.1	30.32	770.1	22	— 5.6	.....	N	.....	.....	1	1cs	0	.....	.....	Inap.	Inap.	Clear.	James Grant.
Halifax, N. S	29.74	755.4	29.88	758.9	36.2	2.3	98	W	3	1.3	.....	.....	Fog	.....	.....	0.14	3.6	Light rain	A. Allison.
Hamilton, Ontario	29.84	757.9	30.33	770.4	24.3	— 4.3	92	W	.....	.....	2	10cs	0	E	.....	0	0	Cloudy	Geo. Dickson, B. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.90	759.4	30.27	768.8	5.0	—15.0	88	NE	18	8.0	.....	10cs	0	.....	.....	0.10	2.5	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	29.77	756.1	29.81	757.2	33.0	0.6	86	W	5	2.2	.....	.....	10n	.....	.....	0.52	13.2	Cloudy	C. H. Rigby.
Montreal, Quebec	29.99	761.7	30.21	767.3	8.0	—13.3	86	N	12	5.4	.....	.....	10n	.....	.....	.....	.....	Light snow.	C. H. McLeod, C. E.
Moose Factory, Ontario	30.54	775.7	30.59	777.0	—44.8	—42.7	.....	W	.....	.....	1	0	0	.....	.....	0	0	Clear.	J. R. Nrson.
Norwood	29.48	748.8	30.25	768.3	8.2	—13.2	100	N	8	3.6	.....	.....	10s	.....	N	0	0	Clearing	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	29.64	752.8	30.45	773.4	— 9.3	—22.9	76	N	12	5.4	.....	0	0	.....	.....	0.01	0.3	Clear.	Rev. R. Mosley.
Peterboro, Ontario	29.48	748.8	30.26	768.6	31.7	— 0.2	74	N	.....	.....	4	8k	0	.....	.....	0.20	5.1	Fair	J. F. Jeffers, M. A.
Port Dover, Ontario	29.52	749.8	30.25	768.3	25.0	— 3.9	87	N	10	4.5	.....	.....	Haze	.....	.....	0.02	0.5	Cloudy	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.59	751.6	30.28	769.1	25.2	— 3.8	.....	NW	12	5.4	.....	.....	8ks	.....	.....	0.03	0.8	Cloudy	M. Payne.
Quebec, Quebec	29.76	755.9	30.11	764.8	8.0	—13.3	86	E	.....	.....	3	.....	10n	.....	.....	0.06	1.5	Cloudy	Capt. Ashe, R. N.
Rockliffe, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. McIntyre.
St. Andrews, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Gove.
St. John, N. B	29.72	754.9	29.80	756.2	34	1.1	94	NW	3	1.3	.....	.....	10ks	.....	.....	0.15	3.8	Cloudy	G. Murdock, C. E.
Saugeen, Ontario	29.60	751.8	30.30	771.9	8.0	—13.3	100	N	11	4.9	.....	.....	9ks	.....	.....	0.19	4.8	Cloudy	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.94	735.1	30.33	770.4	13.0	—10.6	93	N	6.0	2.7	.....	2cs	5s	N	.....	0	0	Fair	C. J. MacGregor, M. A
Sydney, C. B	29.77	756.1	29.82	757.4	33.5	0.8	84	SW	6	2.7	.....	.....	10n	.....	.....	0.24	6.1	Cloudy	T. C. Hill, C. E.
Toronto, Ontario	29.87	758.7	30.28	769.1	17.8	— 7.9	81	NW	16	7.2	.....	.....	10ks	.....	.....	0.02	0.5	Cloudy	Magnetic Observatory
Windsor, N. S	29.81	757.2	29.91	759.7	38.0	3.3	100	SW	1	0.4	.....	.....	10n	.....	.....	0.05	1.3	Raining	Prof. John E. Oram, M. A.
Woodstock, Ontario	29.16	740.7	30.31	769.9	19.4	— 7.0	91	W	13	5.8	.....	1ck	3ks	W	.....	Inap.	Inap.	Fair	Prof. J. Montgomery.
Yarmouth, N. S	29.79	756.7	29.86	758.4	37.4	3.0	97	Calm	0	0	.....	.....	Fog	.....	.....	0.15	3.8	Foggy	Lt. F. E. Wilmot, R. N
Sub-Series.																			
St. Johns, Newfoundland	29.47	748.5	29.73	755.1	35	— 1.7	100	W	.....	.....	.....	10k	10s	.....	.....	0.80	20.3	Cloudy	John Delany.
St. Pierre, N. F., l'Hopital Maritime	.....	.....	29.60	754.0	30.9	— 0.6	.....	W	.....	.....	8	.....	.....	.....	.....	.....	.....	.....	The Commandant
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Albany, New York	29.78	756.4	30.02	762.5	39	3.9	82	NW	12	5.4	.....	.....	10s	.....	Calm	0.08	2.0	Cloudy.....	
Alpena, Michigan	29.74	755.4	30.47	773.9	5	—15.0	75	N	13	5.8	.....	.....	10s	.....	N	0.20	5.1	Cloudy.....	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	29.11	739.4	30.27	768.8	53	11.7	86	SW	7	3.1	.....	0	Sm'e	.....	Calm	0	0	Smoky.....	
Atlantic City, New Jersey	29.99	761.7	30.01	762.2	47	8.3	92	SW	8	3.6	.....	8k	0	W	.....	0	0	Fair.....	
Augusta, Georgia	30.13	765.3	30.34	770.6	42	5.6	91	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Dense fog....	
Baltimore, Maryland	30.02	762.5	30.07	763.8	46	7.8	84	SW	1	0.4	.....	5k	Fog	W	Calm	0	0	Foggy	
Barnegat, New Jersey	29.96	761.0	29.98	761.5	46	7.8	92	SW	10	4.5	.....	10ck	0	W	.....	0	0	Cloudy	
Bismarck, Dakota	28.24	717.3	30.10	764.5	—16	—26.7	100	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Boerne, Texas	28.55	725.2	29.84	757.9	63	17.2	94	SE	12	5.4	.....	.....	10s	.....	SE	0	0	Cloudy.....	
Boise City, Idaho	27.43	696.7	30.39	771.9	12	—11.1	70	NW	4	1.8	.....	5cs	0	Calm	.....	0	0	Fair.....	
Boston, Massachusetts	29.73	755.1	29.88	758.9	45	7.2	84	SW	4	1.8	.....	.....	10s	.....	Calm	0.08	2.0	Cloudy.....	
Brackettville, Texas	28.82	732.0	29.85	758.2	65	18.3	89	E	15	6.7	.....	.....	10ks	.....	SE	0	0	Cloudy.....	
Breckenridge, Minnesota	29.28	743.7	30.48	774.2	—24	—31.1	100	NE	7	3.1	.....	0	0	.....	.....	0	0	Clear.....	
Brownsville, Texas	30.00	762.0	30.04	763.0	71	21.7	90	S	8	3.6	.....	5k	0	S	.....	0	0	Fair.....	
Buffalo, New York	29.47	748.5	30.21	767.3	25.5	— 3.6	87	NW	9	4.0	.....	.....	10n	.....	NW	0.13	3.3	Light snow.	
Burkes, Arizona	.....	.....	.....	.....	38	3.3	72	W	.....	.....	1	2ck	5s	N	Calm	0.53	13.5	Cloudy.....	
Burlington, Vermont	29.84	757.9	30.15	765.8	14	—10.0	82	N	22	9.8	.....	.....	10n	.....	N	0.06	1.5	Light snow..	
Cairo, Illinois	29.92	760.0	30.34	770.6	34	1.1	90	NE	13	5.8	.....	.....	10s	.....	N	0.10	2.5	Threatening	
Campo, California	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Cape Hatteras, N. Carolina	30.22	767.6	30.23	767.8	57	13.9	87	SW	8	3.6	.....	Haze	Haze	.....	.....	0	0	Hazy.....	
Cape Henry, Virginia	30.08	764.0	30.10	764.5	53	11.7	80	SW	16	7.2	.....	0	2ks	.....	Calm	0	0	Clear.....	
Cape Lookout, N. Carolina	30.23	767.8	30.24	768.1	57	13.9	87	W	14	6.3	.....	0	0	.....	.....	0	0	Clear.....	
Cape May, New Jersey	30.00	762.0	30.03	762.7	44	6.7	76	SW	17	7.6	.....	.....	10ks	.....	SW	0	0	Cloudy.....	
Castroville, Texas	29.23	742.4	29.92	760.0	67	19.4	84	S	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Cedar Keys, Florida	30.29	769.4	30.31	769.9	62	16.7	94	NE	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	
Charleston, South Carolina	30.24	768.1	30.30	769.6	54	12.2	87	W	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Charlotte, North Carolina	29.36	745.7	30.19	766.8	45	7.2	92	SW	2	0.9	.....	2c	Fog	Calm	Calm	0	0	Foggy.....	
Chattanooga, Tennessee	29.46	748.3	30.18	769.1	51	10.6	86	Calm	0	0	.....	.....	10s;sme	.....	N Calm	0	0	Cloudy.....	
Cheyenne, Wyoming	23.94	608.1	29.88	758.9	24	— 4.4	74	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Chicago, Illinois	29.57	751.1	30.30	769.6	32	0.0	79	NE	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Cincinnati, Ohio	29.60	751.8	30.28	769.1	41	5.0	78	N	7	3.1	.....	.....	9s	.....	W	0.19	4.8	Cloudy.....	
Cleveland, Ohio	29.59	751.6	30.35	770.9	31	— 0.6	89	N	10	4.5	.....	.....	10s	.....	N	0.30	7.6	Cloudy.....	
Coleman City, Texas	28.27	718.0	29.96	761.7	42	5.6	83	N	10	4.5	.....	.....	10s	.....	N	0	0	Cloudy.....	
Columbus, Ohio	29.38	746.2	30.24	768.1	39	3.9	82	NW	6	2.7	.....	.....	10s	.....	NW	0	0	Cloudy.....	
Concho, Texas	28.06	712.7	29.73	755.1	55	12.8	56	S	.....	.....	1	5k	0	Calm	.....	0	0	Fair.....	
Corsicana, Texas	29.60	751.8	30.06	763.5	65	18.3	89	S	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Davenport, Iowa	29.70	754.4	30.39	771.9	21	— 6.1	71	N	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Dayton, Washington T'y	.....	.....	.....	.....	32	0.0	69	SW	.....	.....	2	10k	0	W	.....	0.10	2.5	Cloudy.....	
Deadwood, Dakota	25.30	642.6	.....	.....	— 9	—22.8	57	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Decatur, Texas	28.96	735.6	30.19	766.8	33	0.6	70	N	8	3.6	.....	.....	Fog	.....	.....	0	0	Foggy.....	
Denison, Texas	29.30	744.2	30.13	765.3	34	1.1	79	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Denver, Colorado	24.74	628.4	29.96	761.0	19	— 7.2	85	SE	3	1.3	.....	2ck	0'	SW	.....	Inap.	Inap.	Fair.....	
Des Moines, Iowa	29.46	748.3	30.44	773.2	9	—12.8	78	NE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Detroit, Michigan	29.60	751.8	30.32	770.1	25	— 3.9	87	N	8	3.6	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy.....	
Dodge City, Kansas	27.57	700.3	30.07	763.8	14	—10.0	64	E	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Dubuque, Iowa	29.63	752.6	30.40	772.1	17	— 8.3	67	N	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Duluth, Minnesota	29.73	755.1	30.54	775.7	—18	—27.8	67	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Eagle Pass, Texas	29.21	741.9	29.92	760.0	66	18.9	84	SE	12	5.4	.....	.....	10s	.....	SE	0	0	Cloudy.....	
Eastport, Maine	29.80	756.9	29.87	758.7	35	1.7	90	Calm	0	0	.....	.....	10s;fg	.....	Calm	0.11	2.8	Cloudy.....	
Edinburg, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.48	748.8	30.23	767.8	33	0.6	89	NE	9	4.0	.....	.....	10s	.....	Calm	0.33	8.4	Cloudy.....	
Escanaba, Michigan	29.78	756.4	30.52	775.2	3	—16.1	73	N	3	1.3	.....	.....	10s	.....	N	0.03	0.8	Cloudy.....	
Florence, Arizona	28.56	725.4	30.16	766.1	45	7.2	92	SW	2	0.9	.....	0	8ks	.....	S	0.13	3.3	Fair.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.88	708.1	29.95	760.7	— 9	—22.8	78	S	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Fort Custer, Montana	26.77	680.0	.....	.....	— 5	—20.6	63	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Fort Davis, Texas	25.13	638.3	30.09	764.3	56	13.3	51	SW	6	2.7	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Fort Gibson, Indian Ter	29.64	752.8	30.21	767.3	28	— 2.2	77	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Fort Grant, Arizona	25.18	639.6	29.98	761 5	41	5.0	66	W	4	1.8	.....	10k	0	W	.....	0	0	Cloudy.....	
Fort Griffin, Texas	28.83	732.3	30.18	766.6	30	— 1.1	68	N	6	2.7	.....	.....	10s	.....	Calm	0	0	Clear.....	
Fort Keogh, Montana	27.25	692.1	.....	.....	—16	—26.7	39	SW	5	2.2	.....	0	0	.....	.....	0	0	Cloudy.....	
Fort McKavett, Texas	27.72	704.1	29.60	751.8	62	16.7	88	S	11	4.9	.....	.....	10ks	.....	S	0	0	.....	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Light snow.	
Fort Sill, Indian Territory	28.90	734.0	30.10	764.5	19	—27.2	85	N	20	8.9	.....	.....	10n	.....	Calm	Inap.	Inap.	Clear.....	
Fort Stevenson, Dakota	28.27	718.0	.....	.....	—25	—31.7	100	E	4	1.8	.....	0	0	.....	.....	0	0	Cloudy.....	
Fort Verde, Arizona	.....	.....	.....	.....	27	— 2.8	88	S	.....	.....	2	.....	10s	.....	SE	0.63	16.0	.....	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.18	715.8	29.70	754.4	65	18.3	73	S	2	0.9	.....	.....	10s	.....	S	0	0	Cloudy.....	
Galveston, Texas	30.12	765.0	30.16	766.1	63	17.2	94	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Graham, Texas	29.04	737.6	30.15	765.8	29	— 1.7	89	N	6	2.7	.....	.....	10s	.....	N	0	0	Cloudy.....	
Grand Haven, Michigan	29.69	754.1	30.40	772.1	20	— 6.7	72	NE	4	1.8	.....	0	8s	.....	NE	0.02	0.5	Fair.....	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	.....	.....	.....	.....	25	— 3.9	75	N	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Indianapolis, Indiana	29.43	747.5	30.24	768.1	36	2.2	80	NW	4	1.8	.....	.....	10s	.....	NW	0.17	4.3	Cloudy.....	
Indianola, Texas	30.08	764.0	30.11	764.8	58	14.4	94	S	5	2.2	.....	0	Fog	.....	Calm	0	0	Fair.....	
Jacksboro, Texas	28.96	735.6	30.16	766.1	32	0.0	79	S	6	2.7	.....	.....	10s	.....	N	0	0	Cloudy.....	
Jacksonville, Florida	30.30	769.6	30.33	770.4	59	15.0	88	N	1	0.4	.....	Haze	2s	Calm	Calm	0	0	Fair.....	
Keokuk, Iowa	29.69	754.1	30.37	771.4	15	— 9.4	74	N	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Key West, Florida	30.20	767.1	30.23	767.8	79	22.8	81	E	6	2.7	.....	0	0	.....	.....	0.06	1.5	Clear.....	
Kittyhawk, North Carolina	30.16	766.1	30.19	766.8	51	10.6	93	SW	10	4.5	.....	2c	0	SW	.....	0	0	Fair.....	
Knoxville, Tennessee	29.26	743.2	30.28	769.1	54.5	12.5	81	W	6	2.7	.....	.....	10ks	.....	W	0	0	Cloudy.....	
La Crosse, Wisconsin	29.63	752.6	30.46	773.7	9	—12.8	78	Calm	0	0	.....	10k	0	Calm	.....	0.04	1.0	Cloudy.....	
La Mesilla, New Mexico	26.04	661.4	30.19	766.8	44	6.7	60	Calm	0	0	.....	1k	0	SW	.....	0	0	Clear.....	
Laredo, Texas	29.60	751.8	29.95	760.7	58	14.4	82	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Leavenworth, Kansas	29.47	748.5	30.40	772.1	17	— 8.3	51	N	4	1.8	.....	10cs	0	.....	.....	0	0	Cloudy.....	
Lewiston, Idaho	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Little Rock, Arkansas	29.85	758.2	30.21	767.3	55	12.8	81	NE	3	1.3	.....	10cs	0	Calm	.....	0	0	Cloudy.....	
Los Angeles, California	29.84	757.9	30.20	767.1	39.0	3.9	73	N	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Louisville, Kentucky	29.68	753.9	30.26	768.6	42	5.6	83	NW	6	2.7	.....	.....	10s;sme	.....	Calm	0.04	1.0	Cloudy.....	
Lynchburg, Virginia	29.43	747.5	30.11	764.8	53	11.7	80	S	2	0.9	.....	8cs	0	W	.....	0	0	Fair.....	
Madison, Wisconsin	29.34	745.2	30.42	772.7	13	—10.6	81	NE	8	3.6	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy.....	
Marquette, Michigan	29.67	753.6	30.46	773.7	10	—12.2	79	NW	12	5.4	.....	.....	10ks	.....	NW	0.43	10.9	Cloudy.....	
Mason, Texas	28.35	720.1	30.08	764.0	64	17.8	94	SE	10	4.5	.....	.....	10s	.....	S	0	0	Threatening	
Memphis, Tennessee	29.87	758.7	30.22	767.6	55	12.8	55	NW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Milwaukee, Wisconsin	29.62	752.3	30.43	772.9	12	—11.1	80	NW	14	6.3	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy.....	

UNITED STATES SERIES -CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mobile, Alabama	30.22	767.6	30.27	768.8	58	14.4	100	S	4	1.8	.....	.....	Fog	.....	.....	0.01	0.3	Foggy	
Montgomery, Alabama	30.09	764.3	30.34	770.6	50	10.0	96	S	1	0.4	.....	.....	Fog	.....	Calm	0	0	Dense fog....	
Morgantown, West Virginia	29.12	739.6	30.10	764.5	58	14.4	76	NW	10	4.5	.....	.....	10n	.....	W	0.23	5.8	Light rain..	
Mt. Washington, N. H.	23.45	595.6	29.81	757.2	23	— 5.0	100	NW	48	21.6	.....	.....	10n	.....	NW	0.05	1.3	Light snow.	
Nashville, Tennessee	29.70	754.4	30.24	768.1	59	15.0	76	Calm	0	0	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy.....	
New Haven, Connecticut	29.78	756.4	29.90	759.4	44	6.7	76	SW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
New London, Connecticut	29.86	758.4	29.92	760.0	43	6.1	92	W	4	1.8	.....	8cs	2s	W	W	Inap.	Inap.	Cloudy.....	
New Orleans, Louisiana	30.19	766.8	30.25	768.3	58	14.4	100	SE	2	0.9	.....	.....	Fog	.....	Calm	0	0	Foggy.....	
Newport, Rhode Island	29.85	758.2	29.90	759.4	44	6.7	92	SW	4	1.8	.....	.....	10n	.....	W	Inap.	Inap.	Light rain...	
New River, North Carolina	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
New York, New York	29.79	756.7	29.97	761.2	42	5.6	83	W	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Norfolk, Virginia	30.37	771.4	30.43	772.9	46	7.8	56	N	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
North Platte, Nebraska	27.19	690.6	30.12	765.0	7	—13.9	77	E	8	3.6	.....	5ck	0	W	.....	0	0	Fair.....	
Olympia, Washington Ter.	30.01	762.2	30.05	763.3	37.0	2.8	95	S	18	8.0	.....	.....	10n	.....	S	0.29	7.4	Light rain...	
Omaha, Nebraska	29.16	740.7	30.40	772.1	5	—15.0	75	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Oswego, New York	29.87	758.7	30.22	767.6	20	— 6.7	85	NE	20	8.9	.....	.....	10n	.....	Calm	0.07	1.8	Light snow.	
Pembina, Dakota	29.29	744.0	30.27	768.8	—25	—31.7	100	S	21	9.4	.....	0	0	.....	.....	0	0	Clear.....	
Pensacola, Florida	30.27	768.8	30.30	769.6	63	17.2	100	E	6	2.7	.....	.....	10s	.....	Calm	0.15	3.8	Cloudy.....	
Philadelphia, Pennsylvania	29.93	760.2	29.98	761.5	45	7.2	92	SW	14	6.3	.....	2cs	5s;fg	W	Calm	0	0	Cloudy.....	
Phœnix, Arizona	28.79	731.3	30.62	777.7	49	9.4	93	NW	1	0.4	.....	.....	10s	.....	Calm	0.76	19.3	Cloudy.....	
Pike's Peak, Colorado	17.46	443.5	29.67	753.6	5	—15.0	100	SE	7	3.1	.....	.....	Fog	.....	.....	0.05	1.3	Foggy.....	
Pilot Point, Texas	29.34	745.2	30.21	767.3	35	1.7	90	NE	.....	.....	.....	.....	10n	.....	NE	Inap.	Inap.	Light rain...	
Pioche, Nevada	.....	.....	.....	.....	14	—10.0	82	NW	8	3.6	.....	0	0	.....	.....	0.01	0.3	Clear.....	
Pittsburg, Pennsylvania	29.35	745.5	30.18	766.6	42	5.6	83	NW	7	3.1	.....	.....	10s	.....	NW	0.21	5.3	Cloudy.....	
Port Huron, Michigan	29.69	754.0	30.31	769.9	21	— 6.1	86	NW	12	5.4	.....	.....	10s	.....	NW	0.09	2.3	Cloudy.....	
Portland, Maine	29.80	756.9	29.85	758.2	40	4.4	82	Calm	0	0	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy.....	
Portland, Oregon	30.16	766.1	30.24	768.1	40	4.4	78	S	14	6.3	.....	.....	10s	.....	SW	Inap.	Inap.	Cloudy.....	
Portsmouth, North Carolina	.....	.....	.....	.....	55	12.8	93	SW	15	6.7	.....	0	0	.....	.....	0	0	Clear.....	
Prescott, Arizona	24.71	627.6	30.07	763.8	27	— 2.8	100	Calm	0	0	.....	.....	10n	.....	Calm	1.04	26.4	Light snow.	
Punta Rassa, Florida	30.25	768.3	30.27	768.8	67	19.4	89	NE	7	3.1	.....	0	0	....	.....	0	0	Clear	
Red Bluff, California	29.96	761.0	30.35	770.9	30	— 1.1	73	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Rio Grande City, Texas	29.80	756.9	30.02	762.5	66	18.9	89	SE	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Rochester, New York	29.55	750.6	30.20	767.1	25	— 3.9	87	NE	11	4.9	.....	.....	10n	.....	NE	0.09	2.3	Light snow.	
Roseburg, Oregon	29.81	757.2	30.42	772.7	28.5	— 1.9	88	N	2	0.9	.....	5ck	0	N	.....	0	0	Fair	
Sacramento, California	30.24	768.1	30.32	770.1	32	0.0	100	SE	4	1.8	.....	.....	Fog	.....	.....	0	0	Foggy	
St. Louis, Missouri	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
St. Paul, Minnesota	29.62	749.8	30.48	774.4	— 5	—20.6	64	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Salt Lake City, Utah	25.79	655.0	30.12	765.0	4	—15.6	48	Calm	0	0	.....	0	0	.....	.....	0.06	1.5	Clear.....	
San Antonio, Texas	29.36	745.7	29.93	760.2	69	20.6	85	S	8	3.6	.....	.....	10ks	.....	S	0	0	Cloudy.....	
San Diego, California	30.12	765.0	30.20	767.1	42	5.6	74	NE	9	4.0	.....	0	0	.....	.....	0.28	7.1	Clear	
Sandusky, Ohio	29.59	751.6	30.30	769.6	30	— 1.1	89	N	15	6.7	.....	.....	10s	.....	Calm	0.17	4.3	Cloudy.....	
Sandy Hook, New Jersey	29.92	760.0	29.95	760.7	46	7.8	84	SW	10	4.5	.....	0	8s	.....	W	0	0	Fair.....	
San Francisco, California	30.26	768.6	30.33	770.4	40	4.4	91	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Santa Fé, New Mexico	23.18	588.8	29.72	754.9	22	— 5.6	32	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Savannah, Georgia	30.24	768.1	30.34	770.6	54	12.2	93	NW	1	0.4	.....	0	Sm'e	.....	Calm	0	0	Clear.....	
Shreveport, Louisiana	29.94	760.5	30.15	765.8	65	18.3	89	S	8	3.6	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy.....	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.24	768.1	30.28	769.1	55	12.8	93	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Socorro, New Mexico	25.32	64 .1	29.39	746.5	39	3.9	55	SE	12	5.4	.....	0	0	.....	.....	0	0	Clear.....	
Springfield, Illinois	29.65	753.1	30.38	771.6	26.5	— 3.1	75	NW	4	1.8	.....	.....	10s	.....	NW	0	0	Cloudy.....	
Springfield, Massachusetts	29.79	756.7	29.93	760.2	42	5.6	83	Calm	0	0	.....	.....	Fog	.....	.....	0.05	1.3	Dense fog....	
Stockton, Texas	29.88	682.7	29.88	758.9	56	13.3	14	SE	4	1.8	.....	.....	10ks	.....	E	0	0	Cloudy.....	
Thatcher's Island, Mass	29.86	758.4	29.91	759.7	40	4.4	91	W	8	3.6	.....	8ck	0	W	.....	0.12	3.0	Cloudy.....	
Toledo, Ohio	29.56	750.8	30.28	769.1	29	— 1.7	89	N	10	4.5	.....	.....	10s	.....	N	0.08	2.0	Threatening	
Tucson, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon	29.94	760.5	30.48	774.4	12.5	—10.8	72	SE	6	2.7	.....	.....	10s	.....	.....	0	0	Cloudy.....	
Uvalde, Texas	29.12	739.6	29.92	760.0	65	18.3	84	E	8	3.6	.....	.....	10s	.....	SE	0	0	Cloudy.....	
Vicksburg, Mississippi	30.00	762.0	30.27	768.8	56	13.3	100	SE	6	2.7	.....	.....	Fog	.....	.....	0	0	Dense fog....	
Virginia City, Montana	24.19	614.4	29.67	753.6	4	—15.6	48	Calm	0	0	.....	5cs	0	Calm	.....	0	0	Fair.....	
Visalia, California	29.91	759.7	30.30	769.6	37.5	3.1	90	SE	1	0.4	.....	.....	10ks	.....	Calm	0	0	Cloudy.....	
Washington, D. C.	29.93	760.2	30.04	763.0	48	8.9	93	S	6	2.7	.....	5cs	2s;sme	W	Calm	0	0	Fair	
Wickenburg, Arizona	.....	.....	.....	.....	38	3.3	100	N	.....	.....	1	.....	10n	.....	NW	0.76	19.3	Light rain...	
Wilmington, North Carolina	30.18	766.6	30.26	768.6	53	11.7	86	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Winnemucca, Nevada	25.83	656.1	30.10	766.8	5	—15.0	75	E	7	3.1	.....	0	0	.....	.....	0	0	Clear.....	
Wood's Holl, Massachusetts	29.87	758.7	29.91	759.7	47	8.3	92	SW	6	2.7	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Yankton, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Yuma, Arizona	29.97	761.2	30.13	765.3	80	3.9	82	NE	1	0.4	.....	5k	0	N	.....	0.27	6.9	Fair.....	
Sub-Series.																			
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	30.12	765.0	30.17	766.3	72	22.2	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.30	769.6	30.31	769.9	75	23.9	82	Calm	0	0	.....	5k	2cs	Calm	.....	.....	.....	Fair.....	James Gall.
Navassa, W. I.	29.99	761.7	30.07	763.8	77	25.0	65	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.96	761.0	29 96	761.0	77	25.0	91	NE	.....	.....	2	.....	8ks	.....	.....	0.390	9.91	Cloudy.....	C. J. Hering.
Santiago de Cuba, W. I.	30.13	765.3	30.16	766.1	73	22.8	76	NNE	4.8	2.1	.....	0	0	.....	.....	0	0	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	30.10	764.5	30.15	765.8	—29.0	—33.9	.....	E	8	3.6	.....	2c	7s	N	NE	0	0	Cloudy.....	J. Fortescue & W. Wood
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NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,191.3 feet, or 344.8 meters; Bismarck, 1,704.2 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,087.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,286 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,861 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm., Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.33 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.24‡	768.1‡	.....	.....	64	17.8	89	NE	7	3.1	.....	.....	10	.....	SE	1.10	27.9	.....	.....	Threatening	
Navy Yard, Portsmouth, N.H	29.94‡	760.5‡	.....	.....	39	3.9	91	W	2	0.9	.....	.....	10	.....	.....	0	0	.....	.....	Overcast	
Adams, Mare I'd., Navy Yard, Cal.	30.26‡	768.6‡	.....	.....	40	4.4	100	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Alaska, Arica, Peru	29.89‡	759.2‡	.....	.....	72	22.2	67	Calm	.....	.....	0	.....	8	.....	.....	.....	.....	.....	.....	Hazy	
Colorado, New York; . Y.	29.87‡	758.7‡	.....	.....	44	6.7	100	SW	2	0.9	.....	.....	1?	.....	SW	0	0	.....	.....	Cloudy	
Constitution, Fort de France, Martinique	29.97‡	761.2‡	.....	.....	75	23.9	95	NE	.....	.....	3	.....	2	.....	Calm	.....	.....	.....	.....	Hazy	
Enterprise, Constantinople, Turkey	30.36‡	771.1‡	.....	.....	39	3.9	60	SW	.....	.....	4	.....	7	.....	SW	.....	.....	Smooth	.....	Cloudy	
Franklin, Off Navy Yard, Norfolk, Va.	30.17‡	766.3‡	.....	.....	54	12.2	87	SW	10.8	4.8	.....	.....	2	.....	.....	0	0	.....	.....	Clear.	
Independence, Mare I'd, Navy Yard, Cal.	30.28‡	769.1‡	.....	.....	34	1.1	90	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	.....	Foggy	
Kearsarge, N. 16° 04′, W. 87° 35′	30.06‡	763.5‡	.....	.....	77	25 0	86	SSE	.....	.....	2	.....	2	.....	SE	0	0	Smooth	.....	Fair...	
Lackawana, Honolulu, Sandwich Id's†	30.09‡	764.3‡	.....	.....	73	22.8	67	ENE	.....	.....	1–2	.....	8	.....	ENE	.....	.....	Smooth	.....	Fair.	
Marion, N. 25° 40′, W. 45° 15′	30.31‡	769.9‡	.....	.....	73	22.8	81	E	.....	.....	6	.....	8	.....	E	Light	Light	Long	E	Squally	
Michigan, Erie, Pa.	30.24‡	768.1‡	.....	.....	33	0.6	79	ENE	.....	.....	3	.....	10	.....	ENE	.....	.....	.....	.....	Cloudy	
Monocacy, Shanghai, China..	30.46‡	773.7‡	.....	.....	32	0.0	82	WNW	.....	.....	3–4	.....	8	.....	NW	.....	.....	.....	.....	Cloudy	
New Hampshire, Port Royal, S. C.	30.34‡	770.6‡	.....	.....	57	13.9	100	W	5	2.2	..	.....	1	.....	W	0	0	.....	.....	Clear.	
Nipsic, Norfolk, Va.	30.13‡	765.3‡	.....	.....	53	11.7	86	WSW	.....	.....	2–3	.....	2	.....	NW	.....	.....	.....	.....	D. clouds	
Onward, Callao, Peru †.	29.89‡	759.2‡	.....	.....	67	19.4	95	SSE	.....	.....	1	.....	5	.....	.....	.....	.....	Mod'ate smooth	.....	Hazy	
Palos, Tientsin, China	30.57‡	776.5‡	.....	.....	28	— 2.2	?	NNW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Passaic, Washington, D. C.	30.06‡	763.5‡	.....	.....	48	8.9	85	W	.....	.....	1	.....	5	.....	.....	.....	.....	.....	.....	Fair.	
Pensacola, Callao, Peru	29.92‡	760.0‡	.....	.....	67	19.4	95	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Smooth	.....	Misty	
Powhatan, Navy Yard, Brooklyn, N.Y.	29.98‡	761.5‡	.....	.....	46	7.8	84	WSW	.....	.....	2	.....	10	.....	NNW	Light	Light	.....	.....	Overcast	
Quinnebaug, Villafranca, France	30.24‡	768.1‡	.....	.....	54	12.2	67	SSW	.....	.....	1	.....	5	.....	W	.....	.....	.....	.....	Fair.	
Ranger, Honolulu, Sandwich Ids.	30.07‡	763.8‡	.....	.....	73	22.8	95	ENE	.....	.....	1	.....	5	.....	.....	.....	.....	.....	.....	Fair.	
Richmond, N. 17° 45′, E. 118° 45′	29.84‡	757.9‡	.....	.....	78	25.6	91	NNE	.....	.....	7	.....	8	.....	.....	.....	.....	Rough	NE	Cloudy	
Rio Bravo, Brownsville, Texas.... †	30.17‡	766.3‡	.....	.....	70	21.1	95	SSE	2	0.9	.....	.....	5	.....	S	0	0	.....	.....	Fair	
Santee, Annapolis, Md	30.06‡	763.5‡	.....	.....	48	8.9	93	SW	.....	.....	1	.....	10	.....	.....	0	0	.....	.....	Cloudy	
Shenandoah, Montivideo, Uruguay	30.02‡	762.5‡	.....	.....	71	21.7	53	SW	.....	.....	4	.....	5	.....	SW	.....	.....	Mod'ate	SW	Fair.	
St. Louis, League Island, Pa.	30.04‡	763.0‡	.....	.....	37	2.8	100	SW	2	0.9	.....	.....	8	.....	SW	0	0	.....	.....	Fair.	
Tennessee, Navy Yard, Brooklyn, N.Y.	29.95‡	760.7‡	.....	.....	46	7.8	84	WSW	.....	.....	2	.....	8	.....	Calm	.....	.....	.....	.....	Fair.	
Tuscarora, N. 14° 10′, W. 91° 35′	29.93‡	760.2‡	.....	.....	76	24.4	91	W	.....	.....	1	.....	0	.....	.....	0	0	Smooth	.....	Clear	
Vandalia, Navy Yard, Brooklyn, N.Y.	29.93‡	760.2‡	.....	.....	47	8.3	92	W	.....	.....	1	.....	10	.....	WSW	.....	.....	.....	.....	Cloudy	
Wabash, Boston, Mass.	29.84‡	757.9‡	.....	.....	42	5.6	74	NNE	2	0.9	.....	.....	8	.....	.....	0	0	.....	.....	Cloudy	
Wachusett, S. 34°, W. 52°. †	30.47‡	773.9‡	.....	.....	66	18.9	74	SE	.....	.....	5	.....	5	.....	N	.....	.....	Smooth	S	Fair.	
Wyoming, Villafranca, France	30.23‡	767.8‡	.....	.....	57	13.9	47	S	.....	.....	0–1	.....	2	.....	S	.....	.....	Smooth	S	Fair.	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.					
	TRUE COURSE TOWARD—	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		CHARACTER.	DIRECTION FROM—		

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S. S. Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitebury.
S. S. Costa Rica																			W. House & R. Lawless.
S. S. Dakota, Capt. H. G. Morse																			Capt. Connolly.
S. S. Georgia																			F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin																			Capt. A. Fuller.
S. S. Wilmington																			R. C. Ghest, 1st Officer.
S. S. Zealandia, Sydney, N. S. W.		30.07‡	763 8‡				NE			0				SE				Fine	

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The orginals give the barometer as read off; wind-force by the scale 0 to to 12; for the Brittanic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer N. 38° 34′, W. 126° 59′		30.29‡	769.4‡	49	9.4	63	N			4		10		N		Light	N	Overcast	D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson N. 35° 02′, E. 140° 42′		29.80‡	744.2‡	47	8.3		WNW			6		ks		W	Considerable	Rough	W	Squally	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undutsch.
S. S. Leipzig, Capt. F. Pfeiffer N. 48° 13′, W. 33° 53′		29.96‡	761.0‡	51.5	10.8	90	W			8		10		W		Heavy	WNW	Drizzling	S. Risius, 3rd Officer.
S. S. Nernberg																			Capt. A. Jaeger.
S. S. Ohio, N. 48° 57′, W. 17° 11′		30.20‡	767.1‡				WNW			9		8		NW		Very Heavy	WNW	Hailing	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 45° 28′, W. 50° 16′		30 04‡	763 0‡	43	6.1		WSW			6		9		SW	Heavy	Mod'ate	SW	Cloudy	Capt. R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer
S. S. Pennsylvania																			Capt. Harris.
RED STAR LINE MARINE SERIES. Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents.																			
S. S. Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian, N. 47° 52′, W. 48° 01′		29.86‡	753.4‡	36	2.2		WSW			5		10		WSW		Mod'ate	WSW	Cloudy	J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES—Miscellaneous. Furnished by the co-operation of the Observers named.																			
Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Charley Buck																			N. B. Foss.
Barkentine "Carrie Heckle" S. 0° 06′, W. 29° 28′ *		29.79‡	756.7‡	61.5	27.5		SSE			4		5		SE	0		N	Fair	B. F. Woodbury.
Brigantine "George" of Halifax																			W. H. Champlin.
Schooner Harry and Fred																			Capt. George Gardner.
Haytian																			Capt. W. Randall.
§ Iron Cross																			Capt. P. Sandelin.
Nordenskiold of Sundsvall, Sweden																			L. Dunbar.
Sch'r A. A. Rowe, Capt. Beckwith																			

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; do not distinguish between upper and lower clouds; sea-swell in general terms, as published. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12. *The error of the barometer is not known. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time. *Instrumental error not known.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 31, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time
1:57 P. M. CAPE TOWN, C. G. H. mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.48	774.3	57.9	14.4	75	NE	.....	.....	2	.....	2	.....	.....	0	0	Fair...	
Nemours	.....	.....	30.48	774.2	57.6	14.2	80	E	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	Kesxuche.
Algiers	.....	.....	30.45	773.3	53.6	12.0	67	WSW	.....	.....	1	.....	10	.....	.....	Inap.	Inap.	Covered	Tourillere.
La Calle	.....	.....	30.36	771.1	53.6	12.0	78	WSW	.....	.....	3	.....	8	.....	.....	0	0	Very cloudy	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques
Sfax	.....	.....	30.41	772.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Herbin.
Tebessa	.....	.....	30.40	772.2	38.1	3.4	73	NW	.....	.....	2	.....	10	.....	.....	0	0	Covered	Watrin.
Geriville	.....	.....	.....	.....	44.2	6.8	44	NE	.....	.....	2	.....	10	.....	.....	0	0	Covered	Brugniuax.
Laghouat	.....	.....	30.45	773.3	47.1	8.4	61	SW	.....	.....	2	.....	10	.....	.....	0	0	Covered	Bertrand.
Biskra	.....	.....	30.38	771.6	58.6	14.8	63	NNW	.....	.....	1	.....	2	.....	.....	0	0	Fair...	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0–4; no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,460? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.50	751.6	30.16	766.0	44.4	6.9	61	W	.....	.....	4	.....	4	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.05	737.9	29.84	757.9	36.7	2.6	72	W	20.6	9.2	.....	.....	10	.....	.....	0	0	.....	Dr. Wierzbicki.
Eperies	29.01	736.9	29.94	760.5	25.5	— 3.6	91	S	.....	.....	3	.....	10	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.82	731.9	30.12	765.0	34.5	1.4	75	S	.....	.....	4	.....	9	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.58	725.8	30.06	763.5	35.6	2.0	93	SE	.....	.....	1	.....	10	.....	.....	0.016	0.40	.....	Prof. A. Gottschling
Kremsmünster	28.74	730.1	30.14	765.6	35.6	2.0	78	WNW	.....	.....	3	.....	8	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	28.79	731.3	29.83	757.6	28.2	— 2.1	98	SW	.....	.....	1	.....	7	.....	.....	0.031	0.8	.....	Dr. T. Stanecki.
Pola	30.08	764.0	30.20	767.0	43.2	6.2	78	W	.....	.....	1	.....	6	.....	.....	0	0	Foggy	I.R. Hydrographic Office
Szathmar	29.55	750.5	30.04	762.9	33.3	0.7	96	SE	.....	.....	1	.....	10	.....	.....	0	0	.....	Pet. Pancsics, S. J.
Szegedin	29.78	756.5	30.08	764.0	34.5	1.4	.....	W	.....	.....	1	.....	10	.....	.....	0	0	.....	Karl Stancel.
Trieste	30.12	765.0	30.22	767.6	40.6	4.8	88	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	P. Busin.
Vienna	29.26	743.2	30.00	762.0	59.7	4.3	57	W	.....	.....	8	.....	3	.....	.....	0.079	2.0	.....	I.R. Central Met. Ob'sy.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

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BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instru-m'tal error and tem-perature. Inches.	Barometer. Corrected for instru-m'tal error and tem-perature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.16	740.7	29.26	743.2	38.4	3.6		S	8	3.6			10			0.020	0.51	Misty	W. Boswell.
Ardrossan	29.24	742.7	29.26	743.2	44	6.7		ESE			1		8					Rain & fog	Wm. McNeil & G. Carrick
Armagh, (Observatory)	29.13	739.9	29.35	745.5	48.8	9.3		SW	15	6.7			10					Squally	S. Call.
Bidston (Liverpool Obs)			29.40	746.7	51.3	10.7		WSW	47	21.0			10					Overcast	John Hartnup.
Bolton (Sharples)	28.88	733.5	29.38	746.2	49.1	9.5		SW	48	21.5			10					Raining	Thomas Mackereth.
Bradford, Yorkshire	28.97	735.8	29.37	746.0	50.4	10.2		SW			3		10			0.58	14.7	Raining	J McLandsborough.
Bridgetown, Barbadoes	29.89	759.2	29.92	760.0	81	27.2		NE			1		3					D. clouds	Pvt. G. Surgener, A.H.C.
Cambridge (Observatory)	29.48	748.8	29.58	751.3	49.6	9.4		SW			4		10					Showery	H. Todd.
Cardington			29.54	750.3	50.0	10.0		SW			7		10					Overcast	John McLaren.
Chatham (School M. E.)	29.59	751.6	29.72	754.9	49.1	9.5		S			6		9					Showery	J. Carmell, Sapper, R.E.
Donaghadee	29.31	744.5	29.35	745.5	52	11.1		NW			4		8					D. clouds	J. Mac Gowan.
Dover	29.68	753.9	29.70	754.4	45	7.2		WSW			6		10					Raining	J. Costello.
Falmouth (Observatory)	29.67	753.6	29.90	759.4	50.9	10.5		WSW			7		10					Raining	The Staff.
Fort Napier, Natal	27.38	695.4	29.60	751.8	85.0	29.4		NE			1		4					Blue sky	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone																			
Galway (Queen's College)			29.32	744.7	51	10.6		WSW			4		10					Overcast	Prof. A. H. Curtis.
Gibraltar, Mediterranean																			Sergt. Wm. Allen, A. H.
Glasgow, (Observatory)	29.04	737.6	29.25	742.9	36.9	2.7		NE			2		10n					Raining	D. G. Maclean. [C.
Great Yarmouth	29.54	750.3	29.54	750.3	47	8.3		SW			5		8					Raining	G. T. Watson.
Greenwich (Royal Obs'y)	29.50	749.3	29.67	753.6	49.0	9.4		SW			5		10					Raining	The Staff, for G. B. Airy.
Guernsey	29.74	755.4	29.97	761.2	51	10.6		SW			6		10					Squally	Dr. S. E Hoskins, F.R.S.
Helston	30.06	763.5	30.18	766.6	51	10.6		SW			7		10n			0.23	5.8	Raining	M. P. Moyle.
Holyhead	29.43	747.5	29.48	748.8	50	10.0		SW			5		10					Drizzling	John Tilston.
Jersey	29.73	755.1	30.03	762.7	49.7	9.8		WSW			7		10					Gloomy	J. Fisher.
Kew (Observatory)	29.65	753.1	29.68	753.9	49.2	9.6		SW	28	12.5			10					Raining	The Met'g'l Office.
Leicester (Museum)	29.26	743.2	29.52	749.8	49.0	9.4		SW			4		10					Raining	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	30.23	767.8	30.31	769.9	59	15.0		W			2		9ks					Overcast	A. King.
Nairn	29.05	737.9	29.14	740.1	47	8.3		Calm			0		0					Clear	W. D. Penny.
Nassau, Bahamas			30.25	768.3	74.0	23.3		NE			3		4					D. clouds	C. S. Duncombe.
Nottingham (Observatory)	29.30	744.2	29.49	749.0	50.1	10.1		SW			5		10d		WSW	0.442	11.23	Raining	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.01	736.8	29.53	750.0	48.9	9.4		SW			6		10					Raining	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)			29.66	753.4	50	10.0		W			6		10					Raining	H. E. Bellamy.
Plymouth			29.88	758.9	49.9	9.9		WSW			6		10					Drizzling	John Merrifield.
*Roche's Point	29.60	751.8	29.69	754.1	54	12.2		W			6		10					Overcast	Wm. Kennedy.
St. Ann's Head	29.48	748.8	29.64	752.8	50	10.0		WSW			9		10					Raining	John C. Walker.
Sandwick Manse, Orkneys			29 21	741.9	37.2	2.9		S	9	4.0			3					D. clouds	Rev. C. Clouston, L.L.D.
Scutari Cemetery, Turkey	30.08	764.0	30.15	765.8	44.0	6.7		SW			3		4					D. clouds	Serg't W. H. Lyne.
Sheffield	29.16	740.7	29.44	747.8	50.9	10.6		SW			6		10			0.83	21.1	Raining	W. F. Cooper.
Silloth Rectory	29.29	744.0	29.32	744.7	45.0	7.2	96	W			3		10			0.740	18.80	Overcast	Francis Redford, A. M.
Stonyhurst (Observatory)			29.38	746.2	46.9	8.3		SW	26	11.6			10					Raining	Rev. S. J. Perry.
Stratfield, Turgiss					49.3	9.6		SW			4–5		10					Raining	Rev. C. H. Griffith, F.M.S.
Truro (Royal Institution)	29.85	758.2	29.91	759.7	52	11.1		W			9		10					Raining	W. Newcombe.
Valencia Observatory)	29.63	752.6	29.66	753.4	52.8	11.6		WSW	38	17.0			10			Blank	Blank	Misty	The Met'g'l Office.
Sub-Series.																			
Cape Town (C. G. H. Obs'y)																			The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.38	644.6			83	28.3		SW			2								Robert Burnet.
Constable, Cape Colony	26.74	679.2			75	23.9		W			4								Francis Abbott, F.R.A.S.
Hobart Town, Tasmania																			Andrew Gibb.
Leith (Restalrig Park) Sc'tl'd			29.26	743.2	38.0	3.3		SW			1		10n			0.17	4.3	Overcast	C. Meldrum.
Mauritius (Observatory)	29.70	754.4	29.89	759.2	80.7	27.1	64	ENE	14.0	6.3		1	4		ENE	0.07	1.8	Fine	R. L. J. Ellery.
Melbourne (Observatory)	30.08	764.0	30.17	766.3	59.0	15.0	78	SSE	6	2.7			0			0	0	Very fine	J. Youngclause.
Monach Lt-house, Hebrides					49	9.4		WSW			6		10			0.4	10.		
North Unst, Shetland Is			29.19	741.4				W			7		7			0	0		

Note.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown.

British Marine Series. Vessels.	Barometer. Corrected for instru-m'tal error and tem-perature. Inches.	Barometer. Corrected for instru-m'tal error and tem-perature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. Alert, Off Europa Point, Patagonia			29.34‡	745.2‡	48.8	9.3		N			1		10					Raining	Capt. J. P. Maclear, R.N.
H. M. Sloop Gannet, S. 18° 28′, W. 70° 21′			29.93‡	760.2‡	69	20.6		Calm			0		5					D. clouds	Commander E. Bourke, R. N.
H. M. S. Magpie, House Island, near Shanghai, China			30.40‡	772.1‡	37.5	3.1		NNW			5		10					Overcast	Capt. R. H. Napier, R.N.
Barque Belle-Isle, N. 43° 10′, W. 35° 15′			29.85	758.2	62	16.7		SW			8		9			8	SSW	Overcast	Capt. A. J. Brown
City of Cashmere, S. 33° 45′, W. 133° 00′			29.93‡	760.2‡	66	18.9		NNW			5		10					Raining	Capt. W. M. Grieve.
Barque Commewyne, N. 15° 50′, W. 59° 30′			29.97‡	761.2‡	79.3	26.3		ENE			1		2					Blue sky	Capt. Jas. Buchan.
Barque Fedalma, N. 36° 10′, W. 55° 05′			30.11	764.8	66	18.9		NNW			7		8			5	NW	Raining	Capt. H. L. Fox.
S. S. German, S. 0° 13′, W. 10° 07′			29.92‡	760.0‡	77	25.0		S			3		10					Raining	Capt. O. D. Coxwell.
Iron Cross, N. 50° 30′, W. 16° 05′			29.71	754.6	56	13.3		SW			7		8			9	NW	Misty	Capt. W. Randall.
S. S. Peruvian, N. 51° 45′, W. 38° 20′			28.97	735.8	41	5.0		W			5		10					Rain & snow	Capt. W. H. Smith.
S. S. Strathleven, N. 2° 00′, E. 67° 05′			29.85‡	758.2‡	80.0	26.7		NW			3		6					D. clouds	Capt. C. W. Pearson.
S. S. Sunbeam, N. 46° 45′, W. 35° 00′			29.37	746.0	58	14.4		SW			7		10			7	SW	Raining	Capt. C. M. Dobson.

Note.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. L'w'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
San José	26.20	665.5	29.92	760.0	64.0	17.8	83	NE			2		9d		NE	0	0		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.40	746.8	29.45	748.0	34.9	1.6	94	W			2		10					Snowing
Farõe	29.54	750.3	29.56	750.8	37.4	3.0	88	W			4		7					
Godthaab (Greenland)																		
Stykkisholm (Iceland)	28.82	731.9	28.86	733.0	20.5	— 6.4	95	E			2							
Thorshavn (Farõe)	29.06	738.0	29.09	738.9	37.4	3.0	68	SW			2		4					
Vestervig	29.34	745.3	29.45	748.1	34.7	1.5	96	WSW			2		1					

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.61	752.1	30.08	764.1	48.2	9	80	SW			2		10kn		W	0.055	1.4	Raining	Collignon, Director.
Amiens, Normal School	29.81	757.2	29.84	758.0	49.6	9.8	97	SSW			4		10			0	0	Covered	Vaillant, Director.
Arras, Engin'r School	29.65	753.1	29.91	759.8	42.4	5.8	94	W			4		10					Raining	Klein, Commandant.
Avignon, Normal School	30.32	770.2	30.40	772.2	51.4	10.8	50	N			2		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.60	751.9	30.18	766.5	40.8	4.9	90	SW			1		10			Inap.	Inap.	Raining	C. Saillard, Director.
Beauvais, Normal School	29.73	755.2	30.00	762.1	44.8	7.1	90	SW			3		10		W	0.128	3.25	Covered	Frère Eugene Marie.
Besançon, Normal School	29.43	747.5	30.37	771.3	36.1	2.3		S			1		8		SE	0	0	Very cloudy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.53	750.1	30.45	773.3	44.2	6.8	94	S			3		2cn		SW	0	0	Slightly cld'y	Marlot, Diretor.
Bourges, Normal School	29.72	754.8	30.29	769.3	42.4	5.8	91	SW			4		10kn		SW	0	0	Covered	M. Gence, Director.
Brest, Naval Observatory	29.90	759.4	30.14	765.6	52.2	11.2	90	WSW			4		10		W	0.128	3.25	Misty	Ch. de Rermaree, Dir.
Caen, Normal School	29.90	759.4	29.98	761.5	50.0	10	79	SW			4				WSW	0.232	5.9		M. Bletrix, Director.
Carcassonne, N. School	29.99	761.8	30.42	772.6	49.1	9.5	54	WNW			2		5	WNW	WNW	0	0	Cloudy	September, Director.
Châlons-sur-Marne, N. Sch'	29.85	758.2	30.19	766.8	39.9	4.4	93	SW			2		10	SW	SW			Covered	Jadot, Director
Chartres, Normal School	29.50	749.4	30.09	764.2	41.5	5.3	67	SW			3		10	NE		0	0	Covered	Vergier, Director.
Clermont-Fd, Puy de D. Obs	28.95	735.4	30.35	771.0	45.5	7.5	71	W			4		8			0.110	2.8		Alluard, Director.
Commercy, Normal School	29.26	743.3	30.19	766.8	40.3	4.6	97	WSW			4		10n		WSW	0.173	4.4	Raining	Dr. Coullet, Director.
Commune de Gréasque*	29.21	742.0	30.35	771.0	48.2	9.0	50	NW			3		2		NW	0	0		L. Kina, Director.
Grenoble, Normal School	29.63	752.5	30.43	773.0	37.4	3	54	NE			1	2c		N		0	0		Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.15	765.9	30.37	771.5	51.3	10.7	82	SSW			3		8		SW	0	0	Very cloudy	Mouillot, Director.
Le Mans, Normal School	29.88	758.9	30.19	766.9	48.0	8.9	92	W			3		8		W	0.020	0.5	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.45	747.9	30.40	772.2	41.9	5.5	78	S			3		10			0.12	3.	Covered	A. Baudry, Director
Lorient, Naval Observatory	30.11	764.7	30.22	767.5	51.4	10.8	86	SW			4				SW	0.048	1.1		Lt. T. Carré, Director
Lyons Obs'y (Park Station)	29.76	756.0	30.41	772.3	48.9	6.6	79	NE			1					0.020	0.50	Misty	Ch. André, Director
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	30.08	764.0	30.35	771.0	62.3	11.3	54	WNW			3		0			0	0	Clear	E. Stephan, Director.
Mirecourt, Normal School	29.17	741.0	30.27	768.8	36.5	2.5	89	NNE			1		10kn		NNE			Raining	Barbier, Director.
Mont-Louis	26.11	637.9	30.43	772.9	37.4	3.0	57	WNW	7.4	3.3			0			0	0		M. Cave
Nice	30.20	767.0	30.23	767.8	52.5	11.4	71	N			2		1		N	0	0	Clear	M. Boissière, Director.
Nismes, Normal School	30.20	767.0	30.41	772.5	54.9	12.7	64	NW			3		2		NW	0	0	Slightly cld'y	M. Boyer, Director.
Paris, Montsouris Obs'y	29.81	757.1			41.4	5.2	94	SW			4		10		SW	0.047	1.2	Sprinkling	Marié Davy, Director.
Perpignan	30.32	770.2	30.43	773.0	54.0	12.2	47	NW	18.6	8.3			1	NW		0	0		Dr. Fines.
Pic du Midi (Plantade) H. P.	22.71	576.7			29.8	— 1.0									W	0	0		Gen'l de Nansouty.
Pic du Midi (Summit) H. P.																			M. Baylac.
Privas, Normal School	29.31	744.4	30.40	772.2	48.2	9	81	N			1		1	SW	SW	0	0	Clear	M. Tallieu
Puy de Dome (Summit) Obs	25.30	642.6			29.7	— 1.3	98	W			6					0.453	11.5	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	30.37	771.4	30.40	772.2	52.2	11.2	86	SW			3			SW	SW	0	0	Misty	Lt E. Decante, Director
Rouen, Normal School	29.92	760.0	30.01	762.2	47.1	8.4	90	S			3		10			0.240	6.1	Covered	Frere Lucard, Director
Saint Malo (Port) Obs'y	30.06	763.4	30.09	764.2	52.5	11.4	73	WSW			4		8	WSW	WSW	0.140	3.55	Very cloudy	Lt. Hercouet, Director
Saint Maur (near Paris)	29.94	760.4	30.10	764.6	39.7	4.3	97	SW			3		10		SW	0.075	1.9	Solar halo	Solar halo... E. Renou, Director.
Tarbes, Normal School	29.35	745.4	30.41	772.4	52.7	11.5	57	SW			1		0			0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.74	755.3	30.47	773.9	46.8	8.2	77	W			1		2			0.039	1.0	Slightly cld'y	M. Juher Mercadier.
Tours	30.02	762.6	30.22	767.6	48.9	9.4	81	SW			2		10	Calm	SW	0.008	0.2	Covered	Cousin-Marquet.
Versailles, Observatory	29.58	751.3	30.07	763.8	41.4	5.2	97	SW			2		10			0.032	0.79	Light rain	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.69	754.0	30.43	772.8	44.6	7	85	SE			1		10			0	0	Covered	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.91	759.7	29.94	760.4	75.2	24										0	0		L'Abbé Marchésl
Zi-Ka-Wei (near Shanghai)	30.38	771.6	30.40	772.2	32.5	0.3	87	NW	4.5	2.0			10			0	0	Covered	Marc Dechevrens.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second: the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,360 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.17	740.8	30.01	762.2	37.0	2.8	72	NW			8		8n	W		0.012	0.3	Raining	Prof. Dr. Hoh.
Berlin	29.52	749.9	29.70	754.4	38.8	3.8	75	SW			7		7			0.173	4.4	Rain & snow	Prof. Dr. Arndt.
Breslau	29.23	742.5	29.76	755.8	34.7	1.5	79	W			8		10					Snow-flakes	Royal University Obs'y.
Carlsruhe	29.65	753.1	30.09	764.3	41.4	5.2	81	SW			6		10	SW		1.122	28.5	Raining	Albert Senz.
Cassel	29.26	743.2	29.86	758.5	37.8	3.2	75	SW			5		10			0.231	5.87	Snowing	Dr. H. Möhl.
Emden			29.68	753.8	35.6	2.0	96	SW			3		10			0.551	14.0		Prof. Dr. Prestel.
Frankfort on the Main	29.71	754.5	30.09	764.3	38.5	3.6	83	SSW			4		10			0.114	2.9	Raining	Physical Society.
Friedrichshafen	28.77	730.8	30.26	768.6	40.3	4.6	79	WSW			4		8	W		0.059	1.5		Chief Telegrapher Wilhelm.
Hamburg	29.63	752.7	29.71	754.5	36.7	2.6	89	SW			6		10			0.240	6.1		Capt. P. F. A. Hegerman.
Kiel	29.60	751.7	29.61	752.2	36.9	2.7	91	WSW			5		10			0.093	2.34		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.40	746.8	29.49	749.0	32.4	0.2	96	SW			3		10			0.083	2.1	Rain & snow	Prof. E. Luther.
Köslin			29.50	749.3	33.8	1.0		SW			2		4			0.571	14.5		H. Müller.
Leipsic Observatory	29.47	748.5	29.91	759.6	36.3	2.4	72	SW			5		10	W		0	0		Prof. Dr. Bruhns, Privy Counselo
Magdeburg	29.58	751.4	29.81	757.1	37.2	2.9	74	WSW			6		9ks	WSW		0.236	6.0		Dr. Assmann.
Memel	29.41	747.1	29.46	748.2	32.2	0.1	100	S			4		10n					Snowing	Reinbrecht & Issermann.
Munich (München)	28.30	718.9	30.17	766.4	37.2	2.9	72	W			6		8	W		0.106	2.7		Dr. C. Lang.
Neufahrwasser	29.47	748.4	29.48	748.8	34.7	1.5	87	SSW			1		10			0.055	1.4		A. Lothes.
Neustadt (Palatinate)	29.50	749.2	30.03	762.8	42.1	5.6	73	WSW			7		10	W		0.264	6.7		Reallehrer Dicknether
Posen	29.30	744.1	29.60	751.7	33.8	1.0	95	W			8		10			0.067	1.7	Snowing	Prof. Dr. Magener.
Strassburg (in Alsace)	29.63	752.6	30.20	767.1	40.3	4.6	82	SW			5		10	SW		0.346	8.78		Imp. University Observatory.
Stuttgart	29.15	740.4	30.12	765.1	40.1	4.5	60	W			2		10			0.209	5.3		Prof. Dr. Schoder.
Weissenburg (Bavaria)	28.58	725.8	30.14	765.5	36.1	2.3	75	W			9		9ck		W	0.118	3.0		Reallehrer J. Hopfner
Wustrow	29.54	750.3	29.56	750.9	36.7	2.6	100	WSW			5		10ks			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.90	759.5	30.30	769.6	53.2	11.8		SW			1.0		5					⅛ clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.96	761.0	30.01	762.3	71.2	21.8	81	SW	4	1.8			2			0	0	D. clouds.	
Deesa	29.52	749.7	30.00	761.9	75.2	24.0	28	NW	6.9	3.1			0			0	0	Blue sky	
Bombay	29.87	758.8	29.91	759.8	75.2	24.0	72	NNW	19	8.5			3	NNW	NW	0	0	D. clouds	
Poona (Yarrowda)	28.06	712.6	29.92	759.8	78.8	26.0	17	E	3	1.3			4			0	0	D. clouds	
Belgaum	27.35	694.8	29.91	759.6	73.6	23.1	26	N	5	2.2			3	S		0	0	D. clouds	
Lahore	29.26	743.1	30.05	763.2	54.7	12.6	62	Calm	0.4	0.2			0			0	0	Blue sky	
Roorkee	29.08	738.5	30.02	762.6	58.0	13.3	69	Calm	1.7	0.8			0			0	0	Foggy	
Agra	29.43	747.5	30.02	762 6	58.8	14.9	43	W	2.8	1.2			0			0	0		
Nagpur	28.89	733.8	29.96	760.8	72	22.2	28	Calm	1.4	0.6			0			0	0	Blue sky	
Jubbulpore	28.58	725.8	29.99	761.7	64.1	17.8	37	Calm	4.6	2.0			0			0	0	Blue sky	
Lucknow	29.60	751.7	29.99	761.7	60.3	15.7	55	NW	0.3	0.1			0			0	0	Blue sky	
Allahabad	29.68	753.8	30.01	762.2	56.0	13.3	66	Calm	0.7	0.3			0			0	0	Blue sky	
Patna	29.82	757.3	30.01	762.2	62.2	16.8	56	Calm	0.6	0.3			4			0	0	D. clouds	
Hazaribagh	27.93	709.3	30.04	763.0	55.3	12.9	57	NW	3.2	1.4			0			0	0	Blue sky	
Cuttack	29.86	758.5	29.95	760.7	65.8	18.8	71	NE	2.0	0.9			0			0	0	Blue sky	
Calcutta (Alipore)	29.92	760.0	29.94	760.6	61.6	16.4	63	WNW	2	0.9			0			0	0	Blue sky	
Goalpara	29.53	750.1	29.94	760.4	63.2	17.3	60	ENE	7.7	3.4			0			0	0	Blue sky	
Chittagong	29.80	756.8	29.89	759.2	65.2	18.4	72	WNW	1.4	0.6			0			0	0	Misty	
Sibsagar	29.63	752.6	29.98	761.5	60.7	15.9	85	ENE	1.3	0.6			0			0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.79	756.7	30.23	767.9	36.3	2.4	84	Calm	0	0	.....	.....	9	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.67	753.5	30.21	767.4	34.5	1.4	71	W	.....	.....	4	.....	1	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	30.11	764.8	30.23	767.8	33.6	0.9	83	N	3.1	1.4	.....	.....	0	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.29	744.0	30.28	769.0	24.1	— 4.4	72	ENE	4.3	1.9	.....	.....	1	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	30.04	763.0	30.24	768.0	53.1	11.7	60	SE	3.8	1.7	.....	.....	6	SE	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.23	717.0	30.23	767.9	44.8	7.1	28	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.19	766.9	30.24	768.2	34.3	1 3	94	NW	7.4	3.3	.....	.....	10	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.99	761.8	30.26	768.7	49.5	9.7	66	SW	.....	.....	2	.....	7	WSW	.....	0.161	4.1	.....	Cav. F. Meucci.
Leghorn	30.15	765.8	30.24	768.1	53.6	12.0	61	W	8.1	3.6	.....	.....	5	.....	.....	0	0	.....	Prof. P. Monte.
Rome	30.09	764.2	30.27	768.9	53.2	11.8	67	SW	12.5	5.6	.....	.....	5	.....	.....	0	0	.....	Prof. P. S. Ferrari
Lecce	30.00	762.0	30.26	768.7	53.1	11.7	64	W	4.9	2.2	.....	.....	3	.....	.....	0	0	.....	Prof. C. De Giorgi
Cosenza	29.42	747.2	30.35	771.0	50.5	10.3	72	NW	0	0	.....	.....	9	.....	.....	0.118	3.0	.....	Prof. D. Conti.
Cagliari	30.10	764.4	30.30	769 5	54.5	12.5	46	NW	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	30.07	763.6	30.33	770.3	57.0	13.9	60	WSW	8.1	3.6	.....	.....	10	WSW	.....	0	0	.....	Prof. G. Ciacciatore.
Syracuse	30.28	769.1	30.35	770.9	55.9	13.3	70	WSW	6.3	2.8	.....	.....	10	WSW	.....	0	0	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.75	755.7	30.30	769.5	50.0	10.0	81	NW	3.8	1.7	.....	.....	10	.....	.....	0.051	1.3	.....	Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.97	761.2	29.99	761.7	38.2	3.4	93	NNE	3.1	1.4	.....	1	9ks	ck	.....	.....	0.058	1.47	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.88	758.9	30.09	764.3	37.8	3.2	80	N	0.7	0.3	.....	1ck	.....	.....	.....	.....	0.030	0.76	Clear.	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.48	748.8	29.55	750.6	37.8	3.2	66	N	5.4	2.4	.....	0	0	.....	.....	.....	0	0	Clear	The Staff.
Wakayama	29.85	758.2	29.91	759.7	41.5	5.3	63	NW	5.0	2.2	.....	ok	6ks	.....	.....	.....	0	0	Cloudy	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	25.10	637.4	30.27	768.9	44.2	6.8	58	SW	.....	.....	1	.....	3	.....	Calm	0	0	Clear	Prof. L. Perez.
Leon	24.50	622.3	30.35	770.9	48.0	8.9	79	NW	.....	.....	1	0	0	.....	.....	0	0	Pleasant	Prof. M. Leal.
Mazatlan	29.79	756.6	30.06	763.4	59.4	15.2	89	N	.....	.....	2	0	0	.....	.....	0	0	Hazy	I. Guerrero, C. E.
Mexico, Central Observatory	23.11	587.0	30.35	770.9	41.0	5.0	64	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff.
Pabellon (Aguascalientes)	.....	.....	.....	.....	42.8	6.0	63	SW	.....	.....	1	0	0	.....	.....	0	0	Pleasant	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.47	596.1	30.42	772.6	35.6	2.0	53	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.23	615.5	30.47	773.9	39.6	4.2	49	E	.....	.....	1	0	0	.....	.....	0	0	Fine	G. Barroeta, M. D.
Tlacotalpam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. M. Chàzaro.
Vera-Cruz	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell
Zacatecas	22.57	573.3	30.28	769.0	48.9	9.4	52	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	J. C. Castrillon

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column; the instrumental correction —0.88 mm., or —0.035 inch, has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.74	755.5	29.74	755.5	42.6	5.9	.....	SW	.....	.....	6	.....	.....	.....	.....	0.106	2.7	.....	
Groningen	29.59	751.5	29.64	752.9	35.6	2.0	.....	SW	.....	.....	2	.....	.....	.....	.....	0.067	1.7	.....	
Helder	29.60	751.7	29.60	751.7	37.8	3.2	.....	S	.....	.....	4	.....	.....	.....	.....	0.457	11.6	.....	
Hellevoetsluis	29.74	755.4	29.74	755.4	41.0	5.0	90	SW	.....	.....	6	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.64	752.9	29.69	754.1	40.8	4.9	97	SSW	.....	.....	5	.....	10	.....	.....	0.657	16.7	Overcast	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.35	745.5	29.41	746.9	36.7	2.6	89	SSW	9.4	4.2	.....	.....	6	.....	.....	0.197	5.0	.....	
Brönö	29.20	741.6	29.24	742.6	36.0	2.2	61	Calm	0	0	.....	.....	7	.....	.....	0	0	.....	
Christiana	29.26	743.3	29.42	747.3	17.2	— 8.2	91	ENE	2	1	.....	.....	2	.....	.....	0	0	.....	
Tromsö	28.86	733.1	28.91	734.2	32.7	0.4	83	SW	7	3	.....	.....	10	.....	.....	0.579	14.7	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. J. A. Sampaio.
Campo Major	29.45	748.1	30.49	774.5	48.9	9.4	64	E	1.3	0.6	.....	.....	0	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	30.42	772.6	30.50	774.8	61.9	16.6	62	Calm	0	0	.....	.....	8	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon Observatory	30.17	766.2	30.54	775.7	47.3	8.5	73	NE	11.9	5.3	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.46	773.6	30.53	775.4	60.8	16.0	71	S	8.7	3.9	.....	.....	3	.....	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias			.....	A. G. da Silva Costa, Com'd't.
D. Fernando			.....	A. [illegible] Sande, Com'd't.
Duque da Terceira			.....	J. C. M. Cabrate, 1st Lt.
Mindello			.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos			.....	H. de C. C. e Athayde.
Rio Duro			.....	J. T. d'Oliveria, Com'd't.
Rio Lima. Capt. S. C. da Silva Costa. Santiago, Capr Verd Ids.	5	ENE	D. clouds	A. D. de Fonseca Saturento.
Sá da Bandeira			.....	F. Teixeira da Silva, Comd't.
Sado, Capt. J. A de Brito Capello. Ambriz, Gulf of Guinea	2	SW	D. clouds	F. de Assis Camillo, jun., Q. M.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	1	.....	D. clouds	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sá da Bandeirà gives the barometer reduced tofreezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	29.50	749.2	29.52	749.7	— 1.1	—18.4	81	ESE	9	4	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Astrakhan	30.10	764.6	30.02	762.5	26.1	— 3.3	74	SSW	20	9	.....	.....	10cp	.....	.....	Blank	Blank	.....	Capt. Wisganow.
Barnaul	29.92	760.0	30.49	774.4	— 1.7	—18.7	95	NE	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	29.20	741.7	29.45	748.0	32.7	0.4	98	SW	7	3	.....	.....	9kn	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	28.80	731.5	29.88	759.0	— 8.9	—22.7	89	Calm	0	0	.....	.....	1s	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	29.61	752.2	29.92	760.0	— 8.1	—22.3	92	NNE	2	1	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.19	741.4	29.86	758.5	27.5	— 2.5	83	S	2	1	.....	c	8cs;ks	.....	.....	.....	.....	Light clouds	Physical Cabinet.
Krotkowo*	29.29	743.9	29.83	757.6	—11.2	—24.0	74	W	0	0	.....	.....	1s	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	29.58	751.4	29.80	756.8	33.4	0.8	80	W	13	6	.....	.....	8	.....	.....	.....	.....	.....	Meteorological Obs.
Moscow	29.10	739.1	29.69	754.1	15.4	— 9.2	84	S	7.8	3.5	.....	.....	10s	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	28.02	711.6	30.72	780.4	—23.3	—30.7	81	Calm	0	0	.....	.....	2	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Nikolaiev	30.03	762.7	30.10	764.5	36.3	2.4	66	Calm	0	0	.....	5c	.....	.....	.....	.....	.....	Light clouds	Kurdakof.
Nukuss	30.08	763.9	30.33	770.3	22.5	— 5.3	90	Calm	0	0	.....	.....	2ks	.....	.....	.....	.....	.....	.....
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	30.17	766.3	30.31	769.9	24.3	— 4.3	59	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	29.33	745.0	29.35	745.4	33.6	0.9	92	SW	13	6	.....	.....	9n	.....	.....	.....	.....	.....	Central Physical Obs.
Tashkend	28.67	728.2	30.33	770.4	32.9	0.5	94	NW	0	0	.....	.....	10	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.82	732.0	30.31	769.9	33.8	1.0	57	N	4	2	.....	.....	3k	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	29.18	741.1	29.61	752.2	32.9	0.5	90	SW	22	10	.....	.....	10n	.....	.....	.....	.....	Snowing	Astronomical Obs.
Wilna	29.13	740.0	29.57	751.0	31.8	— 0.1	90	SSE	4	2	.....	.....	10	.....	.....	.....	.....	Heavy clouds	Astronomical Obs.
Yenisiesk	30.59	777.0	30.94	785.8	—20.9	—29.4	80	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 402 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	30.34	770.5	30.44	773.2	50.4	10.2	51	WNW	1.0	0.47	.....	.....	0	.....	.....	0	0	Clear.	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.45	773.4	30.51	774.9	53.6	12.0	65	S	1.6	0.70	.....	0	0	.....	.....	0.075	1.9	Clear.	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.43	698.0	.....	.....	37.4	3.0	80	N	0.5	0.23	.....	0	0	.....	.....	0	0	Clear.	Domingo Martin y Perez.
Madrid, Royal Observatory	28.21	716.4	30.55	775.9	42.1	5.6	73	NE	4.5	2.00	.....	0	0	.....	.....	0	0	Clear.	The Staff.
Murcia, Met. Obs'y	30.34	770.5	30.49	774.4	50.2	10.1	68	SW	1.8	0.81	.....	0	2	.....	.....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.57	751.0	30.48	774.2	52.3	11.3	72	SE	0.7	0.3	.....	.....	1	.....	.....	0	0	Almost clear	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.15	765.7	30.21	767.4	71.6	22.0	85	E	5.6	2.5	.....	0	1s;k	.....	ENE	0	0	Clear.	Benito Vines S. J.
Manilla, Phillippine Islands	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.38	771.6	30.48	774.2	57.7	14.3	58	SE	1.9	0.8	.....	0	4	.....	SE	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.95	760.6	30.04	762.9	76.6	24.8	83	E	8.9	4.00	.....	3cks	3k	E	E	0.207	5.25	Clear.	Enrique Gadea, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer, corrected for instrum'tal error and temperature.		Barometer, reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind. Direction.	Wind. Velocity		Force.	Clouds. Amount.		Clouds. Direction.		Rain-fall or melted snow in the past 24 hours.		Weather.	Observer.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0-10.	Up'er 0-10.	Lo'er 0-10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
Haparanda	29.10	739.0	29.13	740.0	21.6	— 5.8	.....	SE	.....	.....	2	.....	10	.....	.....	0	0	.....	
Umea	29.17	741.0	29.22	742.3	18.7	— 7.4	95	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	
Hernosand	29.24	742.6	29.29	743.9	24.1	— 4.4	86	Calm	.....	.....	0	.....	1	.....	.....	0	0	.....	
Stockholm	29.26	743.3	29.44	747.8	24.6	— 4.1	98	NW	.....	.....	2	.....	10	.....	.....	0	0	Foggy	
Wisby	29.31	744.4	29.37	745.9	34.5	1.4	100	SSW	.....	.....	4	.....	10	.....	.....	0.059	1.5	Light rain...	
Sub-Series.																			
Upsala	29.28	743.6	29.36	745.8	19.9	— 6.7	100	SSW	2.5	1.1	.....	.....	1	.....	.....	0.010	0.25	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, and barometer as read off; reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.93	734.8	30.38	771.7	45.3	7.4	65	W	.....	.....	2	.....	5	.....	.....	0	0	Cloudy.....	The Observatory.
Zurich	28.60	726.5	30.29	769.4	39.6	4.2	76	W	.....	.....	2	.....	8	.....	.....	1.378	35.0	Cloudy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +7.1 mm.; Thermometer, +6.0 Cent.; Relative Humidity, —16 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.18	766.5	43.7	6.5	71	SW	10	4.5	.....	.....	4	.....	SW	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.27	768.9	54.0	12.2	.....	N	.....	.....	1	.....	2	.....	.....	0	0	Slightlycld'y	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	.....	.....	30.49	774.4	52.9	11.6	62	SW	.....	.....	1	2c	9n	.....	SW	0	0	D. clouds....	Prof. C. V. A. van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	30.65	778.5	30.66	778.7	—19.5	—28.6	.....	Calm	0	0	.....	.....	.....	.....	.....	0	0	Clear.	Hon. J. Ferguson.
Brockville, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Chatham, N. B	30.64	778.2	30.72	780.3	—21.8	—29.9	92	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	W. R. Bigg.
Charlottetown, P. E. Island	30.54	775.7	30.59	777.0	— 3.5	—19.7	100	NW	8	3.6	.....	.....	.....	.....	.....	0	0	Clear	G. A. Blair.
Cornwall, Ontario	30.32	770.1	30.55	776.0	—16.5	—26.9	100	E	.....	.....	4	0	8s	.....	.....	0.26	6.6	Cloudy.....	H. J. Cundall, C. E.
Dalhousie, N. B	30.50	774.7	30.70	779.8	—21.0	—29.4	.....	W	1	0.4	.....	0	1s	.....	.....	0	0	Clear.	James Smith, M. A.
Father Point, Quebec	30.71	780.0	30.73	780.5	—27.5	—33.1	100	SW	7.0	3.1	.....	0	0	.....	.....	0	0	Clear.	H. A. Johnson.
Fredericton, N. B	30.68	779.3	30.75	781.0	—18.6	—28.1	100	W	4	1.8	.....	0	0	.....	.....	0	0	Clear.	J. McWilliams.
Fort Garry, Manitoba	29.12	739.6	30.04	763.0	— 1.0	—18.3	94	NW	13	5.8	.....	0	0	.....	.....	0	0	Clear.	Prof. Harrison.
Granton, Ontario	29.02	737.1	30.21	767.3	15	— 9.4	.....	SE	.....	.....	1	.....	10n	.....	.....	Inap.	Inap.	Light snow.	James Grant.
Halifax, N. S	30.52	775.2	30.60	778.7	— 6.4	—21.3	88	N	12	5.4	.....	0	0	.....	.....	0.17	4.3	Clear.	A. Allison.
Hamilton, Ontario	29.90	759.4	30.31	769.9	12.9	—10.6	94	E	.....	.....	1	10cs	0	E	.....	0.05	1.3	Cloudy.....	Geo. Dickson, B. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	30.06	763.5	30.45	773.4	— 6.8	—21.6	68	E	13	5.8	.....	.....	10n	.....	.....	Inap.	Inap.	Light snow.	S. Woods, M. A.
Little Glace Bay, N. S	30.45	773.4	30.49	774.4	5.3	—14.8	95	N	8	3.6	.....	8k	0	N	.....	0.20	5.1	Cloudy.....	C. H. Rigby.
Montreal, Quebec	30.43	772.9	30.67	779.0	—17.4	—27.4	94	NE	13	5.8	.....	4k	0	.....	.....	Inap.	Inap.	Fair.....	C. H. McLeod, C. E.
Moose Factory, Ontario	29.94	760.5	29.98	761.5	— 4.5	—20.3	96	S	.....	.....	4	.....	10	.....	.....	0	0	Cloudy.....	J. R. Nesson.
Norwood	29.62	752.3	30.43	772.9	— 7.3	—21.8	100	SE	8	3.6	.....	.....	10s	.....	.....	0	0	Overcast....	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	29.53	750.0	30.32	770.1	— 3.0	—19.4	83	E	17	7.6	.....	5k	5n	E	E	0	0	Cloudy.....	Rev. R. Mosley.
Peterboro, Ontario	29.54	750.3	30 40	772.1	— 7.1	—21.7	60	E	.....	.....	5	.....	10n	.....	.....	0	0	Cloudy.....	J. F. Jeffers, M. A.
Port Dover, Ontario	29.48	748.8	30.23	767.8	16.1	—8.8	83	NE	12	5.4	.....	.....	10n	.....	.....	0.02	0.5	Light snow.	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.50	749.3	30.20	767.1	18.8	— 7.3	.....	E	8	3.6	.....	.....	10n	.....	.....	0.05	1.3	Cloudy.....	M. Payne.
Quebec, Quebec	30.38	771.6	30.77	781.5	—19.0	—28.3	67	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	Capt. Ashe, R. N.
Rockliffe, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. McIntyre.
St. Andrews, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Gove.
St. John, N. B	30.55	776.0	30.74	780.8	—12	—24.4	100	NW	5	2.2	.....	0	0	.....	.....	.....	.....	.....	
Saugeen, Ontario	29.44	747.8	30.22	767.6	14.0	—10.0	87	SE	18	8.0	.....	.....	10s	.....	.....	0.21	5.3	Clear.	G. Murdock, C. E.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	Overcast....	K. Stewart.
Stratford, Ontario	28.80	731.5	30.19	766.8	14.0	—10.0	95	E	10.0	4.5	.....	.....	10s	.....	.....	.....	.....	.....	R. J. Cole.
Sydney, C. B	30.44	773.2	30.48	774.2	1.6	—16.9	80	NW	9	4.0	.....	0	1ks	.....	.....	0.05	1.3	Light snow.	C. J. MacGregor, M. A.
Toronto, Ontario	29.86	758.4	30.29	769.4	7.7	—13.5	93	NE	18	8.0	.....	.....	10n	.....	.....	0.10	2.5	Clear.	T. C. Hill, C. E.
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	N	11	4.9	.....	.....	.....	.....	.....	0.08	2.0	Light snow.	Magnetic Observatory
Woodstock, Ontario	29.06	738.1	30.22	767.6	15.0	— 9.4	97	NE	12	5.4	.....	.....	10s	.....	.....	.....	.....	.....	Prof. John E. Oram, M.A.
Yarmouth, N. S	30.62	777.7	30.69	779.5	1.5	—16.9	71	N	8	3.6	.....	0	0	.....	.....	0.01	0.3	Snowing.....	Prof. J. Montgomery.
Sub-Series.																0.23	5.8	Clear.	Lt. F. E. Wilmot, R. N
St. Johns, Newfoundland	29.74	755.4	29.96	761.0	15	— 9.4	100	NW	.....	.....	.....	5k	5s	.....	.....	Inap.	Inap.	Fair	John Delany.
St. Pierre, N. F., l'Hopital Maritime	.....	.....	30.08	764.0	3.9	—15.6	.....	N	.....	.....	5	.....	.....	.....	.....	.....	.....	.....	The Commandant
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum't'al error and temperature. Inches.	BAROMETER. Corrected for instrum't'al error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0-10.	CLOUDS. Amount. Up'er 0-10.	CLOUDS. Amount. Lo'er 0-10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	30.38	771.6	30.64	778.2	5	—15.0	75	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Alpena, Michigan	29.47	748.5	30.16	766.1	17	— 8.3	83	SW	4	1.8	.....	.....	10n	.....	Calm	0.01	0.3	Light snow.	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	29.15	740.4	30.30	769.6	58	14.4	87	S	8	3.6	.....	.....	10s	.....	SW	0	0	Cloudy	
Atlantic City, New Jersey	30.50	774.7	30.51	774.9	36	2.2	80	E	16	7.2	.....	.....	10s	.....	E	0	0	Threatening	
Augusta, Georgia	30.20	767.1	30.40	772.1	49	9.4	85	Calm	0	0	.....	0	5s	.....	W	0	0	Fair	
Baltimore, Maryland	30.52	775.2	30.57	776.5	30	— 1.1	78	E	7	3.1	.....	.....	10s	.....	Calm	0.01	0.3	Threatening	
Barnegat, New Jersey	30.47	773.9	30.50	774.7	35	1.7	80	E	24	10.7	.....	.....	10s	.....	E	0	0	Cloudy	
Bismarck, Dakota	28.27	718.0	30.12	765.0	8	—13.3	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Boerne, Texas	28.70	729.0	30.00	762.0	63	17.2	94	E	4	1.8	.....	.....	10s	.....	SE	0	0	Cloudy	
Boise City, Idaho	27.53	699.2	30.49	774.4	26	— 3.3	75	W	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Boston, Massachusetts	30.51	774.9	30.68	779.3	9	—12.8	78	N	10	4.5	.....	0	8s	.....	N	0	0	Fair	
Brackettville, Texas	28.90	734.0	29.94	760 5	65	18.3	100	E	14	6.3	.....	.....	10n	.....	E	0.01	0.3	Light rain	
Breckenridge, Minnesota	29.06	738.1	30.16	766.1	4	—15.6	100	W	18	8.0	.....	0	0	.....	.....	0	0	Clear.	
Brownsville, Texas	30.03	762.7	30.07	763.8	69	20.6	95	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Buffalo, New York	29.46	748.3	30.22	767.6	18	— 7.8	61	NE	11	4.9	.....	.....	10n	.....	Calm	0.02	0.5	Light snow.	
Burkes, Arizona	.....	.....	.....	.....	37	2.8	63	N	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Burlington, Vermont	30.27	768.8	30.59	777.0	— 5	—20.6	63	E	3	1.3	.....	5ck	2ks	NW	SE	0.01	0.3	Fair	
Cairo, Illinois	29.92	760.0	30.33	770.4	39	3.9	91	SW	1	0.4	.....	.....	Fog	.....	.....	0.10	2.5	Foggy	
Campo, California	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Cape Hatteras, N. Carolina	30.36	771.1	30.37	771.4	54	12.2	87	NE	28	12.5	.....	.....	10s	.....	NE	0	0	Cloudy	
Cape Henry, Virginia	30.41	772 4	30.43	772.9	54	12.2	49	E	18	8.0	.....	.....	10s	.....	E	0	0	Cloudy	
Cape Lookout, N. Carolina	30.36	771.1	30.38	771.6	51	10.6	93	NE	24	10.7	.....	.....	10s	.....	NE	0	0	Cloudy	
Cape May, New Jersey	30.46	773.7	30.50	774.7	37	2.8	71	E	15	6.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Castroville, Texas	29.33	745.0	30.02	762.5	68	20.0	84	S	10	4.5	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy	
Cedar Keys, Florida	30.34	770.6	30.36	771.1	63	17.2	100	NE	5	2.2	.....	.....	Fog	.....	Calm	0	0	Dense fog	
Charleston, South Carolina	30.27	768.8	30.33	770.4	54	12.2	87	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Charlotte, North Carolina	29.49	749.0	30.33	770.4	50	10.0	86	NE	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Chattanooga, Tennessee	29.48	748.8	30.20	769.6	57	13.9	94	Calm	0	0	.....	.....	10s;sm	.....	sW;Calm	Inap.	Inap.	Cloudy	
Cheyenne, Wyoming	24.20	614.7	30.14	765.5	24	— 4.4	48	SW	13	5.8	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.40	746.7	30.11	764.8	35	1.7	80	Calm	0	0	.....	.....	10s	.....	Calm	0.05	1.3	Cloudy	
Cincinnati, Ohio	29.47	748.5	30.13	765.3	44	6.7	92	SE	1	0.4	.....	.....	10s;fg	.....	Calm	0.11	2.8	Cloudy	
Cleveland, Ohio	29.35	745.5	30.10	764.5	33	0.6	89	SE	5	2.2	.....	.....	10n	.....	Calm	0.16	4.1	Light rain	
Coleman City, Texas	28.43	722.1	30.20	767.1	32	0.0	69	N	20	8.9	.....	.....	10n	.....	Calm	0.03	0.8	Light rain	
Columbus, Ohio	29.27	743.4	30.11	764.8	36	2.2	80	SE	4	1.8	.....	.....	10n	.....	E	0.01	0.3	Light rain	
Concho, Texas	28.41	721.6	30.20	767.1	34	1.1	90	NE	.....	.....	2	.....	10s	.....	Calm	0	0	Threatening	
Corsicana, Texas	29.80	756.9	30.29	769.4	43	6.1	75	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Davenport, Iowa	29.54	750.3	30.21	767.3	30	— 1.1	89	W	5	2.2	.....	.....	10s	.....	W	0.06	1.5	Cloudy	
Dayton, Washington Ty	.....	.....	.....	.....	46	7.8	61	S	.....	.....	4	.....	10s	.....	S	0.08	2.0	Cloudy	
Deadwood, Dakota	25.40	745.2	.....	.....	28	— 2.2	66	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas	29.24	742.7	30.49	774.4	35	1.7	80	NW	12	5.4	.....	.....	Fog	.....	.....	0	0	Foggy	
Denison, Texas	29.49	749.0	30.33	770.4	37	2.8	100	N	8	3.6	.....	.....	Fog	.....	.....	0.25	6.3	Foggy	
Denver, Colorado	24.99	634.7	30.21	767.3	22	— 5.6	64	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	29.36	745.7	30.31	769.9	21	— 6.1	86	W	4	1.8	.....	0	0	.....	.....	0.18	4.6	Clear.	
Detroit, Michigan	29.41	747.0	30.12	765.0	25	— 3.9	100	NE	6	2.7	.....	.....	10n	.....	Calm	0.04	1.0	Light sleet	
Dodge City, Kansas	27.73	704.3	30.25	768.3	16	— 8.9	66	NW	8	3.6	.....	5ck	0	Calm	.....	Inap.	Inap.	Fair	
Dubuque, Iowa	29.46	748.3	30.21	767.3	24	— 4.4	74	W	1	0.4	.....	0	1s;fg	.....	Calm	0.15	3.8	Fair	
Duluth, Minnesota	29.31	744.5	30.04	763.0	14	—10.0	72	W	10	4.5	.....	0	0	.....	.....	0.03	0.8	Clear.	
Eagle Pass, Texas	29.32	744.7	30.04	763.0	66	18.9	95	SE	10	4.5	.....	.....	10s	.....	SE	0	0	Cloudy	
Eastport, Maine	30.63	778.0	30.71	780.0	— 9	—22.8	58	N	10	4.5	.....	0	5s	.....	N	0.15	3.8	Fair	
Edinburg, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.40	746.7	30.15	765.8	33	0.6	84	NE	1	0.4	.....	.....	10s	.....	S	0.10	2.5	Cloudy	
Escanaba, Michigan	29.35	745.5	30.04	763.0	23	— 5.0	73	SW	4	1.8	.....	.....	10n	.....	S	0.08	2.0	Heavy snow	
Florence, Arizona	28.60	726.4	30.20	767.1	32	0.0	89	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.93	709.4	29.94	760.5	5	—15.0	87	Calm	0	0	.....	5c	0	Calm	.....	0	0	Fair	
Fort Custer, Montana	26.83	681.5	.....	.....	33	0.6	69	W	9	4.0	.....	0	5s	.....	W	0	0	Fair	
Fort Davis, Texas	25.25	641.3	30.21	767.3	44	6.7	76	Calm	0	0	.....	.....	10s	.....	SW	0	0	Cloudy	
Fort Gibson, Indian Ter	29.82	757.4	30.40	772.1	31	— 0.6	100	NW	6	2.7	.....	.....	10s	.....	Calm	0.40	10.2	Cloudy	
Fort Grant, Arizona	25.21	640.3	30.01	762.2	33	0.6	43	E	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Fort Griffin, Texas	29.06	738.1	30.42	772.7	33	0.6	89	N	8	3.6	.....	.....	10s	.....	Calm	0	0	Threatening	
Fort Keogh, Montana	27.26	692.4	.....	.....	11	—11.7	79	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Fort McKavett, Texas	27.93	709.4	29.92	760.0	40	4.4	82	NE	17	7.6	.....	.....	10n	.....	NE	0.05	1.3	Light rain	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	29.11	739.4	30.31	769.9	28	— 2.2	88	N	12	5.4	.....	.....	10s	.....	Calm	0.07	1.8	Cloudy	
Fort Stevenson, Dakota	28.21	716.5	.....	.....	2	—16.7	100	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Fort Verde, Arizona	.....	.....	.....	.....	33	0.6	79	NW	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.33	719.6	29.89	759.2	58	14.4	82	S	6	2.7	.....	.....	10ks	.....	Calm	0.20	5.1	Cloudy	
Galveston, Texas	30.17	766.3	30.22	767.6	64	17.8	100	E	7	3.1	.....	.....	Fog	.....	E	0.20	5.1	Dense fog	
Graham, Texas	29.29	744.0	30.42	772.7	32	0.0	100	N	8	3.6	.....	.....	10s	.....	N	0	0	Cloudy	
Grand Haven, Michigan	29.44	747.8	30.13	765.3	22	— 5.6	86	E	4	1.8	.....	.....	10n	.....	Calm	0.06	1.5	Light snow	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	.....	.....	.....	.....	31	— 0.6	100	N	12	5.4	.....	.....	10n	.....	N	0.55	14.0	Sleeting	
Indianapolis, Indiana	29.87	743.4	30.07	763.8	39	3.9	100	S	1	0.4	.....	.....	10n	.....	S	1.35	34.3	Light rain	
Indianola, Texas	30.16	766 1	30.18	766.6	59	15.0	100	SE	6	2.7	.....	.....	Fog	.....	Calm	0	0	Foggy	
Jacksboro, Texas	29.18	741.1	30.38	771.6	34	1.1	79	N	12	5.4	.....	.....	10s	.....	N	0.02	0.5	Cloudy	
Jacksonville, Florida	30.34	770.6	30.37	771.4	57	13.9	94	NE	3	1.3	.....	0	Fog	.....	Calm	0	0	Clear	
Keokuk, Iowa	29.57	751.1	30.22	767.6	29	— 1.7	89	W	7	3.1	.....	.....	10s	.....	W	0.37	9.4	Threatening	
Key West, Florida	30.20	767.1	30.24	768.1	72	22.2	80	NE	9	4.0	.....	1k	0	NE	.....	0	0	Clear.	
Kittyhawk, North Carolina	30.40	772.1	30.43	772.9	51	10.6	86	NE	13	5.8	.....	.....	10s	.....	S	0	0	Cloudy	
Knoxville, Tennessee	30.30	769.6	30.33	770.4	50	10.0	100	NE	3	1.3	.....	.....	Fog	.....	Calm	0	0	Dense fog	
La Crosse, Wisconsin	29.37	746.0	30.15	765.8	23	— 5.0	60	Calm	0	0	.....	5k	0	W	.....	0.14	3.6	Fair	
La Mesilla, New Mexico	26.14	663.9	30.28	769.1	38	3.3	46	NW	7	3.1	.....	0	1s	.....	Calm	0	0	Clear.	
Laredo, Texas	29.71	754.6	30.06	763.5	61	16.1	94	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Leavenworth, Kansas	29.46	748.3	30.37	771.4	25	— 3.9	62	NW	2	0.9	.....	5cs	0	W	.....	0.41	10.4	Fair	
Lewiston, Idaho	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Little Rock, Arkansas	29.96	761.0	30.34	770.6	49	9.4	93	NW	8	3.6	.....	.....	10n	.....	NW	Inap.	Inap.	Light rain	
Los Angeles, California	29.90	759.4	30.26	768.6	40.0	4.4	73	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Louisville, Kentucky	29.57	751.1	30.12	765.0	56	13.3	81	S	15	6.7	.....	.....	10s	.....	SW	0.14	3.6	Cloudy	
Lynchburg, Virginia	29.76	755.9	30.48	774.2	43	6.1	75	NE	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Madison, Wisconsin	29.07	738.4	30.11	764.8	26	— 3.3	75	SW	4	1.8	.....	10cs	0	sW	.....	0.12	3.0	Fair	
Marquette, Michigan	29.27	743.4	30.01	762.2	22	— 5.6	72	SE	8	3.6	.....	.....	10ks	.....	SE	0	0	Cloudy	
Mason, Texas	28.54	724.9	30.35	770.9	47	8.3	85	NE	9	4.0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Memphis, Tennessee	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Milwaukee, Wisconsin	29.32	744.7	30.08	764 0	33	0.6	89	SW	4	1.8	.....	.....	10n	.....	Calm	0.04	1.0	Light snow	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mobile, Alabama	30.29	769.4	30.33	770.4	63	17.2	100	S	1	0.4	.....	.....	Fog	.....	.....	0.22	5.6	Foggy	
Montgomery, Alabama	30.12	765.0	30.36	771.1	57	13.9	100	SE	1	0.4	.....	.....	Fog	.....	Calm	0.18	4.6	Dense fog	
Morgantown, West Virginia	29.13	739.9	30.14	765.5	47	8.3	77	Calm	0	0	.....	.....	10ks	.....	SW	0.17	4.3	Cloudy	
Mt. Washington, N. H.	23.81	604.8	30.17	766.3	1	—17.2	56	SW	80	13.4	.....	5ck	0	SW	.....	0.06	1.5	Fair	
Nashville, Tennessee	29.72	754.9	30.26	768.6	60	15.6	82	W	1	0.4	.....	.....	10ks	.....	Calm	0.04	1.0	Cloudy	
New Haven, Connecticut	30.50	774.7	30.04	778.2	12	—11.1	61	NE	16	7.2	.....	.....	10s	.....	NE	0.34	8.6	Cloudy	
New London, Connecticut	30.60	777.2	30.66	778.7	20	— 6.7	62	NE	6	2.7	.....	6ck	0	W	.....	0	0	Fair	
New Orleans, Louisiana	30.25	768.3	30.31	769.9	60	15.6	94	SE	2	0.9	.....	.....	Fog	.....	Calm	0	0	Foggy	
Newport, Rhode Island	30.59	777.0	30.65	778.5	18.5	— 7.5	77	N	9	4.0	.....	.....	10s	.....	Calm	0	0	Cloudy	
New River, North Carolina	.....	.....	.....	.....	60	10.0	100	W	.....	.....	1	.....	Fog	.....	Calm	.....	.....	Dense fog	
New York, New York	30.42	772.7	30.62	777.7	24	— 4.4	48	N	16	7.2	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Norfolk, Virginia	30.37	771.4	30.43	772.9	46	7.8	56	N	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
North Platte, Nebraska	27.37	695.2	30.24	768.1	8	—13.3	78	NW	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter.	29.78	756.4	29.82	757.4	43.5	6.4	92	S	16	7.2	.....	.....	10n	.....	Calm	2.15	54.6	Light rain	
Omaha, Nebraska	29.16	740.7	30.36	771.1	19	— 7.2	85	W	4	1.8	.....	0	0	.....	.....	0.16	4.1	Clear	
Oswego, New York	30.09	764.3	30.44	773.2	17	— 8.3	67	SE	8	3.6	.....	.....	10s	.....	Calm	0.12	3.0	Cloudy	
Pembina, Dakota	29.09	738.9	30.02	762.5	— 3	—19.4	100	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Pensacola, Florida	30.34	770.6	30.37	771.4	62	16.7	100	E	4	1.8	.....	.....	Fog	.....	Calm	0.18	4.6	Foggy	
Philadelphia, Pennsylvania	30.52	775.2	30.58	776.7	22	— 5.6	72	NE	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Phœnix, Arizona	29.02	737 1	30.02	785.4	40	4.4	73	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.76	451.1	29.97	761.2	1	—17.2	42	SE	13	5.8	.....	0	0	.....	.....	0.14	3.6	Clear	
Pilot Point, Texas	29.61	752.1	30.50	774.7	36	2.2	90	N	.....	.....	.....	.....	10m	.....	N	.....	.....	Light rain	
Ploche, Nevada	.....	.....	.....	.....	16	— 8.9	66	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.37	746.0	30.21	767.8	36	2.2	90	E	8	3.6	.....	.....	10n	.....	Calm	0.38	9.7	Light rain	
Port Huron, Michigan	29.48	747.5	30.15	765.8	18	— 7.8	84	E	6	2.7	.....	.....	10s	.....	Calm	0.05	1.3	Cloudy	
Portland, Maine	30.67	779.0	30.73	780.6	2	—16.7	72	N	11	4.9	.....	2k	0	Calm	.....	0	0	Clear	
Portland, Oregon	29.98	761.5	30.05	763.3	48	8.9	70	SW	24	10.7	.....	.....	10s	.....	.....	Inap.	Inap.	Threatening	
Portsmouth, North Carolina	.....	.....	.....	.....	53	11.7	86	NE	25	11.2	.....	8cs	0	Calm	Calm	0	0	Cloudy	
Prescott, Arizona	24.90	632.4	30.26	768.6	14	—10.0	82	NW	.....	.....	1	0	0	.....	.....	Inap.	Inap.	Clear	
Punta Rassa, Florida	30.28	769 1	30.30	769.6	66	18.9	95	NE	7	3.1	.....	1ck	0	E	.....	0	0	Clear	
Red Bluff, California	30.12	765.0	30.50	774.7	32	0.0	89	Calm	0	0	.....	.....	10s	.....	N	0	0	Cloudy	
Rio Grande City, Texas	29.86	758.4	30.07	763.8	68	20.0	95	SE	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Rochester, New York	29.65	753.1	30.33	770.6	12	—11.1	80	SE	11	4.9	.....	.....	10n	.....	SE	0.14	3.6	Light snow	
Roseburg, Oregon	29.72	754.9	30.32	770.1	38	3.3	76	SE	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sacramento, California	30.39	771.9	30.47	773.9	32	0.0	100	N	3	1.3	.....	.....	Fog	.....	.....	0	0	Foggy	
St. Louis, Missouri	29.69	754.1	30.29	769.4	33	0.6	89	W	10	4.5	.....	.....	10s	.....	.....	0.68	17.3	Cloudy	
St. Paul, Minnesota	29.24	742.7	30.15	765.8	11	—11.7	62	SW	10	4.5	.....	0	0	.....	.....	0.01	0.3	Clear	
Salt Lake City, Utah	26.66	661.9	30.39	771.9	6	—14.4	52	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.46	748.3	30.03	762.7	66	18.9	95	SE	2	0.9	.....	.....	10ks	.....	SE	Inap.	Inap.	Cloudy	
San Diego, California	30.19	766.8	30.27	768.8	40	4.4	73	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Sandusky, Ohio	29.41	747.0	30.11	764.8	33	0.6	89	E	7	3.1	.....	.....	10n	.....	Calm	0.15	3.8	Light rain	
Sandy Hook, New Jersey	30.54	775.7	30.57	776.5	22	— 5.6	86	NE	24	10.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
San Francisco, California	30.37	771.4	30.44	773.2	40	4.4	91	N	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Santa Fé, New Mexico	23.40	594.4	29.64	760.5	16	— 8.9	37	N	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.28	769.1	30.38	771.6	55	12.8	93	Calm	0	0	.....	.....	Fog	.....	SW	0	0	Foggy	
Shreveport, Louisiana	30.03	762.7	30.24	768.1	63	17.2	89	S	8	3.6	.....	.....	10s	.....	S	0	0	Cloudy	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.35	770.9	30.38	771.6	54	12.2	100	N	10	4.5	.....	.....	Fog	.....	.....	0	0	Foggy	
Socorro, New Mexico	25.58	649.7	29.64	752.8	30	— 1.1	68	N	6	2.7	.....	0	2s	.....	SW	0	0	Fair	
Springfield, Illinois	29.53	750.0	30.23	767.8	35	1.7	90	W	2	0.9	.....	.....	10s	.....	W	0.85	21.6	Cloudy	
Springfield, Massachusetts	30.54	775.7	30.69	779.5	9	—12.8	57	N	5	2.2	.....	10cs	0	W	.....	0	0	Cloudy	
Stockton, Texas	27.11	688.6	30.11	764.8	40	4.4	19	NE	4	1.8	.....	2k	5ks	Calm	Calm	0	0	Cloudy	
Thatcher's Island, Mass	30.61	777.5	30.67	779.0	24	— 4.4	100	E	16	7.2	.....	.....	10n	.....	SE	0.13	3.3	Light snow	
Toledo, Ohio	29.38	746.2	30.10	764.5	30	— 1.1	100	E	4	1.8	.....	.....	10n	.....	E	0.14	3.6	Light rain	
Tucson, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon	29.77	756.1	30.28	769.1	40.5	4.7	78	SW	2	0.9	.....	.....	10s	.....	SW	0	0	Cloudy	
Uvalde, Texas	29.21	741.9	30.01	762.2	67	19.4	84	E	4	1.8	.....	.....	10s	.....	SE	0	0	Cloudy	
Vicksburg, Mississippi	30.06	763.5	30.32	770.1	58	14.4	100	S	9	4.0	.....	.....	Fog	.....	.....	0	0	Dense fog	
Virginia City, Montana	24.30	617.2	29.78	756.4	10	—12.2	58	Calm	0	0	.....	5cs	0	Calm	.....	0	0	Fair	
Visalia, California	30.02	762.5	30.42	772.7	33	0.6	89	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	30.41	772.4	30.53	775.4	30	— 1.1	68	E	6	2.7	.....	10cs	0	Calm	.....	Inap.	Inap.	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	37	2.8	71	W	.....	.....	1	0	0	.....	.....	0.01	0.3	Clear	
Wilmington, North Carolina	30.30	769.6	30.39	771.9	53	11.7	93	NE	3	1.3	.....	.....	Fog	.....	Calm	0	0	Foggy	
Winnemucca, Nevada	25.97	659.6	30.33	770.4	10	—12.2	79	E	8	3.6	.....	4c	0	SW	.....	0	0	Fair	
Wood's Holl, Massachusetts	29.58	751.3	29.62	752.3	22	— 5.6	73	E	14	6.3	.....	.....	8ks	.....	.....	0	0	Cloudy	
Yankton, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Yuma, Arizona	30.08	764.0	30.23	767.8	45	7.2	39	NE	19	8.5	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	30.11	764.8	30.16	766.1	74	23.3	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.30	769.6	30.31	769.9	74	23.3	72	Calm	0	0	.....	2k	2cs	Calm	.....	.....	.....	Fair	James Gall.
Navassa, W. I.	29.97	761.2	30.05	763.3	77	25.0	65	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.96	761.0	29.96	761.0	80	26.7	76	E	.....	.....	2	.....	8ks	.....	.....	0.910	23.11	Cloudy	C. J. Hering.
Santiago de Cuba, W. I.	30.10	764.5	30.13	765.3	73	22.8	70	NNE	4.8	2.1	.....	0	0	.....	.....	0	0	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	30.06	763.5	30.11	764.8	—42.6	—41.4	.....	N	5	2.2	.....	0	3s	.....	N	0.01	0.3	Fair	J. Fortescue & W. Wood

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.2 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 3,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,289 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,850 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.33 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.34‡	770.6‡	.....	.....	62	16.7	100	NE	5	2.2	.....	.....	Fog	.....	.....	0.30	7.6	.....	.....	Dense fog....	
Navy Yard, Portsmouth, N.H	30.15‡	765.8‡	.....	.....	1	—17.2	100	NNE	3	1.3	.....	.....	10	.....	.....	.....	.....	.....	.....	Snowing	
Adams, Mare I'd., Navy Yard, Cal.	30.42‡	772.7‡	.....	.....	40	4.4	91	NW	.....	.....	1	.....	1	.....	NW	.....	.....	.....	.....	Clear	
Alaska, Arica, Peru.....	29.91‡	759.7‡	.....	.....	69	20.6	80	S	.....	.....	1	.....	2	.....	N	.....	.....	.....	.....	D. clouds.....	
Colorado, New York, . Y.....	30.53‡	775.4‡	.....	.....	20	— 6.7	100	NE	3	1.3	.....	.....	10	.....	.....	0	0	.....	.....	Cloudy.....	
Constitution, Fort de France, Martinique	29.98‡	761.5‡	.....	.....	77	25.0	91	NE	.....	.....	2	.....	5	.....	Calm	.....	.....	.....	.....	Pleasant.....	
Enterprise. Constantinople, Turkey	30.22‡	767.6‡	.....	.....	47	8.3	77	SW	.....	.....	4	.....	6	.....	SW	.....	.....	Smooth	.....	Cloudy.....	
Franklin, Off Navy Yard, Norfolk, Va.	30.47‡	773.9‡	.....	.....	47	8.3	85	ENE	7.2	3.2	.....	.....	10	.....	.....	0	0	.....	.....	Cloudy.....	
Independence, Mare I'd, Navy Yard, Cal.	30.42‡	772.7‡	.....	.....	40	4.4	68	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	.....	Clear.	
Kearsarge, Port Cortez, Honduras.	30.08‡	764.0‡	.....	.....	76	24.4	86	Calm	.....	.....	0	.....	8	.....	.....	.....	.....	Smooth	.....	Light rain...	
Lackawana, Honolulu, Sandwich Id's†	29.96‡	761.0‡	.....	.....	73	22.8	72	Calm	.....	.....	0	.....	10	.....	NE	.....	.....	Smooth	.....	Cloudy.....	
Marion, N. 23° 54′, W. 45° 30′.....	30.19‡	766.8‡	.....	.....	73	22.8	81	E	.....	.....	4	.....	8	.....	E	Light	Light	Mod'ate	E	Squally.....	
Michigan, Erie, Pa.....	30.05‡	763.3‡	.....	.....	35	1.7	80	SE	.....	.....	2	.....	10	.....	SE	.....	.....	.....	.....	Cloudy.....	
Monocacy, Shanghai, China..	30.41‡	772.4‡	.....	.....	35	1.7	74	NNW	.....	.....	1	.....	8	.....	.....	.....	.....	.....	.....	Cloudy.....	
New Hampshire, Port Royal, S. C.....	30.35‡	770.9‡	.....	.....	58	14.4	94	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	.....	Clear.	
Nipsic, Norfolk, Va.....	30.13‡?	765.3‡?	.....	.....	47	8.3	85	NNE	.....	.....	3	.....	10	.....	.....	.....	.....	.....	.....	Overcast	
Onward, Callao, Peru..... ....†.	29.91‡	759.7‡	.....	.....	67	19.4	89	S	.....	.....	1	.....	8	.....	.....	.....	.....	Mod'ate smooth	W	Hazy.....	
Palos, Tientsin, China...	30.37‡	771.4‡	.....	.....	33	0.6	61	SW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Passaic, Washington, D. C.....	30.54‡	775.7‡	.....	.....	32	0.0	69	NE	.....	.....	2	.....	8	.....	.....	.....	.....	.....	.....	Cloudy.....	
Pensacola, Callao, Peru.....	29.90‡	759.4‡	.....	.....	68	20.0	84	SSE	.....	.....	0–1	.....	2	.....	.....	.....	.....	Smooth	.....	Hazy.....	
Powhatan, Navy Yard, Brooklyn, N.Y.	30.61‡	777.5‡	.....	.....	26	— 3.3	88	ENE	.....	.....	3	.....	10	.....	Calm	0	0	.....	.....	Overcast.....	
Quinnebaug, Villafranca, France.....	30.23‡	767.8‡	.....	.....	56	13.3	63	SW	.....	.....	1	.....	5	.....	W	.....	.....	.....	.....	Fair.....	
Ranger, Honolulu, Sandwich Ids..	30.04‡	763.0‡	.....	.....	74	23.3	95	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	.....	.....	Fair.....	
Richmond, N. 19° 30′, E. 117° —′	30.03‡	762.7‡	.....	.....	70	21.1	90	NNE	.....	.....	6	.....	10	.....	.....	.....	.....	Rough	NNE	Cloudy.....	
Rio Bravo, Brownsville, Texas....†.	30.21‡	767.3‡	.....	.....	65	18.3	100	SE	1	0.4	.....	.....	0	.....	.....	0	0	.....	.....	Foggy.....	
Santee. Annapolis, Md.....	30.51‡	774.9‡	.....	.....	30	— 1.1	78	NE	.....	.....	3	.....	10	.....	NE	0	0	.....	.....	Overcast.....	
Shenandoah, Montivideo, Uruguay....	30.00‡	762.0‡	.....	.....	69	20.6	61	NE	.....	.....	2	.....	5	.....	NE	.....	.....	Mod'ate	NE	Fair.....	
St. Louis, League Island, Pa.....	30.49‡	774.4‡	.....	.....	24	— 4.4	.....	NE	8	3.6	.....	.....	10	.....	.....	.....	.....	.....	.....	Snowing.....	
Tennessee, Navy Yard, Brooklyn, N.Y.	29.61‡	752.1‡	.....	.....	25	— 3.9	87	ENE	.....	.....	3–4	.....	10	.....	Calm	.....	.....	.....	.....	Cloudy.....	
Tuscarora, N. 14° 16′, W. 91° 55′.....	29.86‡	758.4‡	.....	.....	77	25.0	82	Calm	.....	.....	0	.....	2	.....	Calm	0	0	Smooth	.....	Clear.	
Vandalia. Navy Yard, Brooklyn, N.Y.	30.62‡	777.7‡	.....	.....	20	— 6.7	85	E	.....	.....	2	.....	10	.....	NE	.....	.....	.....	.....	Cloudy.....	
Wabash, Boston, Mass.....	30.71‡	780.0‡	.....	.....	7	—13.9	100	NNE	4	1.8	.....	.....	2	.....	.....	0	0	.....	.....	Fair.....	
Wachusett, S. 35°, W. 55°.....†.	30.52‡	775.2‡	.....	.....	67	19.4	95	NE	.....	.....	5	.....	2	.....	.....	.....	.....	Smooth	S	Fair...	
Wyoming, Villafranca, France	30.22‡	767.6‡	.....	.....	61	16.1	46	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	Smoot	.....	Fair.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		CHARACTER.	DIRECTION FROM—		
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S. S. Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio, Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitebury.
S. S. Costa Rica																			W. House & R. Lawless.
S. S. Dakota, Capt. H. G. Morse																			Capt. Connolly.
S. S. Georgia																			F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin																			Capt. A. Fuller.
S. S. Wilmington																			R. C. Ghest, 1st Officer.
S. S. Zealandia, Sydney, N. S. W.		30.07‡	763.8‡				NE			0				SE				Fine	

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Kennedy.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The orginals give the barometer as read off; wind-force by the scale 0 to to 12; for the Brittanic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer																			D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson																			
Yokohama, Japan †		29.42‡	747.3‡	51	10.6		Var.			3		k		NW	0	Smooth		D. clouds	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andreessen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Pfeiffer.																			
N. 47° 37', W. 36° 48'		29.35‡	745.5‡	54.0	12.2	93	WNW			6		10		W	2 h'rs	Cross	WNW	Drizzling.	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 40° 18', W. 11° 05'		29.99‡	761.7‡				W			7		8		W		Heavy	W	Cloudy	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 47° 41′, W. 44° 26′		29.58‡	751.3‡	34	1.1		NNW			8		9		NNW	Heavy		SW	Cloudy	Capt. R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer
S. S. Pennsylvania																			Capt. Harris.
RED STAR LINE MARINE SERIES.																			
Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents.																			
S. S. Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols
ALLAN LINE MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian, N. 46° 16′, W. 53° 08′		30.04‡	763.0‡	6	—14.4		NW			6		5		NW	Rough	WNW	Fair		J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES—Miscellaneous.																			
Furnished by the co-operation of the Observers named.																			
Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Charley Buck																			N. B. Foss.
Barkentine "Carrie Heckle" S. 2° 50′, W. 30° 28′		29.79‡	756.7‡	51	27.2		SE			4		7		SE	0	Mod'te	SE	Fair	B. F. Woodbury.
Brigantine "George" of Halifax																			W. H. Champlin.
Schooner Harry and Fred																			Capt. George Gardner.
Haytian																			
§ Iron Cross																			Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden																			Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.

S. S. Indiana, N. 47° 41′, W. 44° 26′ ..... 29.58‡ 751.3‡ 34 1.1 NNW 8 9 NNW Heavy SW Cloudy ..... Capt. R. W. Sargent.
S. S. Ohio ..... Wm. Shackford, Chief Officer
S. S. Pennsylvania ..... Capt. Harris.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction is toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

S. S. Belgenland ..... Capt. Sam'l Jackson.
S. S. Nederland ..... Capt. Randle.
S. S. Switzerland ..... Capt. Jackson.
S. S. Vaderland ..... Capt. Nichols

Note.—The originals give the barometer as read off; do not distinguish between upper and lower clouds; sea-swell in general terms, as published. ‡Corrections fo temperature, instrumental error and elevation applied at this office.

S. S. Austrian ..... Capt. W. Richardson.
S. S. Hibernian, N. 46° 16′, W. 53° 08′ ..... 30.04‡ 763.0‡ 6 —14.4 NW 6 5 NW Rough WNW Fair ..... J. Powell, 4th Officer.
S. S. Peruvian .....

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12. *The error of the barometer is not known. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Schooner Addie Fuller ..... Capt. James Jorgensen.
Schooner Charley Buck ..... N. B. Foss.
Barkentine "Carrie Heckle" S. 2° 50′, W. 30° 28′ ..... 29.79‡ 756.7‡ 51 27.2 SE 4 7 SE 0 Mod'te SE Fair ..... B. F. Woodbury.
Brigantine "George" of Halifax ..... W. H. Champlin.
Schooner Harry and Fred ..... Capt. George Gardner.
Haytian .....
§ Iron Cross ..... Capt. W. Randall.
Nordenskiold of Sundsvall, Sweden ..... Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith ..... L. Dunbar.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. §Position probably given for noon, local time. *Instrumental error not known.

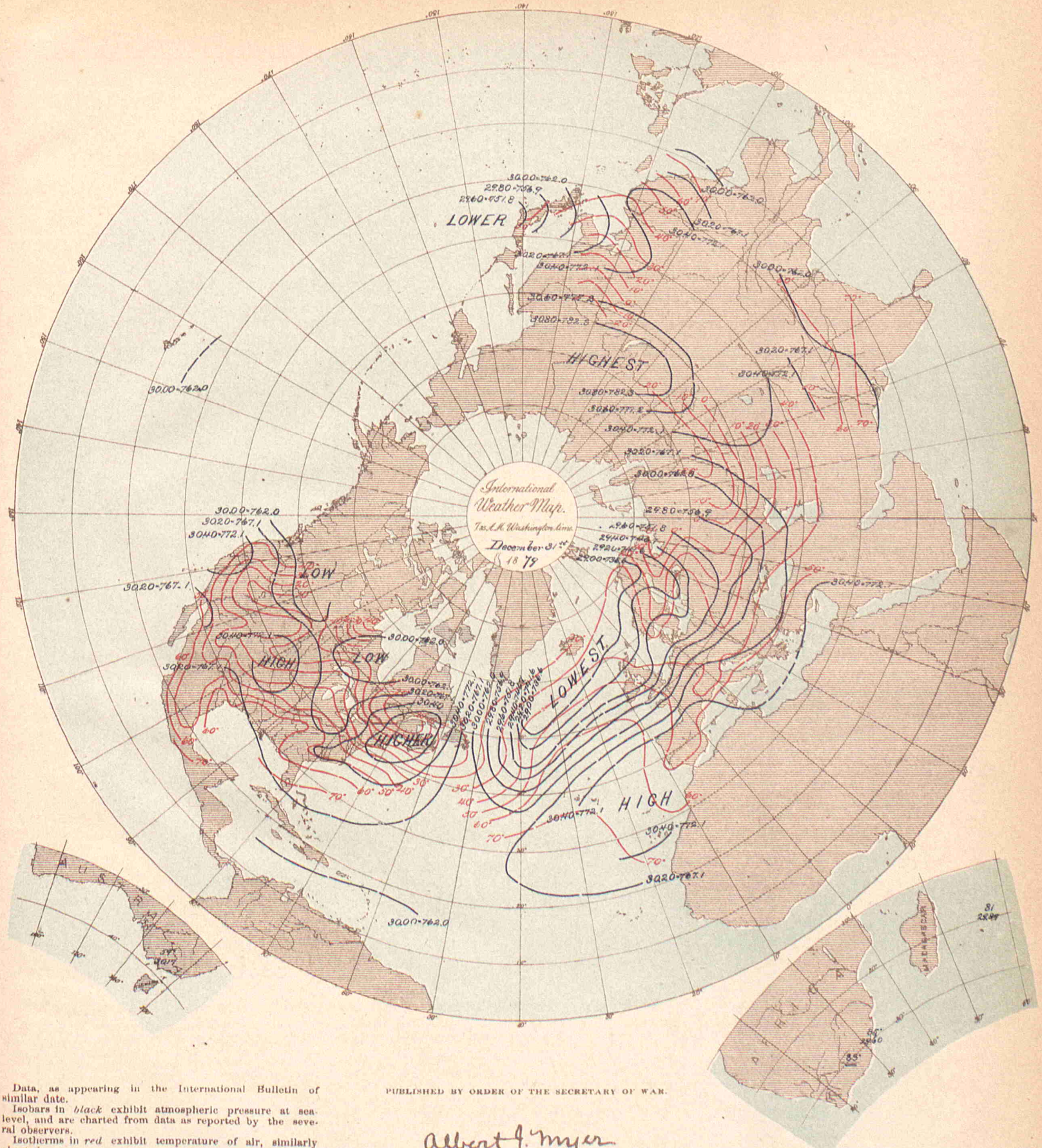
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

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Albert J. Myer

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